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Business Plan for a Metallurgical and Metalworking Company

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Operations and General Management

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BUSINESS
SCHOOL

Marketing, Operations and General Management
Department

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Resumo

A presente tese descreve um plano estratégico para uma empresa já existente no mercado. A empresa mencionada opera no setor metalúrgico e metalomecânico. O desenvolvimento do plano estratégico tem como objetivo definir a estratégia que a empresa dever implementar nos próximos anos para atingir o pretendido no mercado.

Para melhor compreensão do meio envolvente, procedeu-se a várias técnicas de análise da envolvente externa e interna. Algumas das técnicas aplicadas são a análise PESTAL, 5 forças de Porter e a análise SWOT.

Após completa a análise do meio envolvente foi então delineado o plano estratégico, plano de negócios e plano de marketing que a empresa deverá seguir. No plano estratégico da empresa está incluído não só a missão, visão e valores da empresa, mas também a estratégia a ser implementada, o posicionamento pretendido, o target da empresa e as ações para se poder atingir os objetivos delineados.

Por fim, é apresentada uma análise financeira do plano estratégico proposto para entender a viabilidade do mesmo. Nesta análise são apresentados indicadores de avaliação financeira como o VAL, o TIR, o Índice de Rentabilidade e o Período de Retorno de Investimento.

Palavras-chave: Plano de negócios, Proposta Estratégica, Indústria Metalúrgica e Metalomecânica
Classificação JEL: M10, L64

Abstract

This thesis describes a strategic plan for a company that already exists in the market. The company mentioned operates in the metallurgical and metalworking sector. The development of the strategic plan aims to define the strategy that the company must implement in the coming years to achieve what is intended in the market.

For a better understanding of the environment, several techniques were used to analyze the external and internal environment. Some of the techniques applied are PESTAL analysis, Porter´s Five Forces and SWOT analysis.

After completing the analysis of the environment, the strategic plan, business plan and marketing plan that the company should follow was outlined. The company's strategic plan includes not only the company's mission, vision and values, but also the strategy to be implemented, the intended positioning, the company's target and the actions to achieve the set goals.

Finally, a financial analysis of the proposed strategic plan is presented to understand its feasibility. This analysis presents financial evaluation indicators such as NPV, TIR, Profitability Index, and Payback Period.

Key Words: Business Plan, Strategic Proposal, Metallurgical and Metalworking Sector
JEL Classification: M10, L6

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1 Introduction

Factors such as globalization, digitalization, sustainability, and customization have increased the market competition in several industries, including the Metallurgical and Metalworking industry. This means that companies that were profitable in the past are not guaranteed profitability in today´s market if they don't adapt their strategy to the new market requirements.

The current market reality is making companies rethink their strategy. There is a need to adopt a more innovative approach to maintain the company´s profit and sales. To survive and have an opportunity for company growth, companies must maintain an active presence in the market and for that to happen they need to find innovative ways to achieve competitive advantage and have the mentality that the market is always changing. The strategy implemented now that is making the company achieve good results may not be a profitable strategy in the near future. This continuous innovation and organizational change are mandatory for a profitable and constant growth. It is important to understand that when mentioning innovation, it does not just include the development of new products and services but also new processes and business models.

This thesis will be an in-company project about Construal, a family-own company located in Sintra. This project will reflect the reality of the Portuguese Metallurgical and Metalworking industry and most of the companies established in it.

The project that will be carried out has the intention of proposing a solution to increase the profit of the firm in short term and regain its position in the market in long term by presenting a reformulated strategic plan.

To reformulate Construal´s strategic plan, it is important to understand all the components that go into a strategy reformulation and business plan. Analyzing the current company´s situation and the industry will help to better understand where the company is and what it is necessary to do to get to the desired market positioning. After making this analysis, it will be structured a strategic plan including the company´s strategy definition, business plan and marketing plan. It will also be presented the actions needed to achieve the set goals followed by a viability analysis to understand if the developed strategic plan should be implemented.

The reformulated strategic plan in this in-company project has the intent to be implemented in the beginning of 2022.

2 Literature Review

The present literature review will provide theoretical support for all the concepts and techniques used to develop the in-company project. The concepts discussed are the definition of strategy and the different types of strategies; critical success factors; components of a business model; strategic planning applied to SMEs; crisis impact on businesses; and trends of strategy and strategic plan.

2.1 Defining Strategy

2.1.1 Definitions

The changing environment has shaped the definition of strategy over the years, and authors have changed their definitions accordingly. Andrews (as cited in Mintzberg, 1996, p.72) defines strategy as "the pattern of settlement in a company that determines and reveals its objectives, purposes or goals, produces the principal policies and plans to achieve these targets and ascertains the scale of business that the company should get involved in, the type of economic and human organization and the nature of the economic and non-economic benefits generated for shareholders, employees, and communities.".

Porter (1996) states that "Strategy means performing different activities to those performed by rivals or performing the same activities differently.".

Finally, Barney (2001) takes a more scientific approach and states that "Strategy is the theory of the firm on how to compete successfully. It also considers performance as a factor influenced by strategy, as it can be considered that to compete successfully means having a satisfactory performance.".

There are two levels of strategy: business (competitive) unit and corporate (companywide) unit (Porter, 1987). Competitive Strategy defines how a company can create a competitive advantage in each of the different businesses in which it is competing. Corporate Strategy focuses on two questions: what businesses the corporation should be in and how the corporate office should manage the array of business units. These allow a better understanding of how the corporate whole adds up to more than each business unit's sum.

2.1.2 Formulating a Competitive Strategy

Porter (1980) suggests several questions for a company to answer to achieve the optimal Competitive Strategy. They separate into three main categories: what is the business doing right now, what is happening in the environment, and what should the business be doing. To answer, the company needs to do an extensive internal and external analysis (see Figure 2.1).

Figure 2.1 Process for Formulating a Competitive Strategy

A. What is the Business Doing Now?

1. Identification

What is the implicit or explicit current strategy?

2. Implied Assumptions

What assumptions about the company's relative position, strengths and weaknesses, competitors, and industry trends must be made for the current strategy to make sense?

B. What is happening in the Environment?

1. Industry Analysis

What are the key factors for competitive success and the important industry opportunities and threats?

2. Competitor Analysis

What are the capabilities and limitations of existing and potential competitors, and their probable future moves?

3. Societal Analysis

What important governmental, social, and political factors will present opportunities or threats?

4. Strengths and Weaknesses

Given an analysis of industry and competitors, what are the company´s strengths and weaknesses relative to present and future competitors?

C. What Should the Business be Doing?

1. Tests of Assumptions and Strategy

How do the assumptions embodied in the current strategy compare with the analysis in B above?

2. Strategic Alternatives

What are the feasible strategic alternatives given the analysis above (Is the current strategy one of these?)

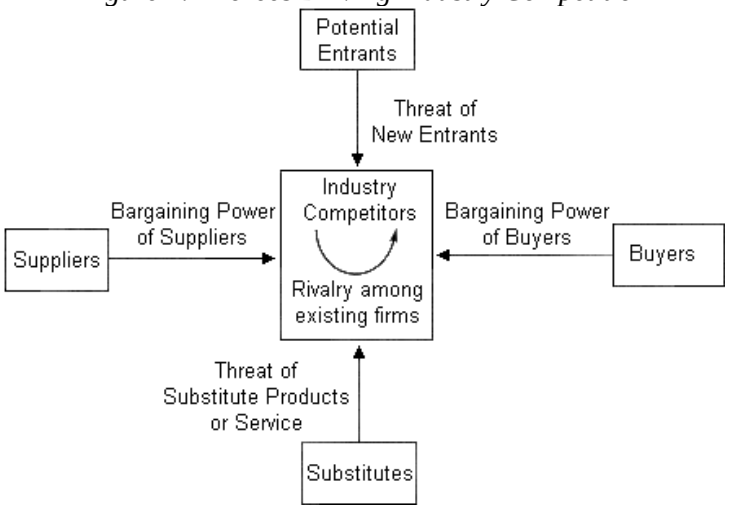
3. Strategic Choice

Which alternative best relates the company´s situation to external opportunities and threats?

Source: Porter, M. E. 1980. Competitive Strategy: Techniques for analyzing industries and competitors. New York: The Free Press

Porter (2008) also states that understanding industry structure is the key to effective strategic positioning. Porter developed The Five Competitive Forces framework to understand how competitive a specific industry is. The five forces are the threat of new entrants, bargaining power of buyers, bargaining power of suppliers, the threat of substitute products or services, and rivalry among existing firms. By analyzing these, a company can better find a position in the industry to best defend itself against these competitive forces or influence them in its favor (Porter, 1980) (see Figure 2.2).

Figure 2.2 Forces Driving Industry Competition



Source: Porter, M. E. 1980. Competitive Strategy: Techniques for analyzing industries and competitors. New York: The Free Press

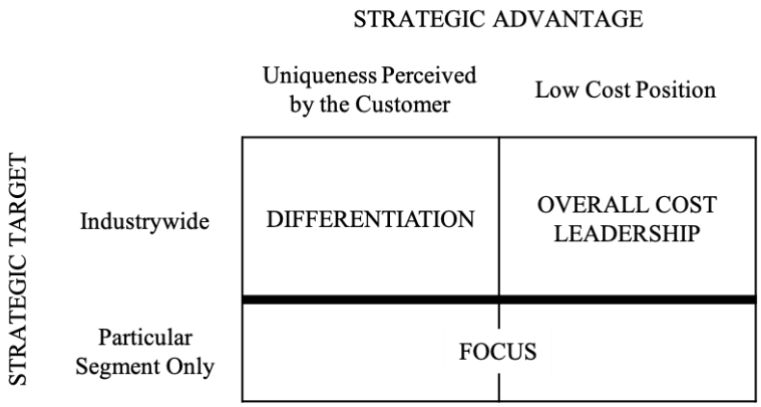
This framework was created 40 years ago and has not suffered any adjustments since. In recent years, the lack of changes has been criticized due to the need to change or use it combined with other frameworks to better understand the changing environment companies face. Bruijl (2018) suggests integrating it with the resource-based view model, as it expresses a more inside-out approach in order to develop a strong market position and strengthen its competitive advantage. Other authors suggested combining it with growth drivers and PEST factors or adding three more forces: digitalization, globalization, and deregulation since they are some of reasons the industry structure changed during the last decades (Dälken, 2014; Flower, 2004; Grundy, 2006). Dälken (2014) states that the original model is still applicable if it considers limitations.

2.1.3 Types of Strategy

2.1.3.1 Generic Strategies

Porter (1980) describes competitive strategy as choosing an offensive or defensive path to create a sustainable position in a specific industry, taking advantage of the five competitive forces, and achieving a superior return on investment. To create this position in the long run and outperform competitors, there are three generic strategies a company can implement: overall cost leadership, differentiation, and focus (see Figure 2.3).

Figure 2.3 Porter´s Generic Strategies



Source: Porter, M. E. 1980. Competitive Strategy: Techniques for analyzing industries and competitors. New York: The Free Press

Overall cost leadership means offering the consumer value compared to other products' value but at a lower cost (Porter, 1980). This strategy can provide above-average returns since companies still earn a superior profit (Miller & Friesen, 1986). The differentiation strategy requires that a company either creates a product or provides a service perceived as unique from an industrywide perspective. The goal is to build customer loyalty. Due to the brand's loyalty, demand is price-inelastic, leading to higher profit margins for the manufacturer (Aulakh et al., 2000). The focus strategy is based on low cost, differentiation, or both. It involves serving a segment specialized on a specific customer, geographical area, or product range efficiently or more effectively than competitors competing in a broader segment (Porter, 1980).

Each of these strategies is related to how a company develops an advantage concerning competitors in the same industry and achieves specific performance outcomes (Salavou, 2015).

Successfully implementing these strategies requires different resources and skills, organizational arrangements, and control procedures (see Table 2.1).

Table 2.1 Generic Strategies´ Implications

GENERIC STRATEGY	COMMONLY REQUIRED SKILLS AND RESOURCES	COMMON ORGANIZATIONAL REQUIREMENTS
Overall Cost Leadership	Sustained capital investment and access to capital Process engineering skills Intense supervision of labor Products designed for ease in manufacture Low-cost distribution system	Tight cost control Frequent, detailed control reports Structured organization and responsibilities Incentives based on meeting strict quantitative targets

Differentiation	Strong marketing abilities Product engineering Creative flair Strong capability in basic research Corporate reputation for quality or technological leadership Long tradition in the industry or unique combination of skills drawn from other businesses Strong cooperation from channels	Strong coordination among functions in R&D, product development, and marketing Subjective measurement and incentives instead of quantitative measures Amenities to attract highly skilled labor, scientists, or creative people
Focus	Combination of the above policies directed at the particular strategic target	Combination of the above policies directed at the particular target

Source: Porter, M. E. 1980. Competitive Strategy: Techniques for analyzing industries and competitors. New York: The Free Press

These strategies also require different styles of leadership and can translate into different company cultures and atmospheres. Porter (1980) advocates that only strategic purity leads to superior performance because most businesses that try to combine generic strategies end up stuck in the middle, which results in poor performance.

2.1.3.2 Stuck in the middle

When a company is stuck in the middle, it lacks market share, capital investment and chose to play the low-cost game, the industrywide differentiation, or the focus to create differentiation or a low-cost position in a more limited segment. Besides the guaranteed low profitability, companies tend to suffer from a blurred business culture and conflicting organizational arrangements and motivation systems (Porter, 1980). This dilemma has been the subject of debate for several years. Some authors take Porter's statement as accurate, and others question it.

Murray (1988) has proven that cost leadership and differentiation strategies are independent since preconditions for a viable cost leadership strategy are mainly industry's structural characteristics. A differentiation strategy comes from customer taste. For this reason, there is no off-side for a mixed strategy. Businesses that successfully combine low cost and differentiation

may create synergies that overcome any tradeoffs associated with this strategy combination (Parnell, 2006).

2.1.3.3 Strategy Hybridization

The hybrid strategy was a concept that did not get much attention in the beginning since many researchers mixed the concept with stuck-in-the-middle strategies (Pertusa-Ortega et al., 2009; Spanos et al., 2004). Now it is clear the difference between these two concepts. Hybrid strategies indicate competitive behavior that emphasizes more than one generic strategy. In contrast, stuck-in-the-middle strategies refer to the lack of distinctive emphasis on any particular strategy (Spanos et al., 2004).

Today, hybrid strategies are much more welcomed since they capture reality. They offer many strategic options at the business level for firms, regardless of their sector (Salavou, 2015).

Researchers (Pertusa-Ortega et al., 2009; Spanos et al., 2004) have supported the statement that the more complex and multidimensional the hybrid strategy is, the more balanced and defensible the company's strategic position will be.

2.1.3.4 Open Strategy

Most strategy formulation assigns top management teams' roles since literature tends to segment strategy formulation and strategy implementation (Whittington et al., 2011). The Open Strategy focuses on creating a better value by letting a stakeholder previously excluded from strategy formulation give their input and ideas regarding the company's strategy (Adobor, 2019). When defining an open strategy, there are two dimensions to take into account: (1) the transparency of the process - how visible an organization's strategy is during its formulation, and (2) inclusiveness – the extent to which an organization accepts the input of stakeholders out of the top management teams during the formulation of the strategy (Whittington et al., 2011).

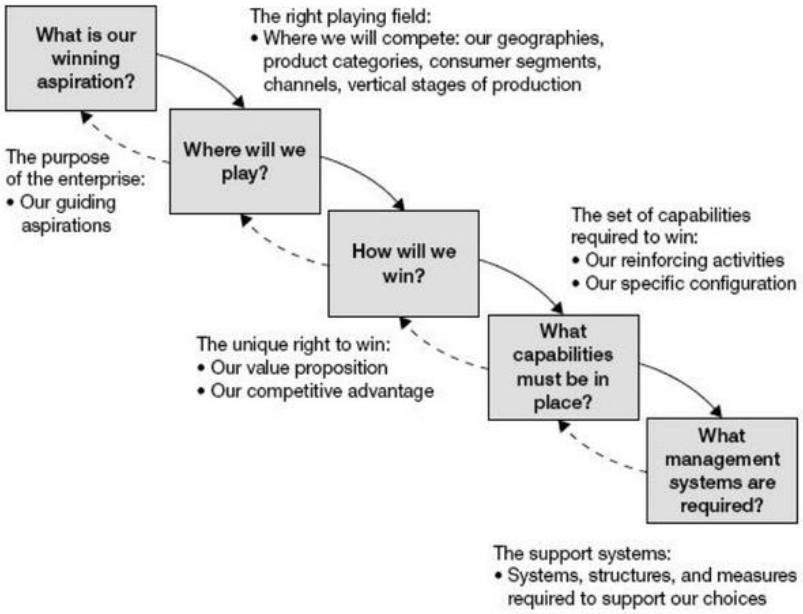
According to Adobor (2019), this comes with risks so organizations must adopt a gradual approach to it. One way to adopt an incremental approach is by adopting the Integrated Cascade of Choices framework. This framework consists of five questions (Lafley & Martin, 2013):

1. What is our winning aspiration? – these aspirations are statements about the ideal future for the organization and end up broadly defining the scope of the organization's activities;
2. Where will we play? – this allows the organization to focus on where to compete (which markets, customers, channels, and in which product categories);
3. How will we win? – for an organization to determine how to win, it must decide what will allow it to create unique value and a sustainable way to deliver that value to the customers in a different way from the competitors;
4. What capabilities must be in place? – relates to the range and quality of the activities that will allow the organization to win where it chooses to play;

5. What management systems are required? – these systems will help to foster, support, and measure the strategy.

These create a strategic conversation focused on broad dimensions of the organization's winning aspirations. By adopting an overall dimension perspective, the organization develops an umbrella strategy from which employees from lower levels can work (see Figure 2.4).

Figure 2.4 An Integrated Cascade of Choice



Source: Lafley, A. G., & Martin, R. L. 2013. Playing to win: How strategy really works. Boston, MA: Harvard Business Review Press

2.1.4 Critical Success Factors

2.1.4.1 Definition

The Critical Success Factors (CSFs) concept consists of identifying the key areas that require constant and careful management to achieve the performance goals (Ram & Corkindale, 2014). There are different definitions according to the three applications of this concept (management information system, control system, or planning system). Leidecker & Bruno (1984) assume CSFs as characteristics, conditions, or variables that can significantly impact the company's competitive performance in a specific industry when adequately sustained, maintained, and managed.

This concept applies to three analysis levels (firm-specific, industry, and economic socio-political environment). Analysis at each level provides a source of potential Critical Success Factors.

- Firm Specific Analysis – Uses an internal focus to create a link to possible factors.
- Industry Level Analysis - Focuses on the industry's fundamental structure factors that can impact any company's performance operating in that industry.

- Economic Socio-political Environment Analysis - Allows scanning the environment to understand and provide sources that will impact the firm's/industry success.

2.1.4.2 Strategic Planning and the Strategy Development Process

Hofer & Schendel (1978) indicate that developing a strategy includes seven steps (Strategy Identification, Environmental Analysis, Resource Analysis, Gap Analysis, Strategic Alternatives, Strategy Evaluation, Strategic Choice). CSFs can help this process in three specific steps:

- Environmental Analysis- Identifying the significant threats and opportunities the company faces. The CSF analysis provides a way to identify the essential competence, resources, and skills necessary to succeed in a specific industry or environmental climate.
- Resource Analysis- Identifying the variables that are essential to a firm's success in a specific industry. It provides more insights than previous analysis as it helps assess a firm's competitive advantage.
- Strategy Evaluation- Comparing the strategic alternatives with the specific goals and objectives the company previously defined. If this happens, the strategy evaluation process is more rigorous.

The Economic Socio-political Environment Analysis and Industry Level Analysis are related to the Environmental Analysis step. The Firm Analysis links to the Resource Analysis and Strategic Evaluation steps.

2.1.4.3 Identification Techniques

Identifying the CSFs is essential when developing a company's strategy and defining the strategic planning processes. Leidecker & Bruno (1984) named eight techniques to do this:

1. Environmental Analysis - Includes using different approaches to identify the forces that impact industry and performance, such as environmental scanning, econometric models, socio-political consulting services, and governmental affairs departments.
2. Analysis of Industry Structure - Using Porter's Five Forces Framework to obtain a detailed classification of the industry structure.
3. Industry/Business Experts - Using inputs from people who have an excellent knowledge of the industry/business to obtain new information or a different perspective.
4. Analysis of Competition - Limited to the competitive environment. Despite focusing only on analyzing competition, it is one of the most critical techniques mentioned.
5. Analysis of the Dominant Firm in the Industry - Helpful in an industry where there is a dominant company to identify what is the value it offers.

6. Company Assessment - Identify the CSFs for a particular company. Some of the approaches are strengths and weaknesses assessment, resource profiles, strategic audits, and strategic capabilities

7. Temporal/Intuitive Factors - Focuses on the intuition and insights of an individual familiar with the company. It often uncovers information about CSF's that the more conventional techniques overlook.
8. Profit Impact of Market Strategy (PIMS) Results - Indicates relative market share, degree of vertical integration, new product activity, capital intensity, and ratios of R&D and marketing to sales. If the results identify the key determinants of profitability, the inputs provide a starting point for the CSF analysis.

2.1.4.4 Determination of CSFs Importance

The profit impact in an activity is the most significant factor when identifying CSFs and their importance. Leidecker & Bruno (1984) suggest four starting points for profit impact analysis:

- Major Activity of Business – Normally, CSFs are found in significant areas of the business.
- Large Dollars Involved – The main factors tend to have relatively large dollar amounts associated with them.
- Major Profit Impact – Assess the sensitivity of overall results to changes in certain activities. Valued Added Analysis is an excellent tool for this level of analysis.
- Major Changes in Performance – It is crucial to follow significant changes in the company's performance. These changes tend to link to a vital CSF.

