A Work Project, presented as part of the requirements for the Award of a Master's degree in Management from the Nova School of Business and Economics.

INCREASING INTERNATIONAL FOOTPRINT OF A NATURAL STONE BUSINESS

Cláudia Viegas e Costa Marques

Guillaume Labarre

Inês Moraes Sarmento

Sara Oliveira São João

Tommaso Niccolò Bordignon

Work project carried out under the supervision of:

João Pedro Delgado

04-01-2021

This work is divided into seven different parts:

Part A: Increasing International Footprint of a Natural Stone Business

Part B: Increasing International Footprint of a Natural Stone Business - Geographical Analysis *(by Guillaume Labarre)*

Part C: Increasing International Footprint of a Natural Stone Business - In-depth Market Analysis (*by Tommaso Bordignon)*

Part D: Increasing International Footprint of a Natural Stone Business - Entry Strategy (*by Inês Moraes Sarmento)*

Part E: Increasing International Footprint of a Natural Stone Business - Marketing Plan *(by Cláudia Marques)*

Part F: Increasing International Footprint of a Natural Stone Business- Financial Plan (*by Sara São João)*

Part G: Increasing International Footprint of a Natural Stone Business - Final Remarks

List of Abbreviations:

A&D: Architecture and Design

CSF: Cutting, Shaping, and Finishing

DP: Company the group is doing this project for, short for DP Stones

DP.1: DP's subsidiary

FOB: Free on Board

KPIs: Key Performance Indicators

M&Q: Mining & Quarrying

SA: Strategic Alliance

WC: Worse Case Scenario

BC: Best Case Scenario

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Abstract

DP Stones is a Portuguese medium-sized company that works in the Cutting, Shaping and Finishing Stone business. This company has already a significant international footprint, dealing mainly with direct exports. Facing a saturated domestic market, DP aims to extend its' lifecycle and find out new ways to gain competitive advantages.

Accordingly, this project will analyse the current and future state of the CSF industry and assess possible target markets for DP to expand to. Afterwards, an entry strategy and marketing plan will be developed as well as a financial plan to evaluate the viability of the project proposed.

Keywords (Internationalization, Market Selection, Entry Strategy, Strategic Analysis, Natural Stone, Cutting Shaping and Finishing Stone, Marketing Plan, Financial Plan, Australia, Germany)

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

Part A: Increasing International Footprint of a Natural Stone Business

1 Introduction

1.1 Organizational Challenge and Objectives

Organizational Challenge: While operating in a very competitive market, DP Stones faces a saturated domestic market and is reaching maturity. To extend its lifecycle, the company will have to lock in and acquire clients that ensure stable demand.

Objectives: The team aims to develop an internationalization plan which ultimately extends DP Stones' lifecycle. Currently, the company engages in direct trading in various international markets, nonetheless by increasing its international footprint DP will be able to extend its' customer base and improve its' revenue streams, maintaining a competitive position in the market.

1.2 Project Overview and Methodology

To extend DP's lifecycle, the team developed an expansion plan comprising seven different phases. Firstly, the team analysed the company as well as the industry in which it operates. Secondly, the international readiness of the company was assessed and the three most adequate countries to internationalize were discovered through a ranking and clustering analysis. Thirdly, an in-depth market analysis was performed on the three markets, further exploring the conditions to enter those markets. Having considered possible entry modes in both Australia and Germany in the fourth phase, the most adequate ones were chosen, and an entry strategy was derived. Then, both the marketing and financing plans were outlined, assuring the viability of the proposed strategy. Finally, conclusions were drawn and recommendations and future considerations were defined.

2 Situation Analysis

2.1 Company Analysis

2.1.1 Profile and Management

Created in 1980, DP Stones has been one of the main players in the **CSF Stone industry** for the past forty years. The company focuses on high-quality natural stones and maintains a competitive position in the market due to strong commitment and hard work.

DP is owned by three shareholders, each holding one-third of the share of the enterprise. This **medium family-enterprise** first specialized in Portuguese marble and limestone, and in 2005 started working with international natural stone with the creation of a subsidiary (DP.1).

In 2017, a change in leadership occurred and brought a new mindset to the company. The new CEO chose to merge the two businesses to increase the overall production and operation efficiency. DP facilities have mainly Portuguese stones to be sold all over the word and DP.1 is a selling point with foreign (imported) stones to be sold in Portugal. The latter works also as a showroom.