2.2 Business Model Framework

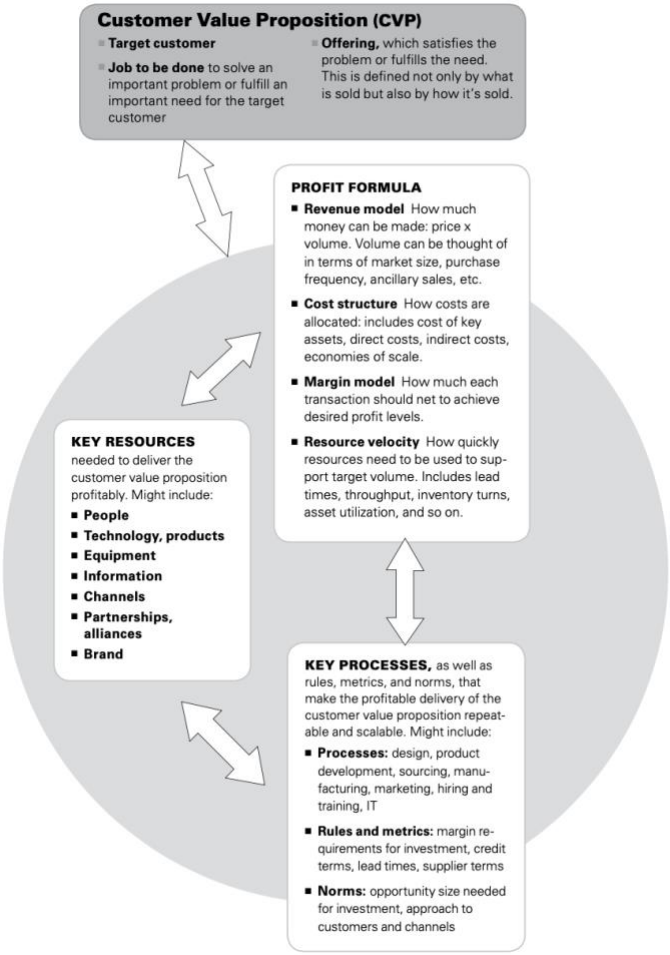
The company's business model describes how the company creates and captures customer value and is represented by an interrelated set of elements that address the customer, value proposition, organizational architecture, and economic model (Fielt, 2013). To help companies develop a business model, Johnson et al. (2008) created a roadmap with three steps:

1. Think about the opportunity to satisfy a real customer who has a specific need;
2. Construct a blueprint explaining how the company is going to fulfill the customer's need at a profit;
3. Compare the new model with the current one to see how much the company needs to change to capture the opportunity.

Following the Johnson et al. (2008) Business Model Framework, there are four interlocking elements to be taken into account (see Figure 2.5):

- Customer Value Proposition
- Profit Formula
- Key Resources
- Key Processes

Figure 2.5 The Elements of a Successful Business Model



Source: Johnson, M. W., Christensen, C. M., & Kagermann, H. 2008. Reinventing Your Business Model. Boston, MA: Harvard Business Review

2.2.1 Customer Value Proposition

The Customer Value Proposition (CVP) is a tool used by companies to communicate how it intends to provide customers value (Anderson et al., 2006). Payne et al. (2017) divided the existing literature into three different perspectives to develop the CVP definition:

- Supplier-determined CVP perspective- Webster (as cited in Payne et al., 2017, p. 471) defined the CVP as "a statement of how the firm proposes to deliver superior value to the customer and to differentiate itself from competitors.". It demonstrates an inside-out perspective meaning it is a company-formulated marketing offer (Day, 2011).
- Transitional CVP perspective- It highlights the customers' perspectives and experiences during usage (Grönroos & Voima, 2013). Companies resort to dialogues to identify attributes valuable to customers (Payne et al., 2017).

- Mutually determined CVP perspective- Companies that develop CVPs alongside their customers adopt an outside-in approach, by proposing benefits for the customer before, during, and after using the product/service (Day, 2011). This perspective involves reciprocal benefits offered to and from suppliers and customers (Ballantyne, 2003). It considers the value distribution throughout the customer relationship instead of the value created at the exchange point. The CVP seeks active engagement by sharing selected resources and contributing to mutually rewarding outcomes (Payne et al., 2017).

Taking into account the three different perspectives about CVP, Payne et al. (2017, p.472) defines it as "a customer value proposition is a strategic tool facilitating communication of an organization's ability to share resources and offer a superior value package to targeted customers."

To help companies develop their customer value propositions, Simons (2014) developed a customer-driven framework. The framework consists of four steps:

1. Identify the Primary Customer - The most important customers are the ones that create the most value for the company. To identify them, it is necessary to assess each group of customers along three dimensions:
    - Perspective – the culture, mission, and history of the company. Executives consider this information when developing the strategic direction.
    - Capabilities – the embedded resources of the company. Developing capabilities over time can make them hard to copy and allows the company to serve a specific customer's needs better than the competition.
    - Profit potential – the customer's ability to deliver profit. Managers can use the Five Forces Framework to help companies study what customer provides more profit.
2. Understand What the Primary Customer Values - Identifying some of the attributes customers can value such as low prices, a dedicated service relationship, or the best technology. Sometimes customers do not know what they want exactly, so companies can learn what customers value by doing systematic research at multiple levels.

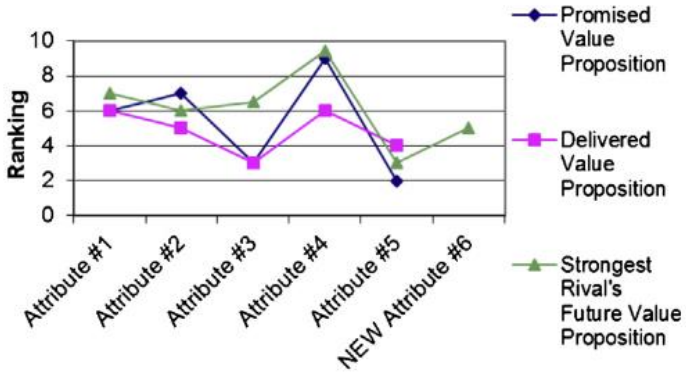
3. Allocate Resources to Win - Understanding what customers value, helps determine the best business model to adopt. There are five basic configurations of business models:
    - Low price – if the primary customer values low prices, the company should advocate the bulk of organizational resources to the centralized operating functions to create economies of scale and scope.
    - Local value creation – if the primary customer values customized products/services, the company should push the resources and capabilities out to regions for local managers to customize the product offerings.
    - Global standard of excellence – if the primary customer values the latest technology, the company should organize its resources and capabilities by product lines.
    - Dedicated service relationship – if the primary customer values a deeply embedded service relationship, the company should focus on a "vertical" sales team and centralize product and service delivery.
    - Expert knowledge – if the primary customer is looking for expert technical knowledge, the company should focus on the R&D department, allocating most resources to it.

Suppose the company has more than one primary customer. In that case, the best option is to split the business into separate units and adopt the model that will allow the company to deliver what primary customers most value.

4. Make the Control Process Interactive - The company must continuously monitor the needs of its primary customer and competing value propositions as they are constantly changing and evolving. To help pinpointing what areas of the CVP and its delivery processes require improvement, Sheehan & Bruni-Bossio (2015) developed the Value Curve Analysis. To do this, the manager needs to draw three value curves that illustrate the following customer value propositions (see Figure 2.6):
    - The value proposition the company promises to its primary customers – the company's manager, needs to develop a strategy canvas that includes the attributes that primary customers value when make their purchases.
    - The company's value actually delivered to its primary customers – the manager should map the values the company is currently offering to its customers.

- The firm's strongest competitor's future value proposition – the manager should identify its strongest competitor and analyze its future value proposition.

Figure 2.6 Value Curve Analysis



Source: Sheehan, N. T. & Bruni-Bossio, V. 2015. Strategic value curve analysis: Diagnosing and improving customer value propositions. Canada: Business Horizons

The company manager generates value curves for each competing offering by ranking each attribute listed on the horizontal axis from 0 to 10. The gaps between the strongest rival's future value proposition curve and its delivered value proposition curve show where the company needs to improve its value proposition. If the company wants to remain competitive, it needs to close the gap and find a way to respond to the new attributes added.

2.2.2 Profit Formula

The Profit Formula defines how the company creates value for itself while providing value to the customer (Johnson et al., 2008). This formula consists of four parts:

- Revenue Model - price per unit sold x volume sold.
- Cost Structure - direct and indirect costs, economies of scale. This structure is mainly defined by the costs of the resources required.
- Margin Model - considering the volume and cost structure, this model defines the contribution needed from each transaction to achieve the desired profit.
- Resource Velocity - how well the resources must be used to support the expected volume and achieve the anticipated profits.

It is easier to define the price required to deliver the CVP and then work backward to determine the variable cost and gross margins. By doing this, it will determine the scale and resource velocity needed to achieve the desired profit.

Other authors such as Morris et al. (2006) define this element as an economic model that considers four sub-components similar to the ones mentioned above:

- Company's operating leverage – the extent to which fixed or variable costs dominate the underlying costs.
- Company's volume organization – whether the company is organized for high, medium, or low volume considering the market opportunity and internal capacity.
- Company's margin – whether the company will be able to perform high, medium, or low margins.
- Company's revenue drivers – whether the revenue drivers are fixed or flexible.

2.2.3 Key Resources

The key resources represent the assets such as people, technology, products, facilities, equipment, channels, and brands needed to deliver to the targeted customers' value proposition. This element focuses on the essential sub-elements that can create value for the company and the customer and how they interact. Some resources are vital to the company but do not create any competitive differentiation (Johnson et al., 2008).

Osterwalder & Pigneur (2010) categorize the resources as follows:

- Physical – manufacturing facilities, buildings, vehicles, machines, systems.
- Intellectual – brands, proprietary knowledge, patents and copyrights, partnerships, and customer databases.
- Human – people.
- Financial – financial guarantees such as cash, lines of credit, or stock option pool for hiring key employees.

2.2.4 Key Processes

Companies have operational and managerial processes that allow them to deliver the value they can successfully repeat and increase in scale. Besides including training, development, manufacturing, budgeting, planning sales, and service, the key processes also include the companies rules, metrics, and norms (Johnson et al., 2008).

In the Osterwalder & Pigneur (2010) business model framework, the segment related to Key Processes is denominated Key Activities and divides it into three groups:

- Production – activities related to designing, making, and delivering a product in substantial quantities and/or superior quality. These have a big role in the manufacturing industry.
- Problem Solving – activities related to developing new solutions to individual customer problems. These are predominant in hospitals, consulting companies, or service organizations.

- Platform/Network – activities related to platform management, service positioning, and platform promotion. These are found in platform-based businesses.

2.3 Small and Medium Enterprises take on Strategic Planning

In the last years, there has been an increasing interest in using and adopting strategic management concepts and frameworks as a tool for organizational performance by small firms (Bellamy et al., 2019). This interest is motivated by the increasing challenges that small and medium enterprises (SMEs) face in today's competitive global economy dominated by large organizations and global giants (Hodgkinson & Starkey, 2011 as cited in Bellamy et al., 2019).

Besides structural constraints such as age, size, and sector, combining these with some strategic and personal factors makes it challenging to produce measurable performance outcomes. Even though owner-manager characteristics and business style are essential, the structural condition within which the company operates in is the most vital determinant of a company's performance (Blackburn et al., 2013).

Due to a lack of a solid theoretical base in SMEs' strategy-making process, researchers use methods identified in large firms and study them to understand what better fits SMEs. Three processes are more likely to be used by SMEs: Adaptive strategy-making, participative strategy-making, and simplistic strategy-making (Verreynne & Meyer, 2010). The adaptive strategy-making process happens when a company engages with external stakeholders to decide the direction and strategies the company will adopt and consider market feedback when defining the strategic direction. This process provides flexibility to quickly adapt their strategy to pursue opportunities or respond to threats (Alpkan et al., 2007). A participative strategy-making process is when the company's strategies and strategic direction result from the inclusion of internal stakeholder opinions regarding the strategy-making process (Collier et al., 2004). In SMEs, where the manager's influence in defining strategy is strong, having more internal stakeholders' opinions can lead to more emergent strategies. The strategy-making process becomes more of a social learning process than a formal one (Hart, 1992). In a simplistic strategy-making process, companies tend to focus on what factors led them to success in the past and repeat those actions to reach the same outcome (Lumpkin & Dess, 2006). This process only focuses on a single goal. It uses previously developed strategy actions as a good fit for SMEs that do not have the time or resources to spend on more elaborate strategy-making processes (Hart, 1992).

2.4 How to Cope with a Crisis

A company can experience five crises: Financial Crisis; Personnel Crisis; Organizational crisis; Technological Crisis; and Natural Crisis.

Compared to large companies, crises are considered a considerable threat to small and medium companies. For that, small companies focus on surviving, at least during the first few years of the recession. These SMEs undergo cost-cutting in several business areas, ending with lower capacity and ability to adapt when trying to recover (Kitching et al., 2011). The manager needs to have the mindset that all the actions developed must consider the future and the present problems once these global crises have repercussions that last for years (Balaton, 2015). There are also six courses of action that companies (large or SMEs) should adopt in times of crisis: Focus on cost reduction, focus on cost operation, downsize, strengthen the internal organization, focus on increasing turnover and margin, and exploit opportunities. The first three courses of action are defensive, where the organization's main objective is to survive. The other three are offensive, where the company intends to benefit from the crisis and grow to become the market leader (Waal & Mollema, 2010).

Studies were conducted about the different effects between family-owned and non-family-owned businesses. According to a study conducted by Vlachakis et al. (2011), family businesses have mechanisms that can operate during a crisis and help achieve the business needs more effectively than non-family businesses. The mechanisms mentioned are:

- The crisis can be seen as a forced opportunity for the company to reorganize itself a adopt more formal management planning.
- Combining entrepreneurship and emotion brings the family members around the same goal and creates dynamic growth during the crisis.
- The weight of failure is much more prominent in a family business manager than in a manager of a non-family business. This makes the manager adopt a constant awareness of the surroundings and avoid significant errors.
- The essential element to respond to the crisis is adopting a lean and flexible budget. In a family business, the company members are more willing to work extra hours under challenging conditions and do not receive extra rewards.

2.5 Trends in Strategy and Strategic Planning

2.5.1 Scenario Planning

The world is experiencing a substantial transformation embracing social, technological, economic, political, and ecologic aspects. Evolution is not unusual, but the high rapidity rate of changes that accompanied this evolution is. Companies seek sustainable means to survive and compete effectively while operating in broad global-driven markets and changing environmental environments (Aldabbagh & Allawzi, 2019). The environmental changes have pushed companies

to change their structure systems and leadership styles (Grant, 2008). For companies to respond quickly to these changes, it is essential to consider applying scenario planning.

Scenario planning allows companies to evaluate the effects of multiple variables in their external environments (Johnston et al., 2008). It helps companies develop long-term strategies by making sense of uncontrollable and conflicting macro-environmental trends. It also combines strategic analysis with creative thinking to identify and prioritize the forces that create the most uncertainty and helps find strategic solutions to multiple future scenarios (Oliver & Parrett, 2017).

Even though this technique is still subjective and based on the extrapolation of existing knowledge from a specific point of view, companies need to prepare different strategies for multiple futures due to rapid environmental changes, and scenario planning is a helpful technique.

2.5.2 Strategic Knowledge Management

In recent years, technological developments shaped a diversified business environment. Knowledge capital started to be identified as one of the most critical resources to achieve competitive advantages. Due to the globalization of markets and better access to information, better use of knowledge is needed. Therefore, knowledge management became an essential technique to improve performance, boost productivity and creativity, and facilitate innovation in the business environment (Ioannis & Belias, 2020).

Strategic Knowledge Management relates to the processes and infrastructures companies use to attain, create and share knowledge to formulate a strategy and make strategic decisions (Zack, 2002). It considers the interactions between technological and intellectual resources key for business survival (Heisig et al., 2016). Managers have to collect, analyze and appreciate available knowledge to adopt a successful strategy (Ioannis & Belias, 2020).

2.5.3 Industry 4.0, IoT, Blockchain and Business Analytics

Industries adopted four concepts when defining and implementing their strategy. These concepts are Industry 4.0, IoT, Blockchain, and Business Analytics (Zhang & Chen, 2020).

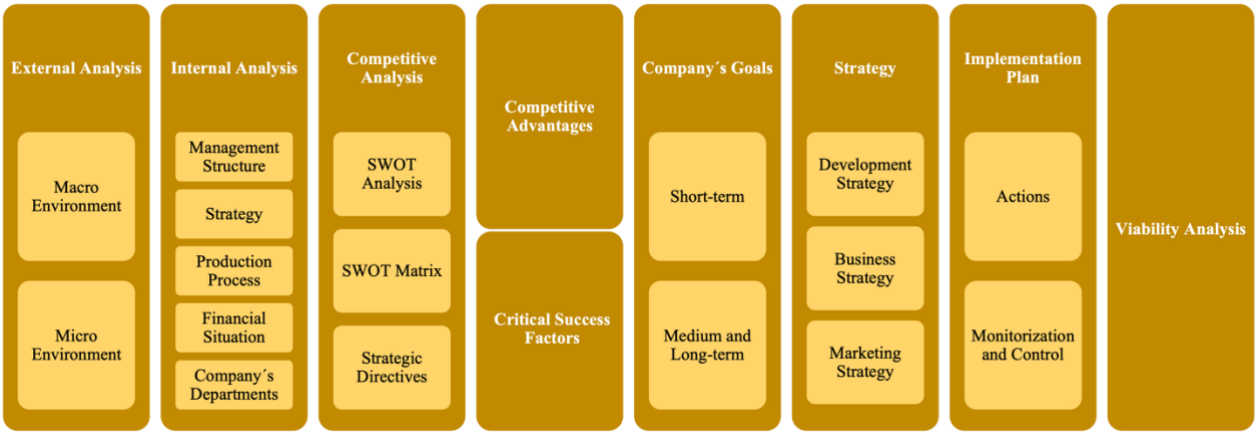
- Industry 4.0 – It aims to improve manufacturing system efficiency and performance (Brettel et al., 2014). It focuses on machines and production systems that operate autonomously, without the need for human intervention (Özüdoğru et al., 2018).
- IoT - Internet of Things (IoT) is a worldwide connected network composed of several devices that rely on sensory, communication, networking, and information processing technologies (Tan & Wang, 2010). IoT promises solutions to transform existing industrial systems (Xu et al., 2014).

- Blockchain – This is a decentralized peer-to-peer transaction (Mohanta et al., 2019). This concept provides the fundamental technology for the decentralization, openness, security, independence, anonymity, integrity, and authenticity of diversified applications (Lu, 2018).
- Business Analytics - It is the process of using data to make more evidence-based strategic decisions (Seddon et al., 2017). Large integrated databases can help business analytics improve decision-making and gain a competitive advantage (Zhang & Chen, 2020).

3 Methodology

The in-company project's methodology intends to describe and explain how the research is conducted, emphasizing the methods and strategies used to respond to the problems presented (see Figure 3.1).

Figure 3.1 Business Plan Methodology



Source: Author, 2021

- External Analysis
  - Macro Environment
    - PESTEL Analysis – definition of the external environment according to four elements (Political, Economic, Social, Technological, Environmental, and Legal) and how they can impact the business.
  - Micro Environment
    - Industry Analysis – current condition of the industry, market size, life cycle, and demand forecasts.
    - Competitors Analysis – direct and indirect competitors that have an impact on the company's business.
    - Porter's Five Forces – assessing the power of each force allows a better evaluation of the industry attractiveness and how the company can gain more competitive advantage.
- Internal Analysis
  - Management Structure – define the management structure of the company and understand the different departments that exist.
  - Strategy – understanding the strategy applied by the company until now and the goals established.
  - Production Process – understand the production process of the company, how each department is related to the process.

- Financial Situation – analyze the company's financial situation throughout the years, profit margins, net results, and costs associated with the company activities
- Company´s Departments – analyze the company´s departments and the activities related to it to understand the existing problems.

To perform a thorough analysis of the company will be made a qualitative analysis in the form of surveys and a workshop. The collection and interpretation of the information gathered by doing surveys to all the company employees will allow obtaining knowledge about experiences, outcomes, and insights that would not otherwise be possible. The workshop will assess the company's AS-IS situation according to the managers and what they envision of its future. This will allow a better understanding of what route the company should follow and what can be done to surpass the current problems the company is facing (see Annex A & B).

- Competitive Analysis
  - SWOT Analysis

In chapter 6, a SWOT analysis will be conducted using the conclusions drawn from the previous chapters.

Strengths and weaknesses – the internal analysis will allow understanding the strengths and weaknesses of the company.

Opportunities and threats – the external analysis will allow understanding the opportunities and threats.

  - SWOT Matrix

By combining both strengths and weaknesses with opportunities and threats, conclusions can be taken. Possible actions can be drawn to build on the company's strengths, exploit the market's opportunities, boost the company's weaknesses, and surpass the market's threats.

  - Strategic Directives

To end the competitive analysis a set of strategic guidelines are defined, considering the analysis made in the SWOT Matrix.

- Competitive Advantages

For chapter 7, the competitive advantages the company possesses will be presented. This analysis will be made through the VRIO framework that helps to understand what are basic competences and core competences that can become the base of competitive advantage.

- Critical Success Factors

In chapter 8, a reduced set of requirements that are critical to meet the goals are identified. These specific requirements are named Critical Success Factors.

- Company´s Goals

After understanding the industry and the company, and how the company can differentiate from the competitors it is crucial to determine the goals for the company. In chapter 9, it will be presented the short and medium/long term goals set for this company.

- Strategy
    - Development Strategy

In chapter 10, with the help of the previous analysis, it will be proposed a new strategy. The components for a new strategy development are:

        - Strategic Definition
        - Mission, Vision and Values
    - Business Strategy

In chapter 12, the company´s business strategy is presented with a focus on the development of its business model that follows the structure mentioned in the literature review.

    - Marketing Strategy

When presenting the company´s marketing strategy, in chapter 11, the first step is to define the segmentation, target, and positioning of the company. When the target and positioning is assessed the marketing-mix is developed. The marketing-mix is formed by four P´s: product, price, place, and promotion.

- Implementation Plan

For the implementation plan, in chapter 13, the actions that the company should take to meet the set goals are presented as well as the monitorization and control of the goals. Each action must be describe mentioning the objective, related activities, and difficulties it can face.

- Viability Analysis

To analyze the viability of the business plan, in chapter 14, it will be presented the investment needed as well as a prediction of sales and costs. This will allow us to calculate the financial evaluation criteria as well as the business performance indicators. With these indicators we can understand if it is viable or not to apply the business plan.

4 External Analysis

4.1 Macro Environment Analysis

It is essential to understand the external environment where the company operates, including the macro environment. To analyze the macro environment, it will be used PESTEL analysis, which allows us to understand the Political, Economic, Social, Technological, Environmental, and Legal factors of the environment.

4.1.1 Political Factors

The Metallurgical and Metalworking industry, one of the traditional sectors, has not suffered restrictions regarding exports and imports inside the European Union due to the European Single Market.

Since the United Kingdom ended its membership with European Union in 2020, there have been negotiations to reach a Free-Trade Agreement. Until an agreement is reached, exports and imports from the EU to the UK involve extra costs that did not exist until 2020.

The tradeoffs between the EU and the USA (United States of America) depend on global supply chains. Since the EU and the USA are great technological development centers, transatlantic trade creates a strong path for sustained manufacturing competitiveness. However, with tariffs and countermeasures, the economic growth between these two players is compromised. The tariffs will ultimately lead to counter-tariffs, loss of markets for producers, higher consumers prices, and low investor trust. CECE (Committee for European Construction Equipment) and AEM (American Association of Equipment Manufacturers) are working together with World Trade Organization to defuse these barriers.

The Directorate-General for Internal Market, Industry, Entrepreneurship, and SMEs is responsible for supporting access to global markets for EU companies. At this moment, it is established SME policy dialogues with the USA, China, and Korea.

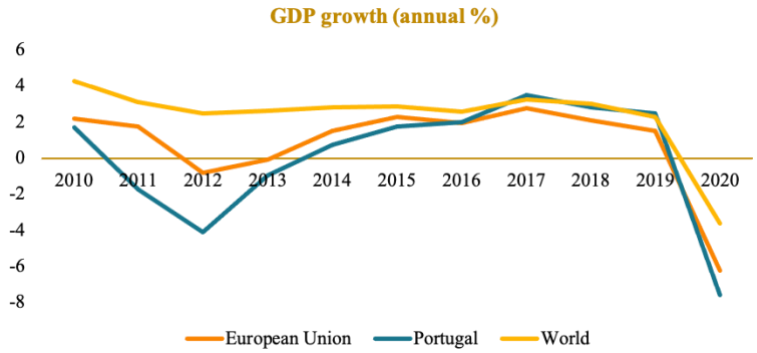
4.1.2 Economic Factors

Since the beginning of 2020 we are facing a global pandemic. There was a historic drop-in activity in all sectors, and all countries faced a recession that is still happening in 2021. In the last months, firms started to adapt to the constraints of the pandemic environment. There is a more robust policy support and substantial support from global growth and trade. This helped the global economy face economic challenges.

The chart below shows the GDP (Gross Domestic Product) growth for Portugal compared to the European Union and the World. The scenario is similar for the three zones, representing a global recession. This recession started at the end of 2019, beginning of 2020 due to the pandemic.

This crisis started in China at the end of 2019, but it spread fast to the rest of the world, impacting almost every country in March 2020 (see Figure 4.1).

Figure 4.1 GDP Growth



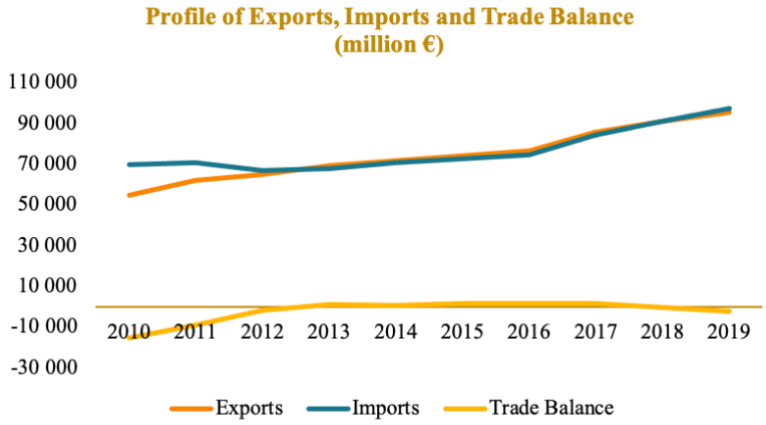
Source: The World Bank, 2021

This pandemic impacts the income available, decreasing the demand and ending up increasing the unemployment rate. Portugal was one of the countries to ask for help to reduce the debt and promote specific sectors that felt this pandemic the most.

In terms of raw materials prices, 2016 to 2020 is marked by increased raw materials prices. Looking at the metal material overall, it increased 40% (compared to 2016). The prices of aluminum and copper have risen significantly. In 2020, the price of aluminum was 1704,10$ per metric ton, and the price of copper was 6174,56$ per metric ton (Annex C). Between 2016 and 2020, the energy priced decreased 9% (Annex D).

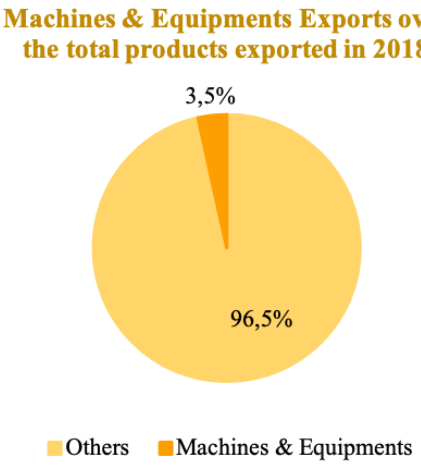
Regarding the exports and imports, Portugal has a negative trade till 2013, since the imports surpass the exports. From 2013 to 2017, the trade balance was positive, but in 2018, the imports were again higher than the exports presenting a negative trade balance (see Figure 4.2). The top 5 export destinations are Spain (19,8%), France (13,2%), Germany (11,3%), UK (9,2%) and Italy (6,0%). Regarding the import origins the 5 countries are Spain (28,3%), Germany (12,3%), France (9,5%), Netherlands (4,8%) and Italy (4,8%). When it comes to Machines & Equipment, a subsector of the Metallurgical and Metalworking industry, the exports represent 3,5% of the total products exported in Portugal (see Figure 4.3).

Figure 4.2 Profile of Exports, Imports and Trade Balance Portugal



Source: Pordata, 2021

Figure 4.3 Machines & Equipments Exports over the Total Products



Source: Pordata, 2021

4.1.3 Social Factors

When it comes to social indicators, it was crucial to characterize the Portuguese population in 2020. Portugal had 10 298 252 inhabitants, with 27,9% living in the Lisbon Metropolitan Area (INE, 2021).

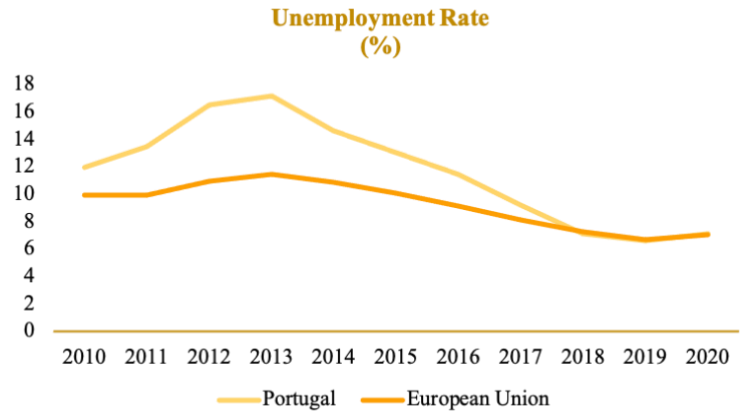
Regarding the population age, in 2019, 13,6% of the population was below 14 years old, 64,3% was between 15 and 64 years old, and 22,1% was above 65 years old. The indicator of the population age has shown an increase in seniors and a decrease in young people in the last years. This also shows that the birth rate is low in Portugal.

According to projections from INE, the population will suffer a decrease until 2080, reaching 8,2 million inhabitants. The aging population will increase, reaching an aging index of 300,3 seniors per every 100 young people. These tendencies are explained by the technological growth

and medical advances that help people live longer. The birth rate decreasing also influences the aging of the population once families are having less children, giving more importance to their professional careers and having children later in life.

Another indicator that is important to refer to is the Unemployment Rate. The chart below shows that the Portuguese unemployment rate has decreased since 2013, having a more accentuated decrease than the European union unemployment rate. This decrease reflects the improvements and measures taken after the previous crisis. Between 2019 and 2020, the unemployment rate started to increase again due to the pandemic (see Figure 4.4).

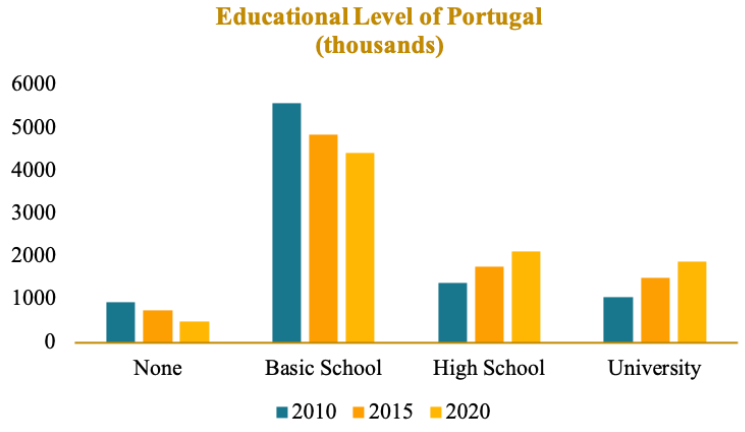
Figure 4.4 Unemployment Rate



Source: OECD, 2021

In terms of the education level of the Portuguese population, the population without any studies has been decreasing, while the number of inhabitants with a university degree has been increasing. In 2020, 21,2% of the population already had a university degree (see Figure 4.5).

Figure 4.5 Education Level of Portugal



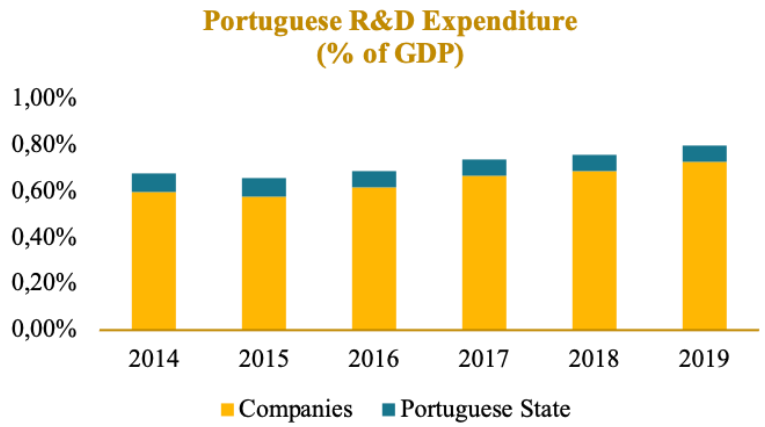
Source: Pordata, 2021

4.1.4 Technological Factors

In the Metallurgical and Metalworking industry, technology is a crucial element. It can be regarding the software in the machines, the materials used in the construction, and the construction processes. By using the latest technology, companies can keep up with the competition and differentiate themselves.

The chart below shows the overall Portuguese investment in Research & Development (R&D) relative to the GDP. The investment has been increasing since 2016 but only from the companies' side once the investment from the Portuguese state has been the same since 2016 (see Figure 4.6).

Figure 4.6 Portuguese R&D Expenditure



Source: Pordata, 2021

These investments in technology benefit companies by helping to develop production processes, decrease costs, and increase response capacity. From ordering materials, stock control, transportations, and planning, the whole production process is faster and more accurate, decreasing the defects and the need for rework, due to the information systems now available.

It is not only the production process that takes advantage of these new technologies. Marketing, finance, and commercial departments can also improve due to tools that help to manage clients, process purchases, manage incomes and payments deadlines.

In Portugal, even though there was a decrease in the Portuguese state investment in R&D due to the pandemic, Portugal is still investing in SMEs, focusing on developing and using new technologies. In the European Union, Portugal is seen as one of the countries that offer opportunities for technology development and SMEs growth.

4.1.5 Environmental Factors

The Metallurgical and Metalworking industry in Portugal is one of the most representative industries in the Transformative sector. Once the primary material used in this industry is metal, this industry is on the front line regarding environmental legislation.

In the last years, several legislations were created to reduce the impact of this industry on the environment. Some of the topics mentioned in these legislations are:

- Water abstraction and discharge of wastewater, waste energy, volatile organic compounds, and greenhouse gases;
- Serious industrial hazards;
- Environmental licensing.

Even though there has been a great effort to implement these topics, companies still face many difficulties. They need to allocate relevant resources to respond to all the demands, and some of these resources and knowledge needed are difficult to ensure in small-scale companies.

4.1.6 Legal Factors

When it comes to the Metallurgical and Metalworking industry, some critical issues regarding the legal factors should be addressed. This industry suffers from many recurrent accidents from long working hours, absence of contracts, or overlook of working security laws.

Due to these accidents, the Labor and Employment Bulletin No.22 6/15/2020 ensure all the rights and demands that the employer and employee must follow in this specific industry.

4.2 Micro Environment Analysis

After analyzing the macro environment, there is a need to evaluate the industry itself. Topics included in this analysis are the Metallurgical and Metalworking industry in Portugal, the competitors in this industry, and the industry attractiveness through Porter's Five Forces.

4.2.1 Industry Analysis

Before analyzing the industry where Construal operates, it is important to understand how it is divided. The Transformative sector includes all industries that transform raw materials into goods. One of the industries in this sector is the Metallurgical and Metalworking industry. This industry can be divided into two categories, the Metallurgical part focus on the manufacture of metal products, and the Metalworking part focuses on the manufacture of machines and equipment.

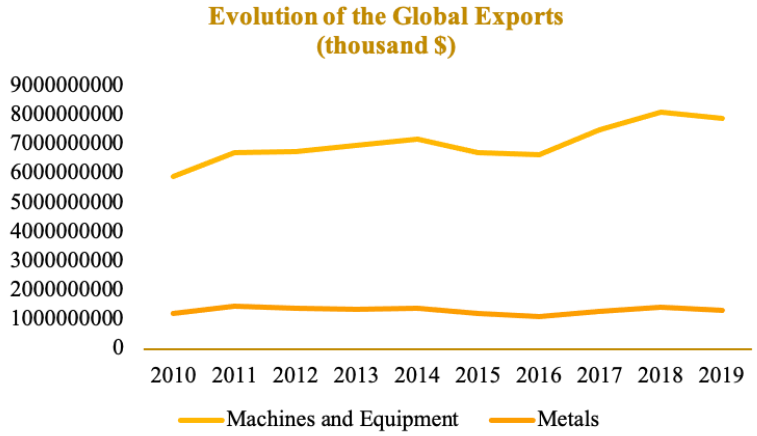
The Metallurgical and Metalworking industry is one of the principal industries for the Portuguese economy. Its importance is because it creates jobs, generates investment, and contributes to Portuguese exports.

The global exports of the industry have been in expansion in the last years. Over the years, slight decreases happened, but higher increases in the following years offset them. So far, 2018 was the best year of this period, registering 8 096 403 million dollars just in machine and equipment exports (see Figure 4.7).

USA and China are the leading players when it comes to this industry exports. In 2019, the USA exported 45,66% and China 43,60% of the total value of the country´s exports. Even though in 2019, the value of exports decreased, some countries increased the exports, such as France (0,03%), Netherlands (1,49%), Singapore (0,52%,) and Vietnam (6,98%).

When looking only for European countries, the five countries with higher exports are Germany, France, Italy, Spain, and the Netherlands. Regarding Portugal, in 2019, the country exported 30 668 million dollars and had a growth of 0,62% (see Annex E).

Figure 4.7 Evolution of the Global Exports



Source: WITS, 2021

4.2.1.1 Portuguese Metallurgic and Metalworking Industry

To analyze the Portuguese industry, we will be considering the companies in CAE 25 - Manufacture of metallic products and CAE 28 – Manufacture of machinery and equipment.

According to the Industrial Production Statistics, this industry is one of the most important industries for the Portuguese economy, representing:

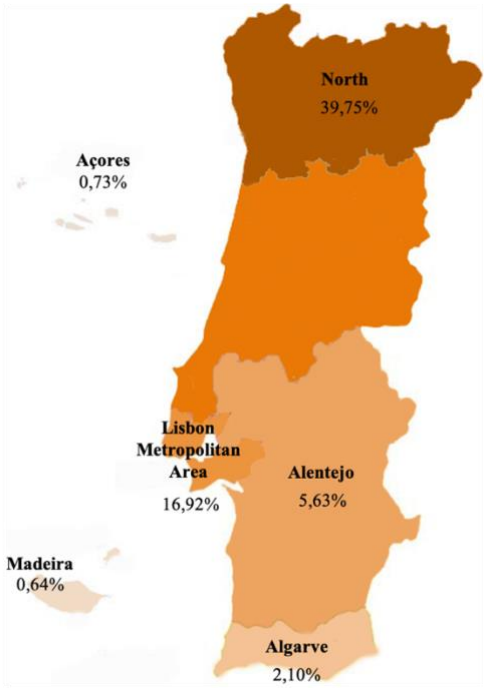
- 10,51 % of the business volume in the transformative sector in 2019;
- 15,68% of the employment in the transformative sector in 2018;
- 9,98% of the total Portuguese Exports in 2018.

In 2018, Portugal had 26 171 companies – 11 817 manufacturers of metallic products and 14 354 machinery and equipment manufacturers.

Regarding the geographic distribution, it is possible to conclude that most companies are concentrated in the North (39,57%) and the Center (35,45%) (see Figure 4.8).

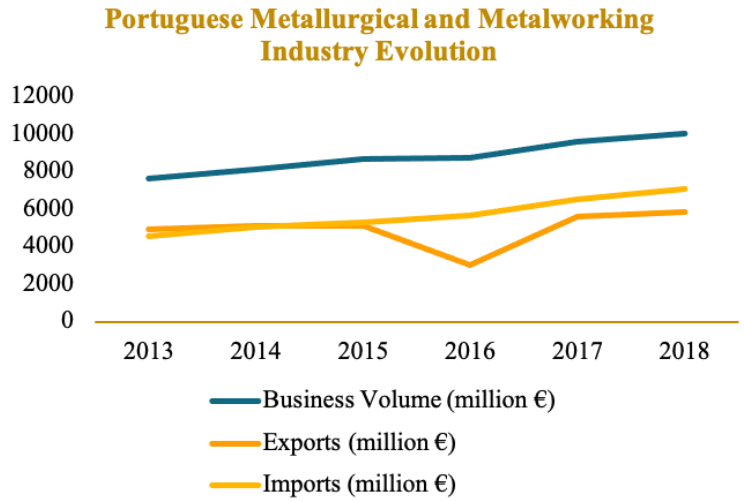
Analyzing the chart below, the Portuguese Metallurgical and Metalworking Industry followed the global Metallurgical and Metalworking Industry, having a slight decrease in 2016 but increasing throughout the years. In terms of exports, 2018 was the better year as of now (see figure 4.9).

Figure 4.8 Geographic Distribution of Portuguese Metallurgic and



Source: adapted from INE, 2021

Figure 4.9 Portuguese Metallurgical and Metalworking Industry



Source: adapted from INE, 2021

Both Metallurgical Industry and Metalworking Industry had a decrease in the exports inside the EU. When comparing the exports from 2018 and 2019, the industry had a decrease of 4%. In contrast, the Metallurgical Industry had a 1,8% decrease in exports outside the EU, and the Metalworking Industry increased by 2,7% (see Annex F).

In the Metallurgical industry, 65,67% of the exports came from France, Spain, Germany, UK, and the USA. In the Metalworking industry, 64,63% of the exports came from Germany, France, UK, and Angola.

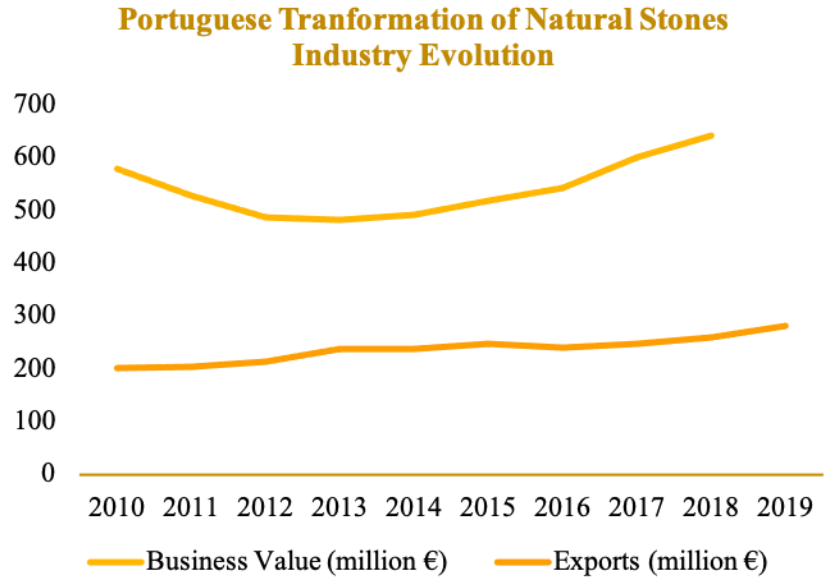
4.2.1.2 Portuguese Transformation of Natural Stones Industry

Even though the Transformation of Natural Stones Industry is not the company's specific industry in analysis, it is the industry that the company supplies. It is important to analyze this industry once it directly impacts the Metallurgical and Metalworking industry.

From 2010 to 2018, this industry suffered a decrease in the number of companies (-25,90%) and employees (-26,90%) (see Annex G).