The CEO aims to improve DP's communication process and product offering. In line with this, the website was renewed and new agreements on imported stones were established. In 2019, DP employed 77 full time workers and had an exploitation result of €**7.03 m**. (See appendix 1 below)

2.1.2 Product Overview

DP is an active player in the CSF Stone industry and its strategy focuses on **Portfolio Depth** by offering a wide range of natural stones. DP is exporting 80% of its products to other countries. For each project, DP finds the raw materials that better fits the requirements of the client and adapts them to the forms and textures they wanted.

Regarding the processing of raw material, the company works with three standard shapes: **Blocks, Slabs, and Tiles** (Dimpomar 2019). Two different blocks from the same type of stone can translate into different profitability due mostly to the patterns of veins and the percentage of wasted stone. These situations can be foreseen and accessed with the knowledge and know-how that the company has been gathering throughout its' years of production.

In slabs, the company is a leading market player market being valued for the variety, novelty, quality, and trendiness of its products. Tiles are valued for their flexibility in dimensions, thickness, and finishes, as well as their quality and quantity.

The company's end-product also translates into **Cut to Size projects and Special Products** (Dimpomar 2019). DP has extended its international footprint by being part of major projects in fifteen different countries. Projects may be distinguished into three different categories: Commercial Projects, Residential or Private Projects, and Special Projects.

Special projects are a new development of exclusive and unique cut-to-size design pieces. This is an emerging sector within the company that arose by making use of the existing know-how and the available resources. Some examples are Washbasins, Shower-trays, and Decoration products.

2.1.3 Process & Operations of DP

DP plays different roles along the supply chain - from the stone extraction to the client final delivery. The selection of stone and CSF of stone are the company's core activities. Going to the stone quarries and **selecting the right blocks** is a key operation to guarantee quality stone is obtained. With years of experience and plenty of knowledge in the natural stone industry, DP can predict the percentage of waste and evaluate its quality. Performing these activities resulted in a wide national and international network of supply. This enables DP to broaden its product portfolio and attract new customers all over the world.

Processing the stone is part of DP's core business and therefore an area in which the company stands out. Efficient operation processes are achieved with high-quality machinery and experienced workers, allowing DP to work the stone with precision in every aspect.

DP also performs complementary activities in Portugal as it is the case of product **packaging and transportation**. Stone is stocked in wooden boxes that are made in-house to better suit product protection. By outsourcing wood and assembling the packages itself, the company is shifting transportation risks towards its supplier, for instance, broken material due to rotten wood. Few workers in DP are dedicated to creating the packages.

Regarding transportation, owning a truck, containers and groupage enable efficient and safe loadings, especially when the stocks carried are sensitive types of stones. Transportation from DP facilities to the harbour or vice versa is carried by a company employee. Afterwards, all the transportation services used to deliver the product to the final client are outsourced. Since DP follows the Free On-Board incoterm rules, transportation costs, risks and responsibilities are on the client's side from the moment the stone is loaded on the vessel onwards.

2.1.4 Positioning and Strategy

The Bowman's Strategic Clock was used to explore DP's options for strategic positioning. The company sells high quality products with the highest level of perceived added value. However, due to industry experience, expertise, and the company's capability to reduce to the minimum waste, DP is able to offer competitive prices comparing to the products' quality level. For these reasons, the group identified DP positioning in the "**Differentiation strategy"**.

Their innovative technology enables a wide range of service offerings, to closely tailor their clients' requests and efficacy in production, which allows reduced costs and efficient prices.

By engaging in various phases of the supply chain, they rapidly provide their clients with samples, logistics, and answers.

Another important pillar is DP's culture to maintain long-lasting relationships with their customers. "At DP we have been working with some clients for more than twenty years, it is our tradition to keep clients. This is only possible due to the service we provide, always carrying an open communication channel", said the sales manager.

2.1.5 Business Model

To fully understand DP's Business Model all nine segments will be carefully analysed. (See appendix 15 below) The company's **value proposition** is to offer high-quality natural stone with features such as durability, resistance to corrosion, and slip resistance, supported by DP's know-how and long experience in the industry. Also, DP's high status is translated through attractive stone availability for clients to build unique spaces.