The decrease of companies in this industry is not related to the business value and exports since there was an increase between 2010 and 2018 (see Figure 4.10). From 2010 to 2018, the business value increased 10,88%, and between 2010 and 2019, the exports increased 39,60%.

Figure 4.10 Portuguese Tranformation of Natural Stones Industry



Source: adapted from ASSIMAGRA, 2021

When comparing the Portuguese Transformation of Natural Stones industry and the Portuguese Metallurgical and Metalworking industry, we can verify that they follow the same behavior.

The increase in production in the Transformation of the Natural Stones industry will subsequently result in an increased production in the Metallurgical and Metalworking industry.

4.2.2 Competitor Analysis

In the survey and workshop was asked to the participants to mention the main competitors of the company. It was taken into consideration portuguese and international competitors.

Every participant mentioned the same five competitors. Two from outside of Portugal and three from Portugal. The competitors are Donatoni, GMM, D2, CEI, and António Jacinto Figueiredo. To analyze these competitors, it was considered their websites and structural reports.

- Donatoni

Donatoni was created in 1959 and is in Sant'Ambrogio di Valpolicella, in Italy. In 2019, its revenues were 32,6 million euros representing an increase of 10,92% comparing to the previous year. All machines are produced in Italy and exported to up to 70 countries. Besides producing machines, the company also has an academy to train people in this business sector. To stay competitive and give the best products and services to the clients, the company developed partnerships with Intermac and Montresor.

- GMM

GMM was born in 1993 in Gravellona Toce, Italy, by a group of engineers with experience in stone machinery. Since then, the company has sold machinery to more than 80 countries. In 2019, the company had 48,96 million euros, increasing the revenue by 0,3% compared to 2018. The headquarters are in Gravellona Toce, but in recent years, the company expended, opening two production units in Italy and Thailand; a business unit in Via Lago di Misurina, Italy; four commercial/after sales units in China, USA, and Hong Kong; and a head office in Australia.

- D2

D2 was established in 2003 and is in Braga, Portugal. Now the company has 32 employees and exports to 10 countries. In 2019, the company had a revenue of 2 847 309,68€ which represents an increase of 2,21% of 2018 revenue. The company exports 47,40% of its production, of which 42,53% is exported to EU countries, and the rest (4,87%) is exported to non-EU countries. In 2007, the company created an academy to offer training regarding the stone industry.

- CEI

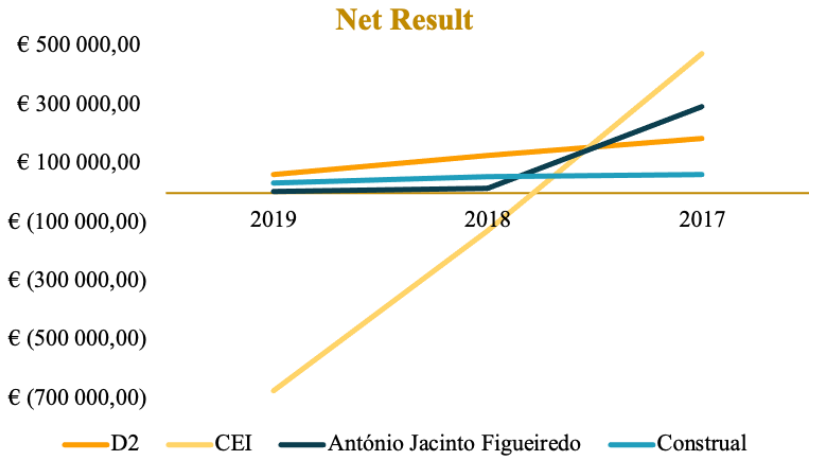
In 1995, CEI was established in Aveiro, Portugal. It has 47 employees, and it produces machinery for the stone industry and the footwear industry. In terms of revenue, in 2019, the revenue was 4 292 845,03€. It presented a decrease of 8,62% compared to 2018. The exports represent 34,28% of its production, 21,66% to EU countries and 12,62% to non-EU countries. Some of the countries the company exports to are France, Italy, Spain, the USA, Australia, Brazil, and Thailand.

- António Jacinto Figueiredo

Founded in 1971, in Sintra, Portugal, António Jacinto Figueiredo has 33 employees. In 2019, the company had a revenue of 2 337 210,80€. This represents an increase of 33,82% considering the 2018 sales. The company exports 64,87% of its production in terms of exports, 41,60% to EU countries, and 23,27% to non-EU countries. Some of the countries the company exports to are Angola, Belgium, Brazil, Russia, Spain, UK, and the USA.

It is possible to compare the financial situation of the Portuguese competitors with Construal. As of 2019, Construal had the second-best Net Result only being surpassed by D2. The company with the worse Net Result was CEI that from 2018 forward is ending the year with negative Net Results (see Figure 4.11) (see Annex H).

Figure 4.11 Construal and Competitors´ Net Result



Source: Author, 2021

4.2.3 Industry Attractiveness

As mentioned in the literature review, Porter's Five Forces is a technique used to get insights into the industry's competitiveness and attractiveness. In this case, this technique will be used to understand the Metallurgical and Metalworking industry better.

Bargaining Power of Buyers – Attractiveness: 3

- The high number of national and international manufacturers gives clients a high bargaining power;
- Switching from manufacturers has a medium to high cost to the client due to the maintenance needed for the machines provided by the manufacturer of the machine. Besides this, other costs the client can have are related to the trust and relationship already developed;
- Due to the global crisis, clients are price-sensitive, giving more importance to price than quality. Clients end up choosing lower offers;
- Even challenging clients do not buy a large volume of products since they are costly, but they continue to be profitable through maintenances and training.

Bargaining Power of Suppliers – Attractiveness: 4

- The cost of switching suppliers is relatively low. The only impact that can exist is to secure the materials' quality;
- The relationship between manufacturer and supplier can be meaningful when it comes to economies of scale;
- There is no high differentiation of the products, making it easy for the manufacturer to change suppliers more efficiently.

Threat of Substitute Products or Services – Attractiveness: 4

- Since this is a very specific industry, there are not many products that can satisfy the client's needs;
- For clients to choose substitute products would involve a change of their production processes and can be very costly;
- To offer substitute products, they need to invest a significant amount in research & development, which will decrease their profits.

Threat of New Entrants – Attractiveness: 1

- In terms of cost, establishing a new metallurgical and metalworking company is very expensive due to the cost of the machinery needed, infrastructures, and workforce;
- There is a high number of companies in this industry. Even though the products offered look similar, they differ in terms of technology used. For a new player to enter the market

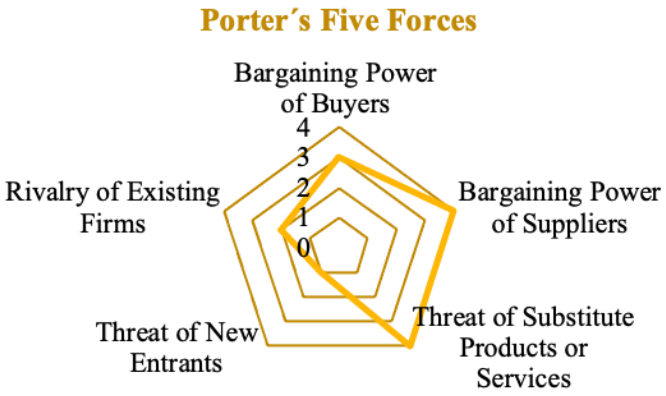
and thrive, he must develop a strategy that focuses on disruptive products and technologies;

- Since in this industry the products have a long-life span, each client buys fewer products in a long period, making the manufacturer need to have a long list of clients. For new players is difficult to establish in the first years a solid client list to be successful and profitable;
- Once the companies in this industry are already established and have a lot of resources available, even if the new player develops a new product or technology, the other companies will retaliate quickly.

Rivalry of Existing Firms – Attractiveness: 3

- There is a high number of competitors, national and international, so the industry ends up being quite fragmented;
- The size of the Portuguese players in this industry is mainly small companies;
- The fixed costs in this industry are very high due to the need for expensive machinery and big infrastructures;
- In terms of the products, there is not much differentiation, but the products use specific software. There is a high degree of differentiation in what each software allows to do and the services the company offers the client.

Figure 4.12 Porter´s Five Forces Analysis



Source: Author, 2021

Considering the conclusions presented above, it is possible to have a sense of the industry's attractiveness. The industry attractiveness can be considered medium, with an average of 3 out of 5 (see Figure 4.12).

4.3 Main Conclusions: Opportunities and Threats

Finally, it is possible to conclude what are the opportunities and threats in the Metallurgical and Metalworking industry:

Opportunities:

- Demand growth from clients outside of Portugal;
- Investment increase in Research & Development;
- Revenue growth from clients;
- New technologies for the production process and software;
- Development of new materials to use in this industry;

Threats:

- An industry with a high complexity;
- Increase of the prices of the materials;
- New and more restricted legislation for the industry regarding the environment;
- Increase of competitors from other countries;
- Lack of motivation to work in this industry;
- Low economic stability due to the pandemic;

5 Internal Analysis

The information presented in this section is based on the data provided by Construal and the workshop and surveys conducted.

5.1 Company´s Description

Construal is a family-owned company located in Sintra, Portugal, established in December 1956. Its main activity is the production of machines for the transformation of natural stones.

It is specialized in machinery production for cutting and milling stones. Its operations are vertical, beginning with the development of the projects for new machines and followed by the production of each machine and, finally, the implementation of the machine in the client and the training of the client's staff regarding the specific software used.

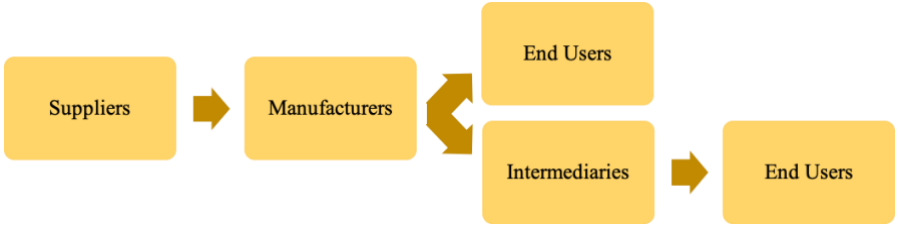
The company has only one factory, with a total of 28 employees. Construal has a production capacity of 40 machines/year with an average lead time of four months.

Its main clients are from Portugal and the USA, with a total of 117 clients in 2020.

The value proposition of Construal revolves around the quality of the products and the services, from the production of the machines until the installation in the client's company and the training of the client's employees.

In Construal's perspective, the suppliers supply all the materials and pieces needed to assemble the machines. Construal is considered the manufacturer, being responsible for the production of the machines. From this point forward, there are two paths. In the first one, Construal sells its product directly to the end-user (client). In the second one, Construal sells to an intermediary that sells to the end-user. The second path happens in four countries: the USA, Czech Republic, Spain, and Angola (see Figure 5.1).

Figure 5.1 Metalworking Industry´s Supply Chain



Source: Author, 2021

5.2 Management Structure

When the company was founded, there were 4 partners. Through the years, one of the partners, José Bento, bought the shares from the other partners, and in 1987, the company became a family-owned business. Even though in the last years the managers have changed, it is still run by the same family.

The company is a structure with four managers, the ones who have the company's shares, and three different departments: Commercial, Production, and Engineering. The managers are Graça Bento, daughter of José Bento, José Vicente, Graça's husband, Ana Bento e Sara Bento, granddaughters of José Bento. The managers are involved in the day-to-day activities and meet once a week to discuss urgent matters and possible improvements. The high involvement in the daily activities brings some problems: (1) the time spent doing these daily activities and the concerns that come with it restrains the managers from focusing on the strategy of the company; (2) also, by focusing on the daily activities, the managers cannot focus on the long-term strategy, only focusing on the present.

5.3 Strategy

When Construal was established, there was a high demand for this type of product, so the goal of the company was to fulfill this demand by offering high-quality products. In the first years, due to the high demand and a low number of competitors, Construal was able to grow the sales a significant amount. With the growth of the market and few competitors, the sector became more attractive. New companies started to emerge, which affected the profits of Construal. Even though the market situation has not been the best, the company did not change its purpose of producing high-quality machines and satisfying the clients´ needs.

Since Construal is a family business, the strategy, values, vision, and mission were not defined. The lack of structure and strategic knowledge has been an obstacle for the company when envisioning possible futures and defining what path to follow.

5.4 Production Process

If there is a request for a new machine, it must pass through three departments: Commercial, Engineering, and Production (see Table 5.1). The Commercial department establishes contact with the client and presents the quotation for the equipment according to the client's needs. The Engineering department develops the machine project following what was agreed with the client. Lastly, the Production department oversees all the production processes, from the production of each piece until the installation of the machinery at the client's factory.

Table 5.1 Order Fulfilment Description

Department	Process
Commercial	The Commercial department deals directly with all the clients. The request will be analyzed, and a proposal is presented to the client according to his

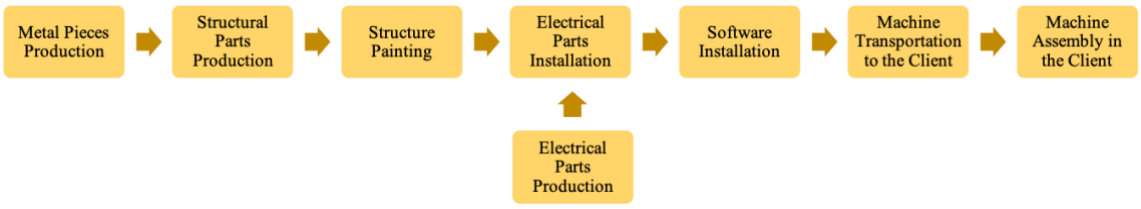
	needs. After the client accepts the proposal, the engineers will start to develop the machine plans.
Engineering	The Engineering department oversees the product plans development so that the production can implement the plans and produce the same machine according to the client's needs.
Production	The Production department is where the machine is produced and implemented. Several steps must be taken for the machine to be produced, and it involves several teams in the production department for this to be done.

Source: Author, 2021

As explained above, the production of a new machine is triggered by a client's needs for one of Construal's products. The production process starts with the production of metal pieces needed for the assembly of the machine. After the production of the metal pieces, the production of specific parts that needed those pieces starts. The next step is the structure assembly and painting. In parallel, the electrical pieces are being produced. These pieces are installed after the paint has dried. The last step before the machine's transport to the client is the software installation and testing of all the components.

After these steps, the machine is loaded by sections into containers and transported to the client. When the machine arrives at the client, it is implemented, and another test is done to ensure it is working correctly (see Figure 5.2).

Figure 5.2 Construal´s Production Process



Source: Author, 2021

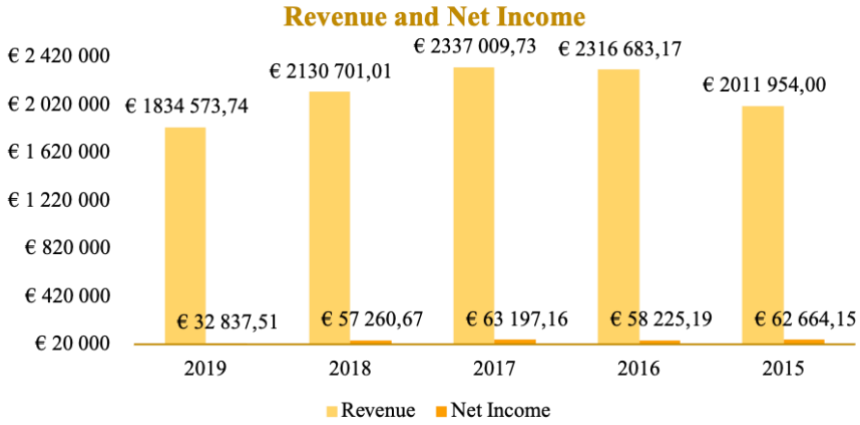
5.5 Financial Situation

According to the managers, the company has more revenue than initially, but the profit has been decreasing in the last few years. Since 2015, the company has been having profit margins of 3% or less.

The financial results of 2015 to 2019 show that the Net Results had a slight decrease in the last four years. When understanding the relation between the Revenue and the Net Result, we can say that the reason for the decrease in Net Results is the decrease in revenue which requires an

effort to decrease costs to not affect the Net Margin (see Figure 5.3). The Compound Annual Growth Rate of sales for the last four years is -2,28%.

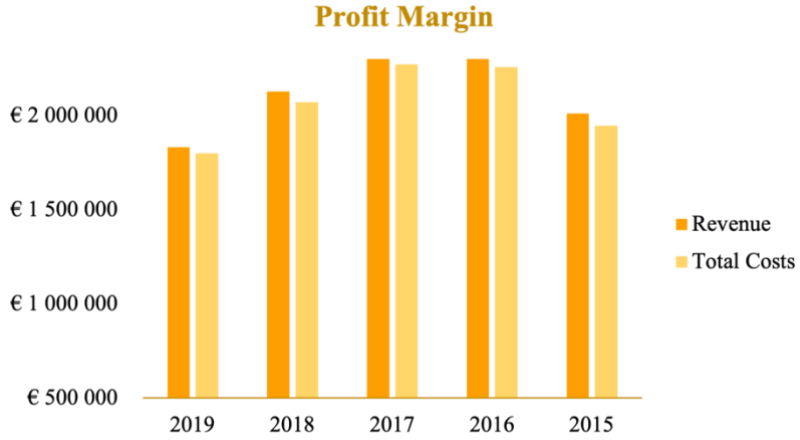
Figure 5.3 Company´s Revenue and Net Income



Source: Construal, 2021

Besides this fluctuation in the Net Results, the Net Profit Margins have decreased, except for 2017, where there was an increase of 0,19% (see Figure 5.4).

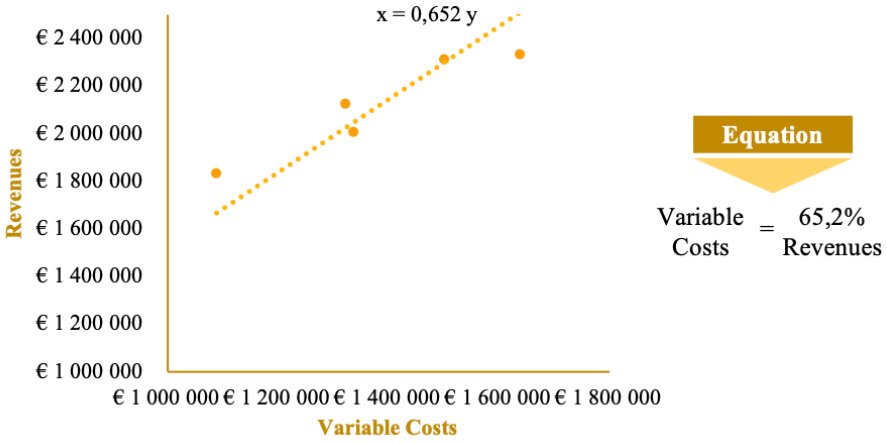
Figure 5.4 Revenue and Total Costs



Source: Construal, 2021

In 2019, the Operating Margin was 2,71%, and Gross Margin was 56,64% meaning that for every euro of revenue generated, 0,57€ was retained and 0,47€ was attributed to the Costs of Goods Sold and Materials Consumed (see Annex I). The company's average Fixed Costs (2015 to 2019) are approximately 758.474 euros. On the other side, the average Variable Costs are approximately 1.377.655 euros. We can state that Construal's Variable Costs represent 65,2% of the revenue (see Figure 5.5).

Figure 5.5 Behavior of Variable Costs compared to Revenues



Source: Author, 2021

The costs with most weight are Personnel Expenses and Costs of Goods Sold and Materials Consumed. The Personnel Expenses costs has increased in the last years while the Costs of Goods Sold and Materials Consumed has been decreasing since 2017, representing a 38,04% decrease in value form 2017 to 2019.

When analyzing Construal's sales and clients, in 2019 the company had sales transactions with 115 clients and in 2020 with 121 clients. Most of the transactions were with Portuguese clients (2019 – 44,03%; 2020 – 54,67%). In 2019, Construal exported to the following countries: Czech Republic, USA, Angola, France, Spain and Belgium. In 2020 the exports were to France, Qatar, USA, Italy, Angola, Spain, Czech Republic, and Great Britain. The countries from the exports with the most sales weigh are USA (48,38%) and Angola (5,62%), in 2019, and USA (24,65%) and Czech Republic (15,11%), in 2020.

5.6 Company´s Departments

According to Construal´s managers the company is divided in three departments: engineering, production, and commercial. The engineering department has three employees, the production department 18 employees, and the commercial department only has one employee. There is also the warehouse which has two employees and assists the production department but is not considered as a separate department itself.

The job functions related to a procurement department are part of the production department but are not developed as they should be. At the moment, only stock entries and exists are being accounted for. There is no relationship between the stock exits and the specific product it was used on making it impossible to understand the correct cost of production of each product.

All tasks related to human resources and financial departments are executed by Graça Bento. José Vicente is responsible for the engineering and production. Ana Bento is managing the commercial department and Sara Bento oversees the warehouse and coordinates other logistic tasks (see Annex J).

When developing the surveys and workshop the goal was to understand where the main problems were and what the employees felt needed to be resolved as a priority and suggestions to improve the way the company worked.

In the eyes of the employees the process that is less efficient is the production process. The main reasons pointed for a lack of efficiency due to absence of organization in the company and in the departments, poor stock control that leads to missing material units needed for production, and job functions that are not well defined making employees confused about what they need to do.

Other factor that has an important weight in how the company processes play out is the internal communication. As expected, all the employees view the internal communication as not existent or insufficient.

It is essential to highlight that the company's structure and departments, or lack of them, significantly impacts its performance. From the information gathered, there are three topics worth mentioning:

1. Undefined Structure

Even though there is a separation between the commercial, engineering, and production processes, there is no structure that defines which employee belongs to which department and the manager responsible. Most of the time, employees do not know to whom they should talk and when they are crossing the line.

This lack of structure makes it challenging to have a good flow of information. Most of the time, the information gets lost because it was not given to the right person, and actions take much longer to be executed.

2. Lack of productivity

By not having a detailed description of what each employee should do and whom they should report, simple actions take longer than necessary. The processes are not optimized, and materials are being wasted, causing an increase in the company's costs. Until now, one of the managers is responsible for the production process having 18 employees reporting to him and coordinating two engineers while maintaining a relationship with most of the clients even tough he is not part

of the commercial department. Instead of the points of information and deliberation being in several people according to their jobs, the workload is being concentrated on a single individual, making it hard to give the necessary attention to different processes and workers.

3. Absence of business indicators

There is no definition of business indicators and operational performance. Due to this, the company has problems presenting a beneficial quotation to the client because they do not have a perfect notion of the profit margins they can get from that sale. There is not a simple and accurate way to measure the costs of an exact order by not having a cost control system. At the end of the year, the company does not have goals to accomplish or metrics to compare from previous years to analyze the company's growth.

5.7 Main Conclusions: Strengths and Weaknesses

Based on the analysis made and the insights from the surveys and workshops, it is possible to point out possible reasons for the current situation. The Fish Bone diagram presents the root causes identified that explain the reduced profitability in the last years (see Annex K).

The main factors are:

1. Decrease in Sales due to low commercial productivity;
2. Low Efficiency, from weak communication between departments and a lack of leadership and motivation;
3. High Costs because of waste of raw materials and a heavy fixed cost structure;
4. Undefined strategy due to lack of management focus and no business and operational indicators.

Finally, it is possible to conclude what are the strengths and weaknesses of the company:

Strengths:

- Strong relation with prominent clients and suppliers;
- Strong image of reliability, trust, and quality perceived by the clients;
- High production capacity;
- High degree of product personalization;
- High degree of industry knowledge;
- Provision of machine software training and maintenance to the clients.

Weaknesses:

- Heavy cost structure;
- Lack of employees' incentives;

- Lack of commercial productivity;
- Low investment in partnerships and innovation;
- Absence of a strategic plan and short- and long-term goals;
- Lack of business and operational metrics;
- Waste of raw materials.

6 Competitive Analysis

6.1 SWOT Analysis

By combining the internal and external analysis we are able to proceed with a SWOT analysis. This reinforces the strengths and weaknesses of Construal and the opportunities and threats existing in the environment (see Table 6.1).

Table 6.1 SWOT Analysis

Strengths	Weaknesses
1. Strong relation with main clients and suppliers; 2. A strong image of reliability, trust, and quality perceived by the clients; 3. High production capacity; 4. A high degree of product personalization; 5. A high degree of industry knowledge; 6. Provision of machine software training and maintenance to the clients.	1. Heavy cost structure; 2. Lack of employees' incentives; 3. Lack of commercial productivity; 4. Low investment in partnerships and innovation; 5. Absence of a strategic plan and short- and long-term goals; 6. Lack of business and operational metrics; 7. Waste of raw materials.
Opportunities	**Threats**
1. Demand growth from clients outside of Portugal; 2. Investment increase in Research & Development; 3. Revenue growth from clients; 4. New technologies for the production process and software; 5. Development of new materials to use in this industry.	1. An industry with a high complexity; 2. Increase of the prices of the materials; 3. New and more restricted legislation for the industry regarding the environment; 4. Increase of competitors from other countries; 5. Lack of motivation to work in this industry; 6. Low economic stability due to the pandemic.

Source: Author, 2021

6.2 SWOT Matrix

By crossing the company's strengths and weaknesses with the environment's opportunities and threats, we can assess the main challenges, constraints, warnings, and risks that can appear in the

future. With this analysis, we can also develop possible actions to face the changing environment (see Table 6.2).

Table 6.2 SWOT Matrix

	Strengths	**Weaknesses**
Opportunities	Challenges O1 & S3: Develop partnerships with vendors from other countries; O3 & S4: Offer specific products according to the exact client's needs; O4 & S5: Develop differentiation products.	Constraints O4 & W1: Adopt new production processes to diminish costs; O2 & W5 &W6: Apply software to measure success metrics and develop company goals; O3 & W3: Create a well-structured commercial department.
Threats	Warnings T2 & S1: Develop strong partnerships with suppliers; T4 & S2: Build a more robust image with clients; T5 & S6: Create an academy to give training to clients and vendors.	Risks T5 & W2: Develop incentives programs; T3 & W7: Develop processes to reuse wasted materials; T4 & W4: Invest in partnerships and innovation.

Source: Author, 2021

6.3 Strategic Guidelines

The strategic guidelines set a structure to map the path, considering the present conditions of the company and the environment and the vision for the future.

(1) Invest on partnerships with vendors from other countries - Develop partnerships with vendors in countries increasing the exports of products of the Metallurgical and Metalworking industry.

(2) Personalization of products and services - Offer products and services specialized for the clients' needs and the option of modifying previously acquired products.

(3) Develop innovative products - Create new products using new technology and new materials with differentiated features.

(4) Strengthen partnerships with suppliers- Create partnerships and deals with suppliers regarding stock replenishment, price, and quantities discounts.

(5) Fortify the company's image with clients - Become the client's top-of-mind company through specialized follow-up and after-sales service.

(6) Implement training programs - Develop an academy offering training programs for employees, clients, and people interested in the industry.

(7) Change the production processes - Adopt new production processes with new technology and materials to reduce production costs.

(8) Set goals and measure the company's success - Implement software, techniques, and programs to set goals and metrics to measure employees' and company's achievements.

(9) Redesign the commercial department - Define structure, roles, goals, and activities related to the commercial department.

(10) Motivate employees and attract new employees - Motive and reward employees through the creation of incentives programs and create interest in this industry.

(11) Create awareness for the environment - Adopt environmentally friendly processes by using more ecological materials and reduce and reuse waste materials.

(12) Promote innovation and partnerships - Create an open-door policy for innovative ideas and possible partnerships between suppliers, vendors, clients, and possible competitors.

7 Competitive Advantages

Through the analysis made to Construal and the competitors, we can identify the company's competitive advantages compared to the other industry players. These competitive advantages can appear from basic our unique competencies, but to be considered a competitive advantage, it needs to be valuable, rare, difficult to imitate, and explored by the organization. To analyze if the resources or competencies can be considered a competitive advantage, we use the VRIO framework (J. Barney, 1991).

The competitive advantages that Construal has are the acquired knowledge from the last 64 years, the human resources or workforce that has several years of experience in this industry and nowadays is difficult to find people interested in working in this industry, the relationship with the clients that is based on trust and work quality and finally the after-sales service that is offered, where the company is always concerned with the client and available to help (see Table 7.1).

Table 7.1 VRIO Analysis

	Valuable?	**Rare?**	**Difficult to imitate?**	**Does the organization explore them?**	**Competitive Impact**
Acquired Knowledge	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Human Resources	Yes	Yes	No	Yes	Temporary Competitive Advantage
Relationship with Clients	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
After-sales Service	Yes	Yes	No	Yes	Temporary Competitive Advantage

Source: Author, 2021

8 Critical Success Factors

As explained in the literature review, the Critical Success Factors (CSF's) are the factors that the company must consider to overcome the competitors and sustain its performance in the Metallurgical and Metalworking industry.

With the information gather form the surveys and feedback from clients it was selected four main critical success factors that the company´s should consider when working in this industry.

The main CSFs are the following:

1. Financial capacity: this factor allows the company to purchase all the resources needed for the production process and invest in research & development of new products and services to improve clients´ satisfaction;
2. Innovation: this factor can help the company decrease costs and improve performance by investing in new technology and development of new products/services to differentiate from the competition;
3. Knowledge: the company's know-how, human resource skills, and experience favored by the client;
4. Recognition: product quality is still essential for most clients; companies established for an extended time have an advantage regarding the company's recognition and relationship developed with their clients and suppliers.

After analyzing the company and the industry, we can say that Construal has acquired a lot of knowledge and recognition throughout the years. Unfortunately, when it comes to innovation the company is not the leader in this industry but has a lot of potential to develop in this area. It is important to consider a bigger investment in innovation to build stronger foundations when it comes to the critical success factors of this industry since the company already has the knowledge and the recognition.

The information mentioned above is one way for Construal to improve the financial situation and increase the profit margins. This will help in the development of the strategic plan to offer an outline path for Construal to follow and a way to present different solutions for the company´s problems.

9 Business Goals

Every business must define a set of goals that it wants to achieve, to define what actions to implement, and the path it wants to follow. Usually, goals are defined between short-term (less than three years) and medium and long-term (more than three years) when it comes to the period the goal should be reached. We can also separate the goals into qualitative (measured by the manager's observation) and quantitative (measured by a metric).

In the workshop after analysis of the industry and the company, it was asked to the managers to think about what goals should be set to better the company´s performance. The focus of the managers is to develop a structured plan that will help achieving better sales results and create a better work environment. After understanding what the managers want to achieve, it was asked to come up with goals that will help Construal in that specific path. The goals mentioned were increase of sales, decrease of costs, better the production process, develop innovative products, extend the client list and enter in a new market. After the brainstorm, the goals were reviewed and restructure to become achievable goals with metrics and a defined timeline.

The final goals are presented below (see Table 9.1 and 9.2).

9.1 Short-term Goals

Table 9.1 Short-term Goals

Qualitative Goals	Quantitative Goals
• Improve company´s internal communication; • Acquire new customers; • Invest in quality management; • Increase clients´ satisfaction.	• Increase sales by 10%; • Decrease production costs by 3%; • Decrease production time to 3 months.

Source: Author, 2021

9.2 Medium and Long-term Goals

Table 9.2 Medium and Long-term Goals

Qualitative Goals	Quantitative Goals
• Develop a new portfolio of products; • Enter in a new market; • Increase employees´ satisfaction.	• Increase sales by 15%; • Decrease production costs by 10%.

Source: Author, 2021

10 Development Strategy

10.1 Strategy Definition

As presented in the literature review, Porter defends the existence of only four strategy types to achieve a sustainable competitive advantage. In this case, after analyzing the company´s strengths and weaknesses and the industry´s opportunities and threats, it makes sense for the company to adopt a differentiation strategy. This means Construal seeks to offer to the clients of the Metallurgical and Metalworking industry a product and service with features that distinguish it from the competition making it a unique offer to the client.

10.2 Mission, Vision and Values

The company needs to define its vision, mission, and values. This helps to understand the purpose of the company and its ambitions, to define the strategic plan.

Mission:

"Offer customized solutions through high quality machines and services to the transformation of natural stones industry."

Vision:

"Promote innovation and autonomy for the growth of the manufacturing sector."

Values:

- Quality: Construal aims to offer only the best quality products and services to its clients.
- Innovation: The company focuses on adopting the latest technology, always trying to stay a step ahead of the competition and offering clients innovative products that make their jobs easier.
- Dedication: Construal´s employees show a great client focus.
- Knowledge: Being in this industry for 65 years, Construal has always defended the knowledge of this industry as one of the company´s pillars. The knowledge allows the company to provide well thought-out products and services and develop a relationship based on trust with its clients and suppliers.

11 Business Strategy

The business strategy is what the company sets out to achieve its previous defined goals. It explains how people from the company should make decisions and allocate resources to accomplish key goals.

11.1 Business Model

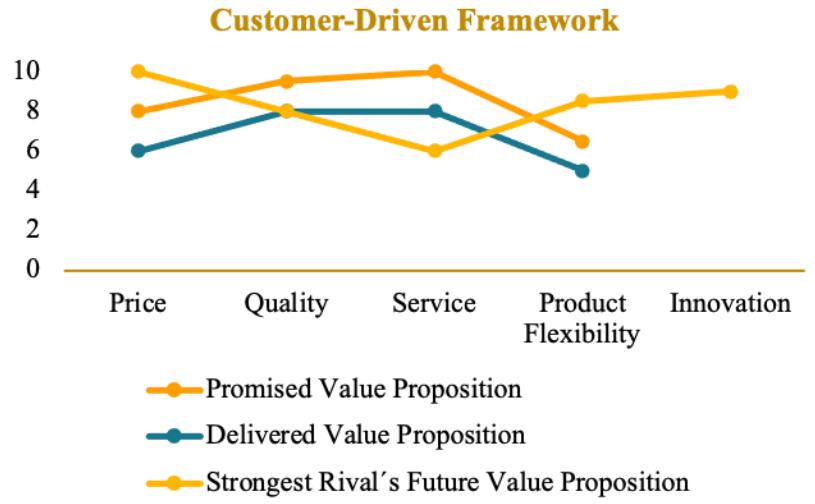
The company´s business model defines how the company creates and captures customer value and it is described by a set of elements addressing the client, value proposition, organizational structure, and economic model.

To define the business model for Construal it will be used Johnson et al. (2008) Business Model Framework. This framework considers four elements: customer value proposition, profit formula, key resources, and key processes.

- Customer Value Proposition

Simons (2014) developed a customer-driven framework to assist the companies when creating their customer value propositions. This framework was used in the workshops, and it is what is going to serve as based for Construal´s customer value proposition (see Figure 12.1).

Figure 11.1 Customer-Driven Framework



Source: Author, 2021

The assets clients value most are price, quality, service, product flexibility and innovation. Construal offers to their clients high quality products and services. Even though, Construal outperforms the competitors in service and quality, there is a need to improve in the price, product flexibility, and innovation. These assets will be taken into consideration when developing the

company´s actions so that Construal can offers clients the promised value proposition and be prepared for changes in the competitors' value proposition in the near future.

- Profit Formula

When analyzing the profit formula of Construal is important to describe the revenue model and cost structure of the company.

In Construal´s case, the revenue comes from selling machines and providing services of maintenance and training. Regarding the pricing mechanism, the fixed price depends on the products characteristics. The price strategy adopted will be the cost-plus strategy. The price will be calculated by the costs of producing the product plus a mark-up. The value of the mark-up depends on the product or service.

Construal´s business model is moved by value. The company gives more importance to creating high quality value propositions with a high personalized degree of services rather than only reducing costs. Most of the company´s fixed costs are personnel costs and variables costs are subcontracts and costs of goods sold and materials consumed.

- Key Resources

The key resources of the company are the resources needed to deliver the customer value proposition in a profitable way. The resources can be qualified as physical, intellectual, human, and financial.

In Construal´s business model there are key physical resources such as the production equipment, vehicles, and the company´s installations; key intellectual resources such as the knowledge about the industry and products, and Construal´s brand itself; and key human resources that are the company´s employees and managers.

- Key Processes

The key processes are what makes the profitable delivery of the customer value proposition repeatable and scalable.

In Construal, the processes that help to deliver the customer value proposition are new product development, manufacturing of machines, training of employees, and hiring of new employees.

12 Marketing Strategy

12.1 Segmentation, Target and Positioning

To fulfill the defined goals and achieve the company´s purpose, it is important to define the Segmentation, Target and Positioning (STP) of this company´s business. The STP is a well-known marketing model used to define the best marketing strategy the company should follow to thrive in its industry.

12.2 Segmentation

The criteria that will be used to define the target that Construal will focus on is the following (see Table 11.1):

Table 12.1 Segmentation Criteria

Criteria	Variable	Target
Firmographic	Size of company	Small and medium enterprises
	Sector	Transformation of Natural Stones
Operational	Technology	Milling and cutting programing softwares

Source: Author, 2021

12.3 Target

After going through the main criteria and variables to take into consideration when defining Construal´s target, we can define the target as small and medium companies established in the transformation of natural stones sector, looking for machinery with the technology to mill and cut natural stone.

12.4 Positioning

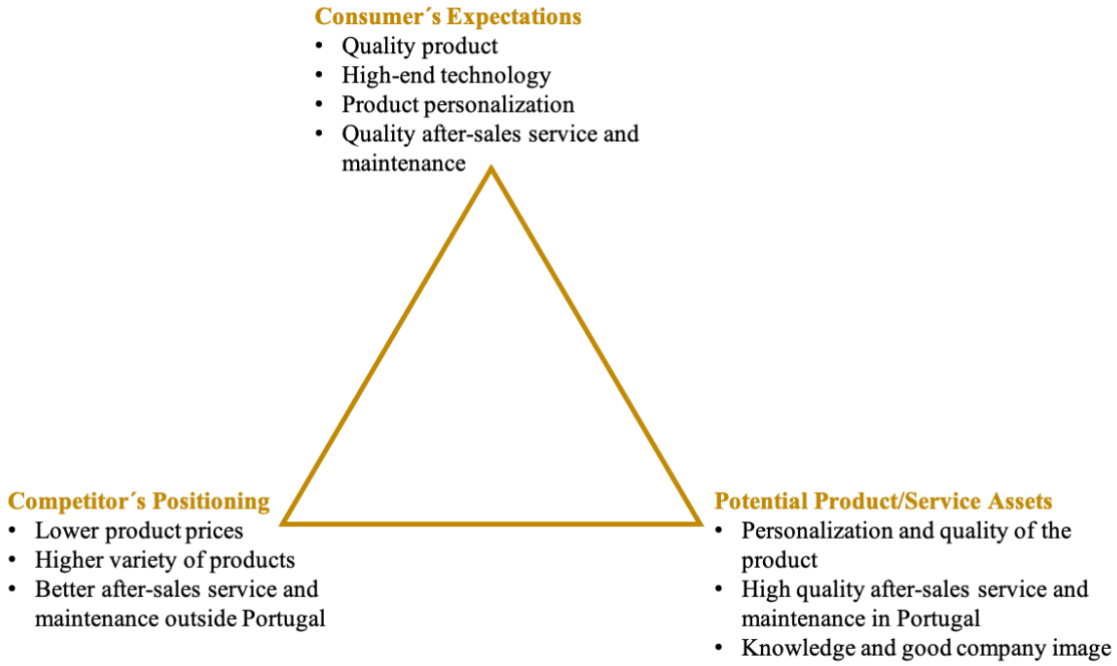
To position itself in the industry, Construal will adopt the following identification and differentiation attributes:

Identification: Construal is a company that produces machines for milling and cutting natural stones for companies in the Transformation of Natural Stones industry.

Differentiation: The company differentiates itself by offering high quality products with the possibility of customizing them. Besides products the company also provides maintenance services. The company builds trustworthy relationships with clients and is viewed as a company who offers high customized quality products.

For a more developed, structured, and effective positioning strategy, it was identified relevant characteristics regarding consumer´s expectations, competitor´s positioning, and potential product/service assets (see Figure 11.1).

Figure 12.1 Golden Triangle of Positioning



Source: Author, 2021

12.5 Marketing-Mix

To develop a solid strategy and assure that Construal stands out from the competition, it is necessary to build a strong marketing strategy. The concept used to define the marketing strategy is the Marketing Mix. This concept is formed by four P´s: Product, Price, Place, and Placement.

12.5.1 Product-Mix

As mentioned previously, Construal produces machines for milling and cutting natural stones. The products in Construal portfolio are divided in three categories: CNC, Cut, and Polish. The CNC category includes machines dedicated to cutting natural stone with a numeric control system. The Cut category also has machines dedicated to cutting but the system is automaton. Regarding the Polish category all the machines are dedicated to polishing stones. The first two categories include six different machines each while the third category only has five different machines (see Annex L). All these machines have the option to include extras or be customized according to needs of the client.

To promote innovation and deliver new products to the clients, Construal will develop a new machinery line focused on the latest technology. In the beginning, the company will bet in only

two machines to study how the market reacts to the new product and after that will evaluate if it is a line that has space to expand or not. The focus will be in offer machines that increase automation and versatility. By developing new technologies that decrease the time of human interaction and offer a higher number of functions clients can better manage the employees time and work as well as adapting the use of the machine according to the needs of the moment and reducing the necessity of having a machine for each specific job.

Besides producing machines, Construal also provides services. The services are maintenance and training. The training offered by Construal is related to each machine bought buy the client and the software used in the machine. This service is only provided to clients who bought machines from Construal. Besides giving the training to the client´s employees when the machine is installed, Construal also offers training if the client recruits more employees in the future. The other service is maintenance. In this case, Construal does maintenance not only to its machines but also to competitors' machines if requested by clients.

12.5.2 Price-Mix

When defining the price-mix of the products the company will sell is important to consider price strategies, payment periods and possible discounts or rebates.

Regarding Construal, the prices are already established. If looking by category we can present the following price ranges:

- CNC - 65 000€ to 150 000€
- Cut - 12 500€ to 110 000€
- Polish - 10 000€ to 150 000€

The prices were defined according to a cost-plus pricing strategy. This strategy revolves around calculating the cost of each machine and adding a mark-up of 45%. Construal does not have visibility to the true cost of each machine due to lack of organization in the production department and the warehouse. From now one, with the new system the company will be able to understand the production cost of each machine. This will probably reflect in an change of prices according to the true production costs.

When it comes to the services prices, in the first year of buying a product, Construal offer maintenance. After that, the value of the maintenance service is related to the hours of service provided. The value charged to the clients is the value per hour normally paid to the employee plus a mark-up of 150%. All the costs related to transportation are also responsibility of the client.

When referring to the new machine line-up the price strategy used will be the same. The change will be in the mark-up once Construal will offer innovative products that are not available in the competition. The mark-up will be off 60% instead of 45%.

Regarding the payment methods, Construal offers the opportunity to pay the value of the products in three parts. The first third when the quotation is closed, the second third when the product finishes production and the last third when the product is installed. If there is a need by the client part, Construal accepts leasing contracts.

12.5.3 Place-Mix

In what concerns the channels of distribution, warehousing decision, product handling, transport and inventory control, Construal controls most of the process until it gets to the final client.

In an industry like the Metallurgical and Metalworking industry most of the times the producer sells directly to the client. In Construal´s case, the company in Portugal sells directly to the final client as well as in most of the international clients. In countries like Czech Republic, Spain, the USA and Angola, Construal has vendors who sell its products as well as competitors´ products.

All the products are produced once the negotiations with the client finish. This means that Construal does not have inventory of the product but only inventory of materials and supplies needed for the production. This helps reducing costs regarding warehousing the products since Construal´s doesn´t need to allocate a space to finished products.