Companies need to assess which customers they should focus on to find ways to build and sustain relationships with them. DP serves various **customer segments** including individuals, construction companies (which can also include consultants, small architecture, and design companies), wholesalers, and other CSF companies. While individuals directly buy the stone from DP, construction companies often play the role of intermediary between these two. Wholesalers buy in large quantities and resell to their market, and CSF companies buy stone blocks to cut, shape, and finish them and later sell them in their markets.

To approach customers, it uses **channels** such as word of mouth, newsletters, magazines, international events as fairs, an official website, social media and its Portuguese facilities (DP and DP.1). To maintain strong **customer relationships**, reputation and trust are key. DP holds long-term client relationships through dedicated personal assistance, close and continued communication.

The company has stone quarries, national and international associations, and transportation companies as **key partners**, each playing a different and important role throughout the value chain. While stone quarries grant access to the core business' materials, associations facilitate the trading and transportation companies enable the final clients to receive their products. **Key activities** are assuring quality throughout the value chain, building relationships with clients and suppliers, stone selection, cutting blocks into slabs and tiles, and cut to size projects. These result from DP owning the **key resources** of stone, competitive machinery, industry experience and knowledge, client, and supplier networks.

On **revenue streams**, DP receives transaction-based revenues (namely asset sales), where it gets a one-time payment for the stone purchased. Money is received per contract in blocks, slabs, tiles, and cut to size. Depending on the project type, contract payments are product feature dependant or volume dependant.

DP's **costs structure** is characterized by value-driven costs, focusing on value creation and premium value proposition. It has fixed costs such as employees' salaries, manufacturing facilities-related expenses, machinery, and some others. Variables costs are raw materials such as the stone and wood supplied.

2.1.6 Financial Overview

To grasp the company's financial situation its **financial statements** will be analysed. (see Appendix 2 below) The **P&L** will be the first statement considered. Looking at the company's revenues from 2013 to 2019 (see Appendix 3 below) it is possible to observe a subtle decline from 2013 until 2016, moment from which the sales remained close to the €6 m level.

Regarding the operating income (see Appendix 4 below), DP shows difficulties in remaining stable since the EBIT varies from nearly €800 000 to €-200 000. An observation that can be retrieved is that the operation income does not follow the same evolution as revenues. For

instance, the EBIT increases from 2013 to 2014 while in the same period the level of sales decreased. The same happens from 2017 to 2018, when the level of sales decreases, and the operating income increases by more than €155 000.

The operating income has a great impact on the company's net income. As it is possible to observe, the net income (see Appendix 5 below**)** of DP is also very unstable through the different periods. For instance, in 2017 the losses were valued at €65 475 while in 2019 DP had a profit of €120 690. These abrupt changes might be explained by the instability related to the operating income. Such observations may lead one to believe that the company is relying too much on reactive opportunities and does not seem to have a proactive strategy regarding the natural stone industry and its opportunities.

The **balance sheet** (2017-2019) will be the second financial statement considered. (see Appendix 2 below) Regarding the total assets of DP (see Appendix 6 below), both current and fixed assets remain approximately constant throughout the periods, with current assets accounting for the biggest percentage, on average representing 80.87% of total assets.

The total liabilities of DP (see Appendix 7 below) vary between approximately €1 m and €1.4 m, being at its highest in 2018. Almost 97% of total liabilities are composed of short-term liabilities such as advance deposits from clients or supplier accounts.

The total equity (see Appendix 8 below) has been increasing every year reaching more than €8.7 m in 2019. This increase can be explained by both the increase in net income from each period and the account 'Other changes recognized inequity' in which changes in exchange rates and tax refunds can be accounted for.

Next, **ratios** will be computed to evaluate the company's performance. To assess the **liquidity** of the company, the current ratio (of 8.05), quick ratio (of 6.83), cash ratio (of 2.61), and Net

Working Capital (€6 784 576) were computed for 2019 (see Appendix 9 below). All these ratios indicate how the company is using assets to settle liabilities as debts and payables.

Given that all the liquidity ratios are considerably high, it is possible to conclude the company is in good financial health and it can pay its obligations with existing assets. Nevertheless, with such high ratios, one may think the company is risk-averse, as it is leaving too much cash on the side that could be invested to grow the business.

In regard to **solvency,** the debt-to-equity ratio (of 0.0003), debt-to-asset ratio (of 0.0003), financial leverage ratio (of 1.1184), debt structure ratio (near to 0), and net debt to EBITDA ratio (of –15.9798) were computed for 2019 (see Appendix 10 below). The solvency ratios allow the examination of the company's ability to meet its long-term debt obligations (Fuhrmann 2019).