The transportation of the machines is done differently considering where it is going to be installed. If the product is for a Portuguese client, the machine is transported by truck and when arrives to the client is implemented by Construal´s employees. In case the machine goes to a client outside of Portugal, the machine is loaded into a shipping container and send to the client by boat. Even in product installations made outside of Portugal, is always company´s employees who assemble the product in the client's installations.

12.5.4 Promotion-Mix

Even though in this industry defining a promotion and communication plan is not that usual, it is important for companies to build their presence online and offline to promote the company and attract more clients.

To be able to plan a strong communication the first step is to define the communication goals. The communication goals for this company are:

- Promote Construal´s mission, vision, and values;
- Raise awareness and brand visibility;
- Attract potential partnerships to expand the business;
- Raise website traffic.

After defining the communication goals for Construal, it is crucial to define what communication strategies the company will apply.

- Website: As of right now the company already has a website where it displays their products and information regarding the company. The website is still lacking information in some areas and for that the company will invest in revamping the website and add more information to make it more appealing and easier to navigate. The aspects that will be introduced are a page for the company´s history, mission, vision, and values, a page for partnerships and vendors, and a chat where it will be possible for clients to get ask their questions and have answers directly without the need to send an email. There also will be changes in the existing content and structure of the website. The changes are adding 360º degree view of each machine and images of finished jobs made by them in the product page, adding awards received in the news page, change the homepage layout to briefly communicate the company, products, and its presence around the world, and add hyperlinks to the specific pages.
- Social Media: Construal is already present in LinkedIn, Facebook and Instagram but does not have a dynamic publishing schedule. The post made in these social media accounts are more informative regarding vacation periods and holidays rather than highlighting the company´s work. To make sure the communication in the social media platforms align with what is communicated on the website the new posts will promote the machines and the work they do. The aim is to publish weekly videos or photos of the machines working, being implemented in the clients, and finished products from the work done with the machines in the three platforms.
- CRM: The best way to communicate new products and Construal´s presence at fairs and events will be through CRM. The main strategy will be sending newsletter to the list of clients and possible clients. To build the mailing list, there will be a pop-up window in the company´s website that allows the interested company´s in Construal to leave their email contact to subscribe to the newsletter. It will also be used contacts gathered form previous clients. It is important to state that this email list will follow the GDPR (General Data Protection Regulation).
- Fairs: Other way to promote the company and its products is participating in fairs. There are specific fairs organized to showcase these products to interested clients to promote the trade and relationships between producers and clients. The fairs last about a week and is a great opportunity to attract clients and develop partnerships with other companies. In case of Construal, being present in fairs will allow the company to develop relationships with clients and other companies from around the world and increase their sales as well as study what the competitors are doing. This type of events can help the company to better communicate what it stands for and what it offers to the clients.

13 Implementation Plan

In this chapter will be presented the actions that need to be implemented to achieve the goals set previously followed by the monitorization and control of the goals.

13.1 Actions

To be able to execute the implementation plan, each action must present the following structure: description, objective, activities, difficulties, and assessment (see Table 13.1).

1. Reorganize Construal´s structure

   Description: Reorganize Construal´s departments, managers, and employees.

   Objective: Improve Construal´s internal communication and workflow.

2. Create a dashboard with KPI´s

   Description: Define indicators to measure the success of the company or activity.

   Objective: Identify the company´s evolution and understand how to increase profit and decrease costs.

3. Train employees in different areas

   Description: Offer training to employees in different areas such as software operation, sales, negotiation.

   Objective: Increase employees' knowledge and satisfaction as well as productivity.

4. Evaluate clients´ satisfaction

   Description: Measure clients´ satisfaction of Construal's products and services.

   Objective: Understand the client and how to increase their satisfaction.

5. Create an incentives program

   Description: Develop an incentives program per individual and team, where there are set goals that they need to achieve to be rewarded.

   Objective: Increase employees´ satisfaction and productivity.

6. Develop new partnerships

   Description: Develop partnerships with vendors, suppliers, and other companies in Construal´s industry.

   Objective: Attract new clients and enter in new markets.

7. Recruit new employees and rotate functions

Description: Recruit new employees for departments that need more workforce and rotate functions of employees in the production department.

Objective: Increase employees' knowledge and decrease production time.

8. Redesign Construal´s website

Description: Redesign the website accordingly with the new marketing strategy.

Objective: Increase website traffic and promote Construal´s new strategy.

9. Developing a CRM platform

Description: Develop a CRM platform that will allow to retain a contacts list to send email newsletter as well as analyze the newsletter metrics.

Objective: Promote Construal´s products and raise awareness and brand visibility.

Action No.	Activities	Difficulties	Assessment
1	-Define all the departments the company should have (procurement, engineering, production, commercial, human resources & finance). -Identify the head of department for each department. -Divide the production department into teams and assign each team a person in charge to communicate to the head of production.	-High degree of complexity. -Employees´ difficulty to adapt to the new structure. -Time needed to make these changes.	-Feedback from the employees. -Productivity analysis. -Production costs analysis.
2	-Choose the key performance indicators for analysis (new clients acquisition, profitability of each client, customer satisfaction, employees' productivity, production lead time, production cost per unit). -Buy a KPI analysis platform. -Set goals for each one of them. -Analyze monthly, quarterly, and yearly each KPI to assess progress.	-Time and money needed to implement the dashboard. -Training to understand the KPI´s and how to analyze them.	-Feedback from managers. -Analyze cost and profit changes.
3	-Assess the employees´ needs for training. -Search for training offers in the chosen areas. -Define the training plan. -Communicate the training plan to the employees.	-High cost inherent to training programs. -Loss of working hours.	-Feedback from employees. -Grades of training assessments. -Employees´ productivity. -Company´s profit.
4	-Contact the client after the purchase to understand their satisfaction with the product/service. -Follow-up in 6 months, and 1 year.	-Obtain true feedback from the client.	-Client´s feedback. -Number of clients that return to buy other products or services.
5	-Define individual and team goals. -Determine rewards related to each goal. -Communicate the program to employees. -Track the progress of each goal.	-Communicate the incentives program correctly. -Promote teamwork and assure employees do not become competitive with each other.	-Goals progress. -Productivity analysis.
6	-Study possible partners. -Initiate communication with possible partners. -Define the terms of the partnerships. -Communicate the partnerships.	-Find the right partners. -Establish partnership rules fair for both.	-Number of new clients. -Profit analysis. -Cost analysis. -Number of new market entries.
7	-Understand the need for new employees. -Develop recruitment profiles. -Interview candidates. -Choose the new employees. -Study which employees should rotate to which position. -Communicate the changes to the employees.	-Cost of hiring new employees. -Employees not accepting the changes.	-Employees´ feedback. -Cost analysis. -Profit analysis. -Productivity analysis.
8	-Hire a website designer. -Develop the briefing for the website changes.	-Cost of redesigning the website.	-Website traffic.
9	-Buy a CRM platform. -Gather the contacts list. -Define the metrics for analysis. -Develop a montly newsletter.	-Cost of developing the platform. -Time needed to understand how to work with the platform. -Time needed to develop the emails.	-Open rate. -Click-through rate. -List growth rate.

Source: Author, 2021

It is important to define when to apply these actions and how long each action is going to take. A chronogram was developed with the timeline for each action so the company can implement the actions in the correct timeline and achieve the goals set previously (see Annex M).

13.2 Monitorization & Control

To monitor Construal´s business plan and its implementation there is a need to review the previous set goals to control if they were successful or not. Since there is no metric to analyze the qualitative goals, the monitorization and control will recall on the quantitative goals (see Table 13.2).

Table 13.2 Monitorization and Control of Construal´s Quantitative Goals

Goals	Evaluation Method	Time
Increase the sales: - First year: 3% increase - Second year: 3% increase - Third year: 3% increase - Fourth year: 5% increase - Fifth year: 5% increase - Sixth year: 5% increase	Analyze periodically the sales values.	Semiannually (every six months starting in January 2022).
Decrease the production costs: - First year: 1% increase - Second year: 1% increase - Third year: 1% increase - Fourth year: 3% increase - Fifth year: 3% increase - Sixth year: 4% increase	Analyze periodically the company´s production costs.	Semiannually (every six months starting in January 2022).
Decrease the production time to 3 months.	Analyze lead time KPI as well as production reports.	Analyze after each machine production for three years (starting in 2022).

Source: Author, 2021

14 Viability Analysis

To do a viability analysis of the proposed strategic plan there is a need to assume some assumptions that will be the base to attain realistic results (see Table 14.1).

The temporal horizon for this strategic plan will be six years. This horizon is based on the timeline needed to accomplish the previously defined goals.

The Risk Free Return matches a 10 year treasury bond yield (Trading Economics, 2021). The Market Risk Premium assumed was based on Damodaran calculations (Damodaran, Country Default Spreads and Risk Premium, 2021). Considering Western Europe and the machinery industry, the Unlevered Beta is 0,94 (Damodaran, Beta, Unlevered beta and other risk measures, Western Europe, 2021). The Expect Return Rate was calculated using the Expected Return Rate formula and the values presented below.

Table 14.1 Bussiness Plan General Assumptions

Project Timeline	6 years
Corporate Tax	21%
Municipal Tax	1,50%
Risk Free Return	0,11%
Market Risk Premium	6,85%
Unlevered Beta	0,94
Expected Return Rate	6,55%

Source: Author, 2021

14.1 Investment in CAPEX and Amortizations and Depreciations

The investment in CAPEX proposed in this chapter has the purpose to enable the company to adopt the strategic plan presented and prepare it for the actions defined in this plan.

The investment will be only in intangible assets according to the actions mentioned in the previous chapter. The investment needed is in the development of a KPIs software, the site redesign, the CRM software development, and the training programs for the employees. There will be four different training programs. The number of employees that will receive each training is decided based on their job functions. These values are considered as CAPEX once they are one-time investments and not one going costs. The aim of this investments is to prepare the employees to achieve the business goals (see Annex O) (see Table 14.2).

Table 14.2 CAPEX Investment

Training employees	€ 32 552,00
Designer Fee	€ 5 000,00
Site Redesign	€ 5 000,00
CRM Platform	€ 20 000,00

Source: Author, 2021

For the KPIs software, the CRM platform, and website redesign, Construal will hire a company to develop does softwares according to its needs. The value presented is the average value for each software development. According to the Decreto Regulamentar nº25/2009, these softwares do not take in consideration amortizations since they are intangible assets with an unlimited lifespan.

The CAPEX Investment will be supported by the company's equity, avoiding the necessity of a bank loan or any other type of external funding.

14.2 Sales and Cost of Goods Sold and Materials Consumed

To calculate the sales and the CGSMC of the company for the next six years we will assume the baseline values of 2019 since they are the most recent values we have available. From there we can calculate the projections based on the goals we set for the sales and the CGSMC. By subtracting the projection with the baseline values we have the incremental values. These values will be the ones we will study to understand the viability of the business plan (see Table 14.3).

Table 14.3 Sales and CGSMC Previsions

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74
% Increase	-	-	-	3%	3%	3%	5%	5%	5%
Sales Projection	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 889 610,95	€ 1 946 299,28	€ 2 004 688,26	€ 2 104 922,67	€ 2 210 168,81	€ 2 320 677,25
Incremental Values	€ -	€ -	€ -	€ 55 037,21	€ 111 725,54	€ 170 114,52	€ 270 348,93	€ 375 595,07	€ 486 103,51

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09
% Increase	-	-	-	-1%	-1%	-1%	-3%	-3%	-4%
Costs Projection	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 787 526,28	€ 779 651,02	€ 771 854,51	€ 748 698,87	€ 726 237,90	€ 697 188,39
Incremental Values	€ -	€ -	€ -	€ (7 954,81)	€ (15 830,07)	€ (23 626,58)	€ (46 782,22)	€ (69 243,19)	€ (98 292,70)

Source: Author, 2021

14.3 Personnel Expenses

To calculate the personnel expenses, it was made an average of the personnel expenses throughout the last four years. To add the costs for the three new employees (2 production employees and 1 vendor) considered in the action plan, Construal made available the average cost per employee in each department (see Table 14.4)

Table 14.4 Personnel Expenses

Hiring New employees			
Department	Cost per Employee per Year	No. of Employees	Total Cost per Year
Commercial Department	€ 22 066,71	1	€ 22 066,71
Production Department	€ 13 550,27	2	€ 27 100,55
			€ 49 167,26

Source: Author, 2021

14.4 Business Plan Cash Flows

The Free Cash Flows represent the cash flows generated by business plan during the timeline of the plan. They help us analyze the financial income of the company´s activities annually as well as well as assess the business and its real value. In this analyzes the aim is to evaluate the proposed business plan and its impact. For that, we will only consider the investment in CAPEX and the sales and CGSMC incremental values.

When calculating EBIT, the values consider take into account the incremental values that will happen when considering the defined action plan and not the total values of the company´s activities (see Table 14.5).

Table 14.5 Projected Business Plan Income Statement

	2021	2022	2023	2024	2025	2026	2027
Sales	€ -	€ 55 037,21	€ 111 725,54	€ 170 114,52	€ 270 348,93	€ 375 595,07	€ 486 103,51
COGSMC	€ -	€ (7 954,81)	€ (15 830,07)	€ (23 626,58)	€ (46 782,22)	€ (69 243,19)	€ (98 292,70)
External Supply and Services	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Personnnel Expenses	€ -	€ -	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26
EBITDA	€ -	€ 62 992,02	€ 78 388,36	€ 144 573,84	€ 267 963,89	€ 395 670,99	€ 535 228,95
Amortization and Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
EBIT	€ -	€ 62 992,02	€ 78 388,36	€ 144 573,84	€ 267 963,89	€ 395 670,99	€ 535 228,95

Source: Author, 2021

To calculate the business plan cash flows for the next six years, amortizations and depreciations are not going to be consider. Once the investments mentioned are intangible assets with no lifetime span there is no amortization of the assets. Regarding the working capital, there will be no change in the values since the new investment will have no impact in the company´s balance sheet (see Table 14.6).

Table 14.6 Free Cash Flows

	2021	2022	2023	2024	2025	2026	2027
EBIT	€ -	€ 62 992,02	€ 78 388,36	€ 144 573,84	€ 267 963,89	€ 395 670,99	€ 535 228,95
Taxes	€ -	€ 14 173,21	€ 17 637,38	€ 32 529,12	€ 60 291,88	€ 89 025,97	€ 120 426,51
Adjusted EBIT	€ -	€ 48 818,82	€ 60 750,98	€ 112 044,73	€ 207 672,02	€ 306 645,02	€ 414 802,44
Amortization anhd Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Working Capital	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Operating Cash Flow	€ -	€ 48 818,82	€ 60 750,98	€ 112 044,73	€ 207 672,02	€ 306 645,02	€ 414 802,44
CAPEX	€ 62 552,00	€ -	€ -	€ -	€ -	€ -	€ -
Free Cash Flow	€ (62 552,00)	€ 48 818,82	€ 60 750,98	€ 112 044,73	€ 207 672,02	€ 306 645,02	€ 414 802,44

Source: Author, 2021

14.5 Business Plan Financial Evaluation

The financial evaluation helps us take conclusions about the viability of the project. It helps us analyze if the business plan is a good investment plan.

The Net Present Value (NPV) of the project is 797.296,69€. The projection is very positive considering that the initial investment value is very below this value. The Internal Rate of Return (IRR) is 122%. It is a high percentage due to the low investment in CAPEX and the high value of cash flows. It is important to understand that this company has been generating profit for more than 60 years, so it is easier to invest a low amount of money and have a higher cash flow value. The Profitability Index is 13,75. This means that for each euro invested in the project, the return will be 13,75€ in the end. The payback period for this business plan is one year two months and 23 days. Since the business plan has a timeline of six years, the payback period for the investment is lower than this.

In every financial evaluation criteria, the results are very positive showing this is a viable project to implement and that it generates profit for the company (see Table 14.6).

Table 14.7 Financial Evaluation Criteria

NPV	€ 797 296,69
IRR	122%
Profitability Index	13,75
Payback Period	1 year 2 months and 23 days

Source: Author, 2021

14.6 Business Plan Sensitivity Analysis

The values presented in the previous analysis consider the achievement of the goals set. Nonetheless, the estimates made can suffer changes and, to be able to anticipate possible variations of these values, we will consider two additional possible scenarios, one positive and one negative.

In the positive scenario, we will assume an increase of 5% in sales and a decrease of 5% in CGSMC. In the negative scenario, we will assume a decrease of 5% in sales and an increase of 5% in CGSMC. It will be analyzed the impact of the individual changes as well as the impact they will have as a whole according to the financial evaluation criteria presented before (see Annex Q).

In the positive scenario, the financial criteria values increase even more. In the negative scenario, the business plan only presents favorable conditions to be implemented when we only

	Range	Financial Evaluation Criteria			
		NPV	IRR	Profitability Index	Payback Period
Positive Scenario	-	€ 2 564 037,03	310%	41,99	4 months and 30 days
Sales	+5%	€ 2 186 150,19	258%	35,95	6 months and 8 days
CGSMC	-5%	€ 1 228 497,70	178%	20,64	9 months and 13 days
Negative Scenario	-	€ (893 985,93)	-	-13,29	-
Sales	-5%	€ (388 273,88)	-	-5,21	-
CGSMC	+5%	€ 291 584,64	55%	5,66	3 years 4 months and 13 days

have a negative impact in the CGSMC. In case of a simultaneous decrease in sales and increase in CGSMC the business plan in a six years' timeline is not viable. (see Table 14.8).

Source: Author, 2021

14.7 Company´s Performance Indicators

It is important to understand the impact the business plan has on the company. For this we will use the performance indicators to understand the financial situation of the company in the next seven years. To calculate the economic and operational indicators it was developed the income statements of the company between 2022 and 2027. The values were predicted based on the average of the previous years also considering the changes mentioned in the business plan (see Annex Q).

The economic indicators show that there is space for more improvement once the values presented are still a little low. The personnel expenses have a large weight in the company´s financial results and is something that has to be evaluated in the next years to improve the results. Even tough, the ROS is low it is also increasing through the six years which shows the company will grow efficiently.

At an operational level, the safety margin shows positive values which increase through the years which offers the company a good financial cushion if there is a sudden decrease in sales. The critical point of sales presents values that are already achievable by Construal which does not present a problem (see Table 14.9).

Table 14.9 Performance Indicators

	2022	2023	2024	2025	2026	2027
Economic						
Return on Sales (ROS)	5,08%	6,18%	9,30%	14,72%	19,80%	24,87%
Corporate Operational Leverage	5,94	5,52	4,24	3,12	2,57	2,22
Corporate Financial Leverage	1,50	1,40	1,26	1,15	1,11	1,08
Corporate Combined Leverage	8,90	7,71	5,33	3,61	2,85	2,40
Personnel Expenses / Sales	33,90%	35,44%	34,40%	32,77%	31,21%	29,72%
Personnel Expenses / EBIT	666,87%	573,15%	369,77%	222,55%	157,60%	119,50%
Operational						
Critic Point of Sales	€ 1 571 639,97	€ 1 593 781,31	€ 1 532 306,93	€ 1 431 279,47	€ 1 348 719,82	€ 1 273 439,59
Safety Margin	20%	22%	31%	47%	64%	82%

Source: Author, 2021

15 Conclusions

The current economic situation, aside with the globalization, the technological evolution and other factors have turned the circumstances more difficult for the Portuguese companies in the Metallurgical and Metalworking industry. Construal has been facing some difficulties to overcome the threats of this dynamic scenario, with direct consequences in its profit margins and net results.

The competitors in this industry, especially from outside of Portugal, have increased the competition in this industry. These companies offer lower prices which has been the reason for many clients to change their vendor. With a clear conscious of this situation, the Portuguese companies must abandon the Low-Cost strategy. Construal was trying to compete without a clearly defined strategy which has proven not to succeed. Thus, the need to adopt a Differentiation strategy with sustainable sources of competitive advantage was evident.

We intended with the applied project conducted to define a new strategy and a business model to reach an enduring and sustainable development for Construal. Indeed, we have proposed a strategy that unfolds into a set of determined actions, from the customer targeting to the operational level. Following the indications of the literature review, the strategic actions were carefully planned with the focus on the client and the competition. Thus, the value proposition lies on three main aspects: high quality products, outstanding after-sales service and maintenance, and expert knowledge.

The actions proposed aim to guarantee an increase of profit in the short term, as a matter of survival, but also to accomplish a long term view based on a Differentiation strategy, preventing the company of being unprepared for future market changes and changes in the competitors´ strategy. Mainly, the lack of a clear strategic orientation and focus has led Construal towards a complicated financial situation.

In addition to the mentioned problems, the company was dealing with other internal constraints such as the lack of commercial proactivity, the lack of motivation and communication between employees, the inexistence of business indicators control, and lack of knowledge about the company´s costs. It became clear through the analysis performed that the company needed several interventions in the Administration level, the Commercial department, and the Production department, as well as the creation of a Human Resources & Finance and Procurement department, for the purposes above. Other actions were also proposed to provide the company with the necessary skills, and resources to achieve a Differentiation strategy, such as the development of partnerships and the employees´ training.

Financially, the business plan presents attractive values even though the predictions can change due to different values and some of the values used had to be calculated through averages of previous years.

Summing up, the project was an attempt to provide the company with a steady strategy based on a quality-based differentiation.

Finally, the desire of the administrators to implement this project was an important incentive to the employees' motivation and the actions are already being in consideration to start the implementation in 2022.

15.1 Limitations

The main limitation of this project is the specificity of the industry that made it difficult to analyze it more specifically.

Firstly, there is not much information regarding the company's competitors, being most of the information taken from their website. This makes it difficult to understand the resources and capabilities that the companies have to deliver a better performance. In case of Portuguese competitors there was the possibility to purchase reports to analyze sales and exports.

Secondly, the surveys made to the company´s employees did not give all the information needed. Most of the employees do not have a high degree of scholarity and for them most of the questions asked were referring to the same topic. Besides that, due to a poor internal communication most of the employees do not know what the company's goals are, only having knowledge about their day-to-day activities.