With these numbers, one can affirm that the solvency of DP is extremely high. Not only the amount of debt is especially low, but the long-term debt is also inexistent. Once again this leads to the conclusion DP is financially healthy and stable.

From an **efficiency** point of view, the ratios total assets turnover (of 0.61), fixed assets turnover (of 2.91), inventory turnover (of 5.13), days to sell inventory (of 130), average collection period, average payment period (of 100), and cash conversion cycle (of 222) were computed for 2019 (see Appendix 11 below). These efficiency ratios help to identify how well the company uses its assets and liabilities internally.

According to the numbers reached, it is possible to conclude that in terms of asset efficiency DP is similar to the overall industry (Kenton 2020). Nonetheless, the days to sell inventories and to collect from clients are much higher than industry averages (see Appendix 12 below). This can present a disadvantage in the case DP faces financial difficulties given the high cash conversion cycle. By improving the inventory turnover, DP would be able to increase the

efficiency of its operations and consequently solve the problems related to the company's efficiency.

To access the **risk** of DP's operations, the ratios breakeven point (of 3521657), the margin of safety (of 41%), degree of operational leverage (of 17.65), degree of financial leverage (of 1), tax burden (0.77), and degree of combined leverage (of 17.65) were computed for 2019 (see Appendix 13 below).

Thus, one can affirm that DP does not face high risks. Not only, it has a good margin of safety to pay its liabilities with the sales from operations, but also the tax burden is following the industry average. Nonetheless, DP shows to have an operational income quite sensitive to changes in sales given that a 1% change in sales will result in a 17.65% in the EBIT. Taking this into consideration, and to avoid future operational risks, DP must endeavour to maintain the level of sales as stable as possible.

To conclude the ratios analysis, the **profitability** of DP in 2019 was evaluated (see Appendix 14 below). DP's gross margin ratio of 46.11% is higher than the industry average (19.3%), which can represent a competitive advantage for the company. A return on sales ratio of 2.61% means that for each euro of revenue there are 0.026 euros of profit being produced, which is lower than the industry average (6.4%). The return on assets ratio is 1.60%, lower than the industry average (7.5%). The return on equity is 1.39% which means that for every 100 euros of equity invested, the company produces 1.39 euros of profit. This is also slightly lower than the industry average (12.6%), making it difficult for DP to gather investors.

After having grasped the financial statements and ratios of DP it is possible to conclude that it is **financially healthy** in what respects to liquidity, solvency, and risk perspectives. Nonetheless, the company has **numerous possibilities to grow**, not only by making its

operations more efficient but mostly by starting to implement a clear proactive strategy to take advantage of the market opportunities.

As a final remark, it is extremely important to take into consideration the **COVID-19 impact** on the financials. The analysis was based on financial statements from 2019 that do not show the influence of the pandemic. With the cooperation of DP, it was possible to start retrieving information from the ongoing operations and conclude that, as expected, COVID-19 is having a direct impact on its operations and sales during 2020. As a matter of fact, given DP's focus on high-end product offerings it is expected that the purchase decision of such products will be delayed. The recent lockdown resulted in salary cuts, an increase in unemployment, and a general decrease in the population's disposable income which explains DP's lower demand.

2.2 Customers Analysis

2.2.1 International Client Base

In 2019, DP was present in 47 different countries and **83.8% of its products were exported.** With total sales of €6.12 m, €3.52 m were sold to **European countries** which in relative terms represents 57.46% of its sales. The **Asian continent** represents 29.69% of sales, **North America** 9.19%, and **Oceania** 2.84%. When considering sales on a country level, the United Kingdom (26.64%), China (18.51%), and Portugal (16.6%) are DP's 3 top buyers in 2019 and 2018 (see Appendix 23 below**)**.

DP's client list has 576 different clients, the biggest being a reseller of natural stone to European countries in the United Kingdom. Portugal has by far the biggest representation with 368 different clients that together account for €1.02 m of sales. The United States and the United Kingdom occupy second and third place, with 31 and 28 clients respectively (see Appendix 25 below). Clients are mostly enterprises in the natural stone, construction, and architecture market. Please note these architect companies mentioned are construction companies that also

do architectural projects. (Architect and Design companies *per se* are not the main focus of DP as they do not buy stone but simply prescribe alternatives to their clients) In Portugal is also possible to find some individuals as clients that buy smaller quantities.