Thirdly, the fact the industry where Construal operates is a small and very specific industry, the data available is more general and does not focus specifically on the production of machinery. Due to this, the analysis made had to take into consideration the Metallurgical and Metalworking industry instead of only the Metalworking industry.

Fourthly, at a financial level, there as not a lot of information available to try to conduct a more thorough viability analysis. The company does not know exactly how much it costs to produce each machine which makes it difficult to understand the costs that go into the production process.

Finally, all the actions should be analyzed separately for a more detailed understanding of the needs and steps of each action to make it easier to implement.

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Annexes

Annex A: Survey Template

Inquérito sobre o desempenho organizacional

Este inquérito tem como objetivo recolher de forma anónima a opinião dos colaboradores e gerentes da Construal em relação ao desempenho organizacional para obter informação acerca da situação atual da empresa e encontrar oportunidades para melhorar o desempenho da mesma.

Análise da Indústria

Que oportunidades considera existirem na indústria metalomecânica?

Quais as maiores dificuldades ou ameaças que enfrenta a indústria metalomecânica?

Análise do cliente

Quais são os principais clientes da empresa?

O que acha que o cliente valoriza mais nos produtos/serviços que a Construal oferece?

O que pode ser feito para atrair mais clientes?

Quais considera serem os fatores que distinguem a Construal da concorrência?

Quais considera serem os fatores que fazem um cliente optar por uma empresa concorrente?

Análise da Empresa

Quais os aspetos mais positivos da Construal?

Como classifica o desempenho que a Construal teve nestes últimos dois anos?

Qual pensa ser a estratégia da empresa?

Quais pensa ser os objetivos estratégicos da empresa?

O que considera serem os processos menos eficientes?

Quais são as suas sugestões para aumentar a eficiência desses mesmos processos?

Como descreveria a comunicação interna da empresa?

Como se poderia melhorar a comunicação interna?

Qual a decisão que considera mais importante ser implementada neste momento?

E qual seria a pior decisão que poderia ser implementada?

Annex B: Workshop Survey Template

Workshop de Planeamento Estratégico

As seguintes perguntas têm como objetivo ajudar a definir o plano estratégico da empresa. As respostas a estas perguntas irão servir de base para a realização do Workshop de Planeamento Estratégico.

As perguntas estão divididas nos seguintes grupos:

1. Visão, Missão & Valores
2. Posicionamento no mercado & Análise Competitiva
3. Cliente Tipo
4. Comunicação para o cliente
5. Objetivos de negócio & Métricas para o Sucesso

Nome:

Missão

A Missão descreve o propósito da organização e a reposta às seguintes perguntas ajudará a ter uma melhor perceção de qual é o objetivo principal desta empresa.

1. O que faz a empresa?

2. O que a empresa pretende atingir?

3. Quais os pontos diferenciadores do produto/serviço? Como se diferenciam dos concorrentes?

Visão

A Visão é o ponto inicial para se desenvolver uma estratégia uma vez que guia o trabalho desenvolvido pela empresa e direciona a empresa para o futuro.

1. Quais são os 3 principais problemas que pretendem resolver?

2. Qual é a imagem que os clientes têm da empresa?

3. Quais são os pontos fortes e fracos da empresa?

4. Quais são os objetivos a médio-longo prazo?

5. O que é necessário fazer no futuro para atingir os objetivos delineados?

6. O que a empresa pretender ser nos próximos 5 a 10 anos?

Valores

Os Valores da empresa explicam como é a maneira correta de fazer as coisas de acordo com o que a empresa acredita.

1. Selecione os valores que identifiquem a empresa e pelos quais a empresa se rege

○ Ambição	○ Lealdade	○ Empatia
○ Competência	○ Credibilidade	○ Desempenho
○ Individualidade	○ Honestidade	○ Coragem
○ Igualdade	○ Inovação	○ Sabedoria
○ Integridade	○ Trabalho de equipa	○ Independência
○ Serviço		○ Segurança
○ Responsabilidade	○ Excelência	○ Desafio
○ Precisão	○ Fortalecimento	○ Influência
○ Respeito	○ Qualidade	○ Aprendizagem
○ Dedicação	○ Eficiência	○ Compaixão
○ Diversidade	○ Dignidade	○ Amizade
○ Melhoria	○ Colaboração	○ Disciplina
○ Generosidade	○ Otimismo	○ Dependência
○ Persistência	○ Flexibilidade	

Posicionamento no mercado & Análise Competitiva

Listar os concorrentes permitirá realizar uma análise e delinear a estratégia de outras empresas na mesma indústria.

1. Mencione até 5 concorrentes diretos

2. Selecione as variáveis em que a empresa se destaca em comparação com os concorrentes

○ Feito à medida	○ Personalização	○ Rapidez
○ Qualidade	○ Autenticidade	○ Custo
○ Valor	○ Comercialização	○ Confiança
○ Especialização	○ Inovação	○ Outro:
○ Quantidade	○ Detalhe	

Cliente Tipo

Seja o mais específico possível. Ser fortemente focado no target da empresa irá melhorar o posicionamento da marca no mercado.

1. Indústria do cliente

2. Tamanho da empresa

3. Localização da empresa

4. Selecione as características que o cliente tipo mais valoriza (aproximadamente 7 característica)

- Autenticidade
- Autonomia
- Ambição
- Cordialidade
- Criatividade
- Coragem
- Curiosidade
- Diversidade
- Dever
- Disciplina
- Diligência
- Facilidade
- Execução
- Extravagância
- Eficiência
- Funcionalidade
- Fama
- Liberdade
- Flexibilidade
- Honra
- Individualismo
- Justiça
- Lealdade
- Lógica
- Nostalgia
- Naturalidade
- Desempenho
- Precisão
- Persistência
- Qualidade
- Confiança
- Segurança
- Tolerância
- Tradição

5. Selecione as características que o cliente tipo menos valoriza (aproximadamente 7 característica)

- Autenticidade
- Autonomia
- Ambição
- Cordialidade
- Criatividade
- Coragem
- Curiosidade
- Diversidade
- Dever
- Disciplina
- Diligência
- Facilidade
- Execução
- Extravagância
- Eficiência
- Funcionalidade
- Fama
- Liberdade
- Flexibilidade
- Honra
- Individualismo

- Justiça
- Lealdade
- Lógica
- Nostalgia
- Naturalidade
- Desempenho
- Precisão
- Persistência
- Qualidade
- Confiança
- Segurança
- Tolerância
- Tradição

Comunicação para o cliente

Quando se entender os problemas que os clientes enfrentam e como os podemos resolver, somos mais capazes de produzir uma comunicação mais relevante e efetiva para o cliente entender o valor que oferecemos.

1. Mencione até 5 dos principais problemas que o cliente possa ter

2. Mencione como resolveria cada problema

3. Mencione os benefícios do seu produto/serviço para o cliente

4. Qual o melhor produto/serviço que pode apresentar ao cliente?

Objetivos de negócio & Métricas para o Sucesso

Descrever os desafios e objetivos permite desenvolver ideias de como podemos ultrapassar os desafios e atingir os objetivos. Estabelecer objetivos mesuráveis é essencial para estabelecer metas alcançáveis ao longo do ano.

1. Mencione até 5 dos maiores desafios que a empresa enfrenta

2. Como estará a empresa neste preciso momento daqui a um ano?

3. Quais seriam os objetivos a definir para os próximos anos?

4. Como pode medir o progresso para atingir os objetivos mencionados?

5. Mencione ideias que possa ter e que ache que fariam sentido serem implementadas

6. Se houver algum desafio específico que gostaria de discutir no workshop mencione neste ponto

Annex C: Evolution of Raw Materials

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Base Metals*	209,36	172,10	165,42	145,27	105,60	100,00	122,19	130,29	135,11	139,84
Aluminium, US$ per metric ton	2400,64	2022,80	1846,68	1867,42	1664,68	1604,18	1967,65	2108,47	1794,49	1704,10
Copper, US$ per metric ton	8823,45	7958,93	7331,49	6863,40	5510,46	4867,90	6169,94	6529,80	6010,15	6174,56

*Index (2016=100)

Includes: luminum, Cobalt, Copper, Iron Ore, Lead, Molybdenum, Nickel, Tin, Uranium and Zinc

Source: adapted from Indices of Primary Commodity Prices, IMF, 2021

Annex D: Evolution of Energy

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Energy*	233,30	229,80	227,50	214,20	119,70	100,00	123,90	157,70	130,40	91,40

*Index (2016=100)

Includes: Petroleum, Natrual Gas, Coal and Propane

Source: adapted from Indices of Primary Commodity Prices, IMF, 2021

Annex E: World Machinery Exports

	Export (US $ Thousand)	Country Growth (%)
Germany	471 862 946,33	-0,45
France	248 258 471,52	0,03
Italy	138 612 875,59	-2,16
Spain	118 665 179,78	-1,31
Netherlands	193 245 741,86	1,49
Portugal	30 668 725,78	0,62

Source: adapted from Machinery and Transport Equipment Exports, WITS, 2019

Annex F: Portuguese Metallurgical and Metalworking Industry Exports

	Products Sales			
	Intra-EU		Extra-EU	
	2019	Tx. Var 18-19	2019	Tx. Var 18-19
Metallurgical	2 377 113 000 €	-2,10%	556 345 000 €	-1,80%
Metalworking	1 297 443 000 €	-8,10%	375 389 000 €	2,70%

Source: adapted from Estatísticas de Produção Industrial 2019, INE, 2020

Annex G: Economic Indicators of the Portuguese Transformation oof Natural Stones Industry

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Number of Companies	2659	2507	2370	2283	2186	2146	2107	2134	2112
Number of Workers	16979	15897	14511	13392	13061	13014	12969	13264	13380

Source: adapted from Estatística Anual dos Recursos Minerais, ASSIMAGRA, 2021

Annex H: Construal and Competitors Financial Situation

Revenue

	D2	CEI	António Jacinto Figueiredo	Construal
2019	€ 2 847 309,68	€ 4 292 845,03	€ 2 337 210,80	€ 1 834 573,74
2018	€ 2 785 832,56	€ 4 698 039,77	€ 1 746 470,44	€ 2 130 701,01
2017	€ 2 451 682,99	€ 5 088 849,63	€ 4 877 375,96	€ 2 337 009,73

Net Result

	D2	CEI	António Jacinto Figueiredo	Construal
2019	€ 64 243,23	€ (674 775,34)	€ 3 737,73	€ 32 837,51
2018	€ 129 171,71	€ (128 897,11)	€ 15 518,19	€ 57 260,67
2017	€ 185 688,69	€ 473 525,97	€ 293 309,94	€ 63 197,16

Source: adapted from Einforma Reports (bought in July 2021)

Annex I: Construal Financial Indicators

Ano	2019	2018	2017	2016	2015
Sales	€ 1 834 573,74	€ 2 130 701,01	€ 2 337 009,73	€ 2 316 683,17	€ 2 011 954,00
Variation in Production Inventories	€ 246 058,63	€ 93 163,86	€ 157 829,06	€ (87 521,00)	€ 3 125,00
CGSMC	€ 795 481,09	€ 1 040 257,50	€ 1 283 954,08	€ 1 205 898,91	€ 1 001 998,16
External Supply and Services	€ 378 356,21	€ 352 044,83	€ 426 681,43	€ 348 629,24	€ 385 115,79
Energy and Fluids	€ 35 798,46	€ 37 183,55	€ 32 630,73	€ 32 896,60	€ 34 971,51
Subcontracts	€ 165 565,94	€ 116 690,65	€ 224 337,64	€ 170 486,00	€ 165 315,31
Specialized Services	€ 82 960,99	€ 98 756,60	€ 79 042,16	€ 48 132,08	€ 46 289,47
Materials	€ 14 046,77	€ 21 222,97	€ 21 412,69	€ 16 580,73	€ 16 349,23
Travel and Stays	€ 55 695,45	€ 57 040,08	€ 47 777,88	€ 58 340,40	€ 104 036,28
Diverse Services	€ 24 288,60	€ 21 150,98	€ 21 480,33	€ 22 193,43	€ 18 153,99
Personnel Expenses	€ 799 774,69	€ 693 930,90	€ 642 495,90	€ 544 225,82	€ 522 265,96
Other Gains	€ 1 945,08	€ 6 623,50	€ 1 945,33	€ 6 407,13	€ 11 257,13
Other Expenses	€ 3 682,10	€ 4 287,70	€ 3 910,14	€ 5 316,14	€ 3 627,63

Variable Costs	€ 1 088 591,89	€ 1 322 336,02	€ 1 638 845,13	€ 1 501 949,05	€ 1 336 553,37
Fixed Costs	€ 888 702,20	€ 768 184,91	€ 718 196,42	€ 602 121,06	€ 576 454,17

Variable Costs Average
€ 1 377 655,09

Other Fixed Costs	2019	2018	2017	2016	2015
Amortization and Depreciations	€ 55 542,98	€ 57 606,37	€ 49 429,17	€ 48 188,47	€ 27 943,26

Fixed Costs Average
€ 758 473,80

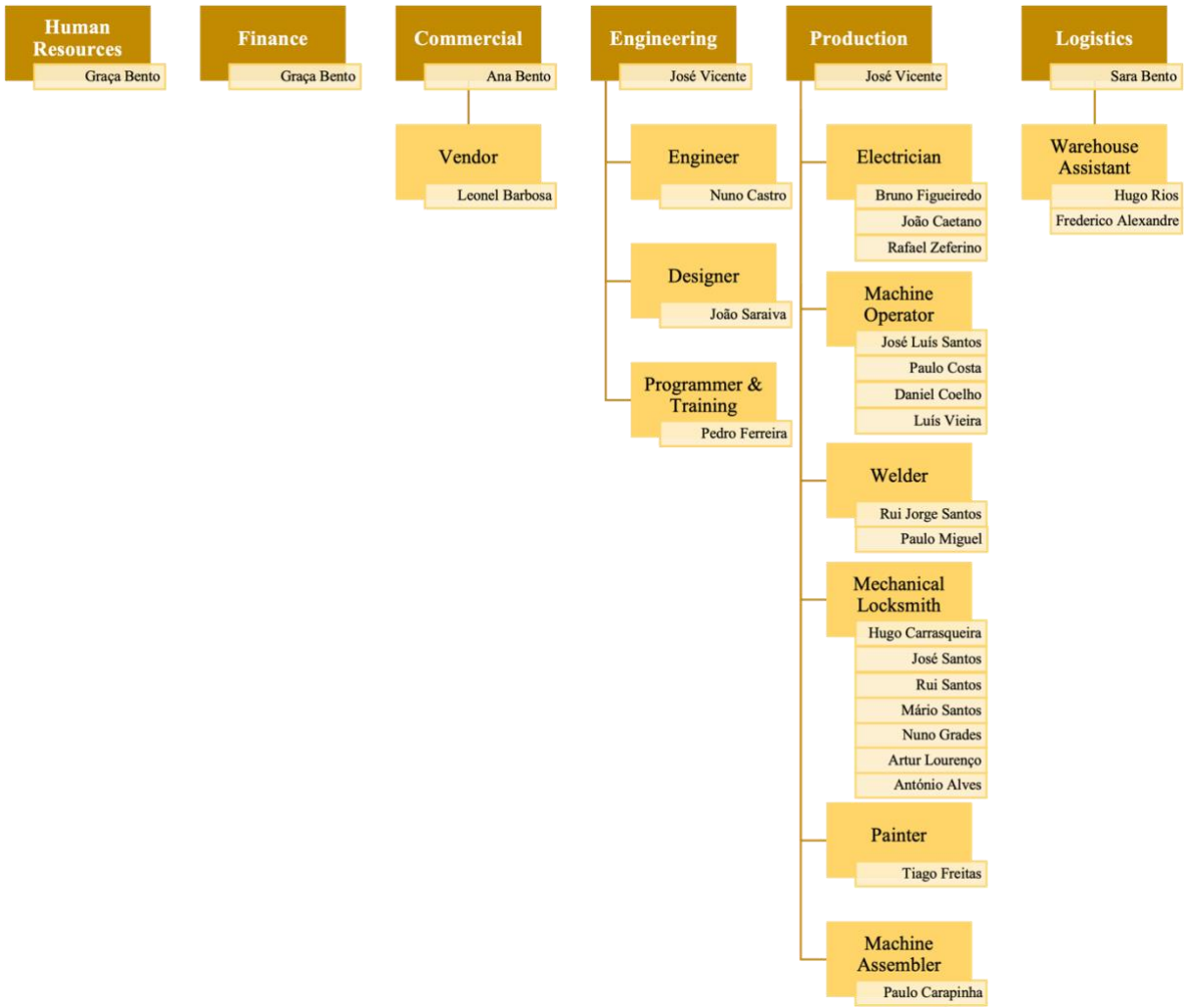
Total of Fixed Costs	€ 944 245,18	€ 825 791,28	€ 767 625,59	€ 650 309,53	€ 604 397,43
Operational Results	€ 49 740,38	€ 82 361,07	€ 90 313,40	€ 86 077,57	€ 85 385,33
Operational Margin	2,71%	3,87%	3,86%	3,72%	4,24%

Net Income	€ 32 837,51	€ 57 260,67	€ 63 197,16	€ 58 225,19	€ 62 664,15
Net Profit Margin	1,79%	2,69%	2,70%	2,51%	3,11%

Year	2019	2018	2017	2016	2015
Fixed Costs	€ 888 702,20	€ 768 184,91	€ 718 196,42	€ 602 121,06	€ 576 454,17
Personnel Expenses	€ 799 774,69	€ 693 930,90	€ 642 495,90	€ 544 225,82	€ 522 265,96
Specialized Services	€ 60 956,81	€ 48 815,33	€ 50 310,05	€ 30 385,67	€ 32 406,59
Diverse Services	€ 24 288,60	€ 21 150,98	€ 21 480,33	€ 22 193,43	€ 18 153,99
Other Expenses and Losses	€ 3 682,10	€ 4 287,70	€ 3 910,14	€ 5 316,14	€ 3 627,63
Variable Costs	€ 1 088 591,89	€ 1 322 336,02	€ 1 638 845,13	€ 1 501 949,05	€ 1 336 553,37
Subcontracts	€ 165 565,94	€ 116 690,65	€ 224 337,64	€ 170 486,00	€ 165 315,31
Upkeep and Repair	€ 22 004,18	€ 49 941,27	€ 28 732,11	€ 17 746,41	€ 13 882,88
Materials	€ 14 046,77	€ 21 222,97	€ 21 412,69	€ 16 580,73	€ 16 349,23
Energy and Fluids	€ 35 798,46	€ 37 183,55	€ 32 630,73	€ 32 896,60	€ 34 971,51
Travel and Stays	€ 55 695,45	€ 57 040,08	€ 47 777,88	€ 58 340,40	€ 104 036,28
CGSMC	€ 795 481,09	€ 1 040 257,50	€ 1 283 954,08	€ 1 205 898,91	€ 1 001 998,16

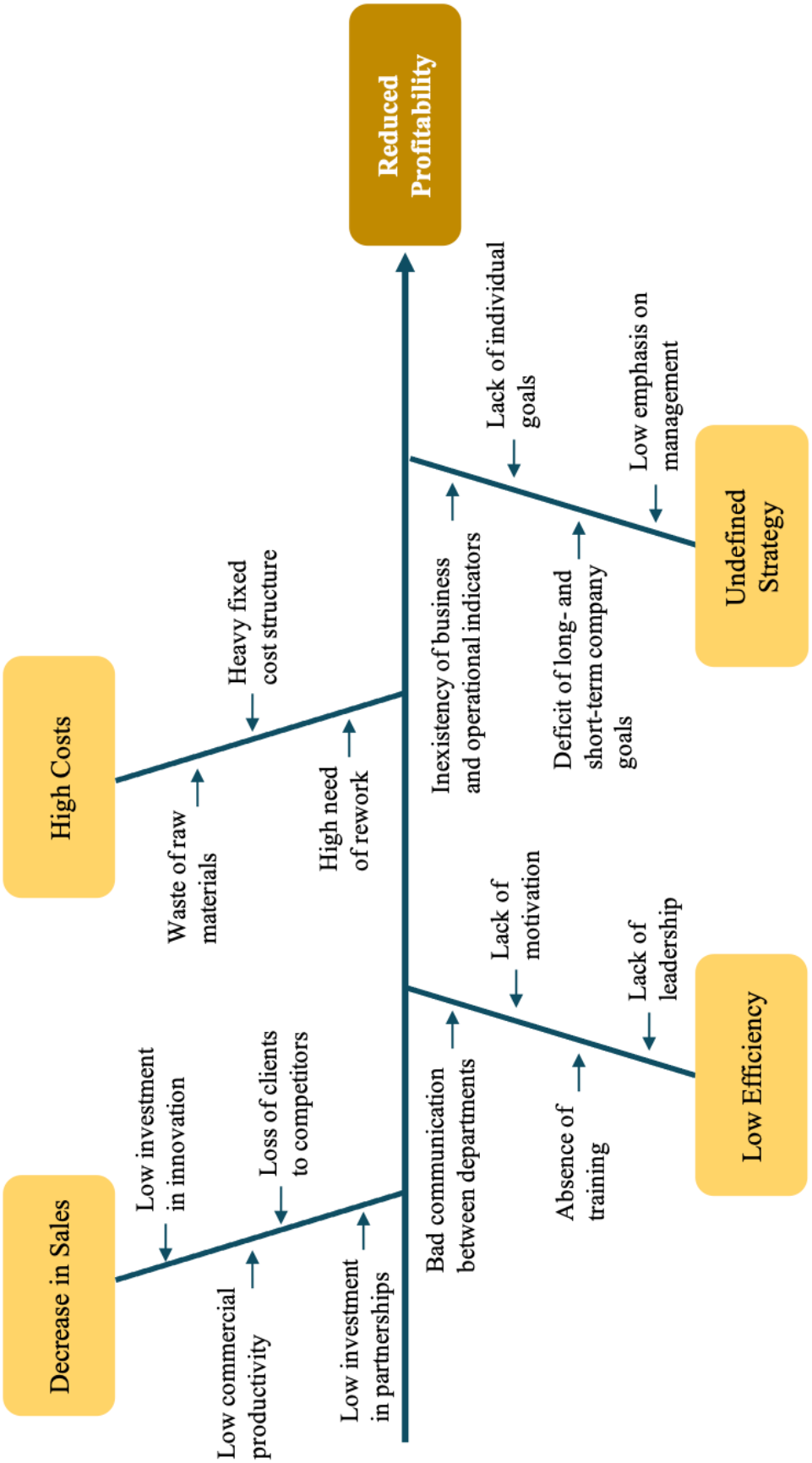
Source: Construal, 2021

Annex J: Company´s Organogram



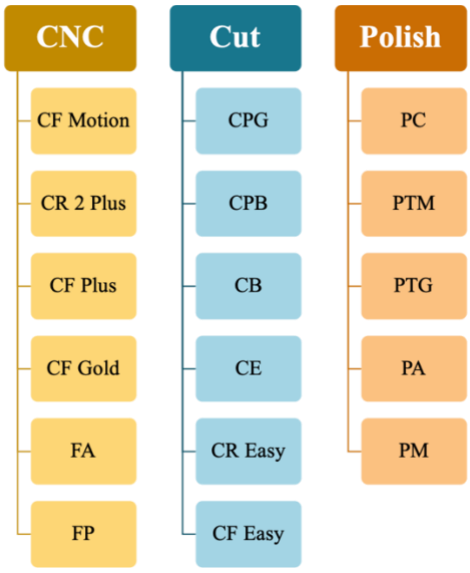
Source: Construal, 2021

Annex K: Fishbone Diagram



Source: Author, 2021

Annex L: Construal´s Products



Source: Construal, 2021

Annex M: Actions´ Cronogram

	2022				2023			
Actions	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
1. Reorganize Construal´s Structure								
2. Create a Dashboard with KPI´s								
3. Train Employees in Different Areas								
4. Evaluate Clients´ Satisfaction								
5. Create Incentives Program								
6. Develop New Partnerships								
7. Recruit New Employees and Rotate Functions								
8. Redesign Construal´s website								
9. Develop a CRM platform								

Source: Author, 2021

Annex O: Training Program Costs

Trainig Program	Cost/Unit	No. of employees	Total Cost
KPIs Software	€ 1 252,00	19	€ 23 788,00
Negotiaion & Commercial	€ 1 252,00	2	€ 2 504,00
Procurement	€ 1 252,00	2	€ 2 504,00
Innovative Products/Technology	€ 1 252,00	3	€ 3 756,00
			€ 32 552,00

Source: Author, 2021

Annex P: Projected Cash Flows for Business Plan Sensitivity Analysis

5% Increase in Sales and 5% Decrease in CGSMC

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74
% Increase	-	-	-	8%	8%	8%	10%	10%	10%
Sales Projection	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 981 339,64	€ 2 139 846,81	€ 2 311 034,56	€ 2 542 138,01	€ 2 796 351,81	€ 3 075 986,99
Incremental Values	€ -	€ -	€ -	€ 146 765,90	€ 305 273,07	€ 476 460,82	€ 707 564,27	€ 961 778,07	€ 1 241 413,25

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09
% Increase	-	-	-	-6%	-6%	-6%	-8%	-8%	-9%
Costs Projection	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 747 752,22	€ 702 887,09	€ 660 713,87	€ 607 856,76	€ 559 228,22	€ 508 897,68
Incremental Values	€ -	€ -	€ -	€ (47 728,87)	€ (92 594,00)	€ (134 767,22)	€ (187 624,33)	€ (236 252,87)	€ (286 583,41)

	2021	2022	2023	2024	2025	2026	2027
Sales	€ -	€ 146 765,90	€ 305 273,07	€ 476 460,82	€ 707 564,27	€ 961 778,07	€ 1 241 413,25
COGSMC	€ -	€ (47 728,87)	€ (92 594,00)	€ (134 767,22)	€ (187 624,33)	€ (236 252,87)	€ (286 583,41)
External Supply and Services	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Personnnel Expenses	€ -	€ -	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26
EBITDA	€ -	€ 194 494,76	€ 348 699,81	€ 562 060,78	€ 846 021,35	€ 1 148 863,69	€ 1 478 829,41
Amortization and Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
EBIT	€ -	€ 194 494,76	€ 348 699,81	€ 562 060,78	€ 846 021,35	€ 1 148 863,69	€ 1 478 829,41

	2021	2022	2023	2024	2025	2026	2027
EBIT	€ -	€ 194 494,76	€ 348 699,81	€ 562 060,78	€ 846 021,35	€ 1 148 863,69	€ 1 478 829,41
Taxes	€ -	€ 43 761,32	€ 78 457,46	€ 126 463,68	€ 190 354,80	€ 258 494,33	€ 332 736,62
Adjusted EBIT	€ -	€ 150 733,44	€ 270 242,35	€ 435 597,11	€ 655 666,54	€ 890 369,36	€ 1 146 092,79
Amortization anhd Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Working Capital	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Operating Cashflow	€ -	€ 150 733,44	€ 270 242,35	€ 435 597,11	€ 655 666,54	€ 890 369,36	€ 1 146 092,79
CAPEX	€ 62 552,00	€ -	€ -	€ -	€ -	€ -	€ -
Free Cashflow	€ (62 552,00)	€ 150 733,44	€ 270 242,35	€ 435 597,11	€ 655 666,54	€ 890 369,36	€ 1 146 092,79

5% Increase in Sales

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74
% Increase	-	-	-	8%	8%	8%	10%	10%	10%
Sales Projection	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 981 339,64	€ 2 139 846,81	€ 2 311 034,56	€ 2 542 138,01	€ 2 796 351,81	€ 3 075 986,99
Incremental Values	€ -	€ -	€ -	€ 146 765,90	€ 305 273,07	€ 476 460,82	€ 707 564,27	€ 961 778,07	€ 1 241 413,25

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09
% Increase	-	-	-	-1%	-1%	-1%	-3%	-3%	-4%
Costs Projection	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 787 526,28	€ 779 651,02	€ 771 854,51	€ 748 698,87	€ 726 237,90	€ 697 188,39
Incremental Values	€ -	€ -	€ -	€ (7 954,81)	€ (15 830,07)	€ (23 626,58)	€ (46 782,22)	€ (69 243,19)	€ (98 292,70)

	2021	2022	2023	2024	2025	2026	2027
Sales	€ -	€ 146 765,90	€ 305 273,07	€ 476 460,82	€ 707 564,27	€ 961 778,07	€ 1 241 413,25
COGSMC	€ -	€ (7 954,81)	€ (15 830,07)	€ (23 626,58)	€ (46 782,22)	€ (69 243,19)	€ (98 292,70)
External Supply and Services	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Personnnel Expenses	€ -	€ -	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26
EBITDA	€ -	€ 154 720,71	€ 271 935,89	€ 450 920,14	€ 705 179,23	€ 981 854,00	€ 1 290 538,70
Amortization and Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
EBIT	€ -	€ 154 720,71	€ 271 935,89	€ 450 920,14	€ 705 179,23	€ 981 854,00	€ 1 290 538,70

	2021	2022	2023	2024	2025	2026	2027
EBIT	€ -	€ 154 720,71	€ 271 935,89	€ 450 920,14	€ 705 179,23	€ 981 854,00	€ 1 290 538,70
Taxes	€ -	€ 34 812,16	€ 61 185,57	€ 101 457,03	€ 158 665,33	€ 220 917,15	€ 290 371,21
Adjusted EBIT	€ -	€ 119 908,55	€ 210 750,31	€ 349 463,11	€ 546 513,90	€ 760 936,85	€ 1 000 167,49
Amortization anhd Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Working Capital	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Operating Cashflow	€ -	€ 119 908,55	€ 210 750,31	€ 349 463,11	€ 546 513,90	€ 760 936,85	€ 1 000 167,49
CAPEX	€ 62 552,00	€ -	€ -	€ -	€ -	€ -	€ -
Free Cashflow	€ (62 552,00)	€ 119 908,55	€ 210 750,31	€ 349 463,11	€ 546 513,90	€ 760 936,85	€ 1 000 167,49

5% Decrease in CGSMC

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74
% Increase	-	-	-	3%	3%	3%	5%	5%	5%
Sales Projection	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 889 610,95	€ 1 946 299,28	€ 2 004 688,26	€ 2 104 922,67	€ 2 210 168,81	€ 2 320 677,25
Incremental Values	€ -	€ -	€ -	€ 55 037,21	€ 111 725,54	€ 170 114,52	€ 270 348,93	€ 375 595,07	€ 486 103,51

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09
% Increase	-	-	-	-6%	-6%	-6%	-8%	-8%	-9%
Costs Projection	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 747 752,22	€ 702 887,09	€ 660 713,87	€ 607 856,76	€ 559 228,22	€ 508 897,68
Incremental Values	€ -	€ -	€ -	€ (47 728,87)	€ (92 594,00)	€ (134 767,22)	€ (187 624,33)	€ (236 252,87)	€ (286 583,41)

	2021	2022	2023	2024	2025	2026	2027
Sales	€ -	€ 55 037,21	€ 111 725,54	€ 170 114,52	€ 270 348,93	€ 375 595,07	€ 486 103,51
COGSMC	€ -	€ (47 728,87)	€ (92 594,00)	€ (134 767,22)	€ (187 624,33)	€ (236 252,87)	€ (286 583,41)
External Supply and Services	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Personnnel Expenses	€ -	€ -	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26
EBITDA	€ -	€ 102 766,08	€ 155 152,28	€ 255 714,49	€ 408 806,01	€ 562 680,68	€ 723 519,66
Amortization and Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
EBIT	€ -	€ 102 766,08	€ 155 152,28	€ 255 714,49	€ 408 806,01	€ 562 680,68	€ 723 519,66

	2021	2022	2023	2024	2025	2026	2027
EBIT	€ -	€ 102 766,08	€ 155 152,28	€ 255 714,49	€ 408 806,01	€ 562 680,68	€ 723 519,66
Taxes	€ -	€ 23 122,37	€ 34 909,26	€ 57 535,76	€ 91 981,35	€ 126 603,15	€ 162 791,92
Adjusted EBIT	€ -	€ 79 643,71	€ 120 243,02	€ 198 178,73	€ 316 824,66	€ 436 077,53	€ 560 727,74
Amortization anhd Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Working Capital	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Operating Cashflow	€ -	€ 79 643,71	€ 120 243,02	€ 198 178,73	€ 316 824,66	€ 436 077,53	€ 560 727,74
CAPEX	€ 62 552,00	€ -	€ -	€ -	€ -	€ -	€ -
Free Cashflow	€ (62 552,00)	€ 79 643,71	€ 120 243,02	€ 198 178,73	€ 316 824,66	€ 436 077,53	€ 560 727,74

5% Decrease in Sales and 5% Increase in CGSMC

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74
% Increase	-	-	-	-2%	-2%	-2%	0%	0%	0%
Sales Projection	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 797 882,27	€ 1 761 924,62	€ 1 726 686,13	€ 1 726 686,13	€ 1 726 686,13	€ 1 726 686,13
Incremental Values	€ -	€ -	€ -	€ (36 691,47)	€ (72 649,12)	€ (107 887,61)	€ (107 887,61)	€ (107 887,61)	€ (107 887,61)

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09
% Increase	-	-	-	4%	4%	4%	2%	2%	1%
Costs Projection	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 827 300,33	€ 860 392,35	€ 894 808,04	€ 912 704,20	€ 930 958,29	€ 940 267,87
Incremental Values	€ -	€ -	€ -	€ 31 819,24	€ 64 911,26	€ 99 326,95	€ 117 223,11	€ 135 477,20	€ 144 786,78

	2021	2022	2023	2024	2025	2026	2027
Sales	€ -	€ (36 691,47)	€ (72 649,12)	€ (107 887,61)	€ (107 887,61)	€ (107 887,61)	€ (107 887,61)
COGSMC	€ -	€ 31 819,24	€ 64 911,26	€ 99 326,95	€ 117 223,11	€ 135 477,20	€ 144 786,78
External Supply and Services	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Personnnel Expenses	€ -	€ -	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26
EBITDA	€ -	€ (68 510,72)	€ (186 727,64)	€ (256 381,82)	€ (274 277,98)	€ (292 532,07)	€ (301 841,65)
Amortization and Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
EBIT	€ -	€ (68 510,72)	€ (186 727,64)	€ (256 381,82)	€ (274 277,98)	€ (292 532,07)	€ (301 841,65)

	2021	2022	2023	2024	2025	2026	2027
EBIT	€ -	€ (68 510,72)	€ (186 727,64)	€ (256 381,82)	€ (274 277,98)	€ (292 532,07)	€ (301 841,65)
Taxes	€ -	€ (15 414,91)	€ (42 013,72)	€ (57 685,91)	€ (61 712,55)	€ (65 819,71)	€ (67 914,37)
Adjusted EBIT	€ -	€ (53 095,81)	€ (144 713,92)	€ (198 695,91)	€ (212 565,44)	€ (226 712,35)	€ (233 927,28)
Amortization anhd Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Working Capital	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Operating Cashflow	€ -	€ (53 095,81)	€ (144 713,92)	€ (198 695,91)	€ (212 565,44)	€ (226 712,35)	€ (233 927,28)
CAPEX	€ 62 552,00	€ -	€ -	€ -	€ -	€ -	€ -
Free Cashflow	€ (62 552,00)	€ (53 095,81)	€ (144 713,92)	€ (198 695,91)	€ (212 565,44)	€ (226 712,35)	€ (233 927,28)

5% Decrease in Sales

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74
% Increase	-	-	-	-2%	-2%	-2%	0%	0%	0%
Sales Projection	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 797 882,27	€ 1 761 924,62	€ 1 726 686,13	€ 1 726 686,13	€ 1 726 686,13	€ 1 726 686,13
Incremental Values	€ -	€ -	€ -	€ (36 691,47)	€ (72 649,12)	€ (107 887,61)	€ (107 887,61)	€ (107 887,61)	€ (107 887,61)

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09
% Increase	-	-	-	-1%	-1%	-1%	-3%	-3%	-4%
Costs Projection	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 787 526,28	€ 779 651,02	€ 771 854,51	€ 748 698,87	€ 726 237,90	€ 697 188,39
Incremental Values	€ -	€ -	€ -	€ (7 954,81)	€ (15 830,07)	€ (23 626,58)	€ (46 782,22)	€ (69 243,19)	€ (98 292,70)

	2021	2022	2023	2024	2025	2026	2027
Sales	€ -	€ (36 691,47)	€ (72 649,12)	€ (107 887,61)	€ (107 887,61)	€ (107 887,61)	€ (107 887,61)
COGSMC	€ -	€ (7 954,81)	€ (15 830,07)	€ (23 626,58)	€ (46 782,22)	€ (69 243,19)	€ (98 292,70)
External Supply and Services	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Personnnel Expenses	€ -	€ -	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26
EBITDA	€ -	€ (28 736,66)	€ (105 986,30)	€ (133 428,29)	€ (110 272,65)	€ (87 811,69)	€ (58 762,17)
Amortization and Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
EBIT	€ -	€ (28 736,66)	€ (105 986,30)	€ (133 428,29)	€ (110 272,65)	€ (87 811,69)	€ (58 762,17)

	2021	2022	2023	2024	2025	2026	2027
EBIT	€ -	€ (28 736,66)	€ (105 986,30)	€ (133 428,29)	€ (110 272,65)	€ (87 811,69)	€ (58 762,17)
Taxes	€ -	€ (6 465,75)	€ (23 846,92)	€ (30 021,36)	€ (24 811,35)	€ (19 757,63)	€ (13 221,49)
Adjusted EBIT	€ -	€ (22 270,91)	€ (82 139,39)	€ (103 406,92)	€ (85 461,31)	€ (68 054,06)	€ (45 540,68)
Amortization anhd Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Working Capital	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Operating Cashflow	€ -	€ (22 270,91)	€ (82 139,39)	€ (103 406,92)	€ (85 461,31)	€ (68 054,06)	€ (45 540,68)
CAPEX	€ 62 552,00	€ -	€ -	€ -	€ -	€ -	€ -
Free Cashflow	€ (62 552,00)	€ (22 270,91)	€ (82 139,39)	€ (103 406,92)	€ (85 461,31)	€ (68 054,06)	€ (45 540,68)

5% Increase in CGSMC

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74
% Increase	-	-	-	3%	3%	3%	5%	5%	5%
Sales Projection	€ 1 834 573,74	€ 1 834 573,74	€ 1 834 573,74	€ 1 889 610,95	€ 1 946 299,28	€ 2 004 688,26	€ 2 104 922,67	€ 2 210 168,81	€ 2 320 677,25
Incremental Values	€ -	€ -	€ -	€ 55 037,21	€ 111 725,54	€ 170 114,52	€ 270 348,93	€ 375 595,07	€ 486 103,51

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Baseline	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 795 481,09
% Increase	-	-	-	4%	4%	4%	2%	2%	1%
Costs Projection	€ 795 481,09	€ 795 481,09	€ 795 481,09	€ 827 300,33	€ 860 392,35	€ 894 808,04	€ 912 704,20	€ 930 958,29	€ 940 267,87
Incremental Values	€ -	€ -	€ -	€ 31 819,24	€ 64 911,26	€ 99 326,95	€ 117 223,11	€ 135 477,20	€ 144 786,78

	2021	2022	2023	2024	2025	2026	2027
Sales	€ -	€ 55 037,21	€ 111 725,54	€ 170 114,52	€ 270 348,93	€ 375 595,07	€ 486 103,51
COGSMC	€ -	€ 31 819,24	€ 64 911,26	€ 99 326,95	€ 117 223,11	€ 135 477,20	€ 144 786,78
External Supply and Services	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Personnnel Expenses	€ -	€ -	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26	€ 49 167,26
EBITDA	€ -	€ 23 217,97	€ (2 352,97)	€ 21 620,31	€ 103 958,56	€ 190 950,61	€ 292 149,47
Amortization and Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
EBIT	€ -	€ 23 217,97	€ (2 352,97)	€ 21 620,31	€ 103 958,56	€ 190 950,61	€ 292 149,47

	2021	2022	2023	2024	2025	2026	2027
EBIT	€ -	€ 23 217,97	€ (2 352,97)	€ 21 620,31	€ 103 958,56	€ 190 950,61	€ 292 149,47
Taxes	€ -	€ 5 224,04	€ (529,42)	€ 4 864,57	€ 23 390,68	€ 42 963,89	€ 65 733,63
Adjusted EBIT	€ -	€ 17 993,93	€ (1 823,56)	€ 16 755,74	€ 80 567,89	€ 147 986,72	€ 226 415,84
Amortization anhd Depreciations	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Working Capital	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Operating Cashflow	€ -	€ 17 993,93	€ (1 823,56)	€ 16 755,74	€ 80 567,89	€ 147 986,72	€ 226 415,84
CAPEX	€ 62 552,00	€ -	€ -	€ -	€ -	€ -	€ -
Free Cashflow	€ (62 552,00)	€ 17 993,93	€ (1 823,56)	€ 16 755,74	€ 80 567,89	€ 147 986,72	€ 226 415,84

Source: Author, 2021

Annex Q: Projected Company´s Income Statement

	2022	2023	2024	2025	2026	2027
Fixed Costs						
Personnel Expenses	€ 640 538,65	€ 689 705,91	€ 689 705,91	€ 689 705,91	€ 689 705,91	€ 689 705,91
Specialized Services	€ 44 574,89	€ 44 574,89	€ 44 574,89	€ 44 574,89	€ 44 574,89	€ 44 574,89
Diverse Services	€ 21 453,47	€ 21 453,47	€ 21 453,47	€ 21 453,47	€ 21 453,47	€ 21 453,47
Other Expenses and Losses	€ 4 164,74	€ 4 164,74	€ 4 164,74	€ 4 164,74	€ 4 164,74	€ 4 164,74
Total	€ 710 731,75	€ 759 899,01	€ 759 899,01	€ 759 899,01	€ 759 899,01	€ 759 899,01

Variable Costs						
CGSMC	€ 787 526,28	€ 779 651,02	€ 771 854,51	€ 748 698,87	€ 726 237,90	€ 697 188,39
Subcontracts	€ 168 479,11	€ 168 479,11	€ 168 479,11	€ 168 479,11	€ 168 479,11	€ 168 479,11
Upkeep and Repair	€ 26 461,37	€ 44 574,89	€ 44 574,89	€ 44 574,89	€ 44 574,89	€ 44 574,89
Materials	€ 17 922,48	€ 21 453,47	€ 21 453,47	€ 21 453,47	€ 21 453,47	€ 21 453,47
Energy and Fluids	€ 34 696,17	€ 4 164,74	€ 4 164,74	€ 4 164,74	€ 4 164,74	€ 4 164,74
Total	€ 1 035 085,41	€ 1 018 323,22	€ 1 010 526,71	€ 987 371,08	€ 964 910,11	€ 935 860,59

	2022	2023	2024	2025	2026	2027
Sales	€ 1 889 610,95	€ 1 946 299,28	€ 2 004 688,26	€ 2 104 922,67	€ 2 210 168,81	€ 2 320 677,25
COGSMC	€ 787 526,28	€ 779 651,02	€ 771 854,51	€ 748 698,87	€ 726 237,90	€ 697 188,39
External Supply and Services	€ 317 752,22	€ 308 865,30	€ 308 865,30	€ 308 865,30	€ 308 865,30	€ 308 865,30
Personnnel Expenses	€ 640 538,65	€ 689 705,91	€ 689 705,91	€ 689 705,91	€ 689 705,91	€ 689 705,91
EBITDA	€ 143 793,80	€ 168 077,05	€ 234 262,54	€ 357 652,58	€ 485 359,68	€ 624 917,64
Amortization and Depreciations	€ 47 742,05	€ 47 742,05	€ 47 742,05	€ 47 742,05	€ 47 742,05	€ 47 742,05
EBIT	€ 96 051,75	€ 120 335,00	€ 186 520,49	€ 309 910,53	€ 437 617,63	€ 577 175,59

Source: Author, 2021