2.2.2 Client Distribution and Profitability Assessment

The group further analysed the **transactions of DP's subsidiary (DP.1) from 2015 to 2019**. Results of this analysis may be found in Appendixes 28 below, 29 below, 30 below. Moreover, to access the average volume of transactions, the average price per square meter was assumed at 24.04€. Over the past five years, DP.1 registered total revenue of 4 055 371.49€ by serving 661 clients which can be further divided into five identifiable categories: Architect Companies, Construction Companies, Individuals, Marble Suppliers, Wholesalers & Retailers.

Marble Suppliers accounted for 45% of total sales over the last five years. This category brought the biggest average revenue per transaction (6 968.90€) and volume (290m²). Individuals accounted for 30% of total sales during this period. Although this category is represented by a robust number of clients (222), their purchases are lower in average value (5 397.90€) and volume (225m²).

Construction Companies, on the other hand, accounted for only 14% of total revenue. However, the category represented a lower number of clients (87), with a higher average value per transaction (6 530.31€) and volume (272m²). Architect Companies represented 6% of total sales. On average, these 42 clients carried out purchases of 6 163.80€ accounting for 256m² of stone.

Wholesalers and Retailers were the weakest categories, representing only 3% of total sales. DP.1 served 31 clients of this category who realized purchases of 3 312.79€ and 138m² per transaction. Finally, DP.1 transacted with 20 unidentified clients on a total value of 122

379.59€. These clients amounted to an average revenue per transaction of 6 118.98€ and an average of 225m².

2.2.3 Clients' Needs Assessment

To better understand how each client type values DP's products Clients' Needs were assessed (see Appendix 31 below). Client Categories were evaluated based on six product features: **Quality of raw material**; **Price**; **Durability**; **Flexibility in cuts, shapes, and finishes**; **Trendiness**; and **Role**. Moreover, DP's response to clients' needs was also assessed based on the same product features. Although the company serves Marble Suppliers, they are both clients and competitors. As such, this category was not included in the following analysis.

Individual clients are in contact with DP either directly or through a distribution channel, such as wholesalers, architecture and design companies, or construction companies. These clients are looking for a one-time interaction with the company, and to apply stone in a renovating project. As such, flexibility in cuts, shapes, and finishes are highly valued. The products purchased by these customers include tiles, cut-to-size products.

Individuals are attracted by high-quality stones for their luxurious appearance, nevertheless, they need intermediaries to fully understand the nature and related price of each type of stone. Although cost-driven, individuals are willing to pay higher prices for the status provided by luxurious products, being highly influenced by trends and intermediaries.

Due to the nature of their business, **Construction Companies** are very important demand drivers of cut-to-size projects. Their projects are usually big and as such their purchases represent high volumes in money and quantity of stone. It is important to note that Architecture and Design companies are active participants in the decision process of Construction companies, by recommending them on types of stone that best fit their projects. Moreover, Architecture companies are trend creators shaping design guidelines of construction projects.

Nonetheless, the price sensitivity of construction companies is highly dependent on the budget set by their clients for the project.

Quality, durability, and flexibility in cuts, shapes, and finishes are highly valued by these companies since they influence the applicability of stone to their projects, and maintenance services to their customers represent additional costs.

Architecture and Design Companies play a very important role as prescribers of DP's products, by suggesting to construction companies a particular type of material for their projects. Due to the nature of their business, architecture and design companies possess a deep understanding of products' features and are attracted by high-quality materials. These companies influence the global trendiness of types of stone, and the flexibility in cuts, shapes, and finishes is fundamental as it enables them to fully express their creativity.

Durability is a highly valued feature as some of these companies offer maintenance services to their customers. By recognizing and valuing product quality, architecture and design companies have a high willingness to pay.

Wholesalers and Retailer's customers look for diverse pricing options, as such these clients value the availability of products with different price and quality options. Moreover, wholesalers are price-driven shifting between stone suppliers according to their pricing deals.

These clients sell standardizable products, as such, they do not value flexibility in cuts, shapes, and finishes as much as other customers, looking to purchase various stone types of tiles. Furthermore, trendiness is not as valued as the variety of stones by these clients.

To answer its' clients' needs **DP offers** high-quality stone with distinguishable cuts, shapes, and finishes which meet every possible need. Due to the high quality of raw material used the products supplied by the company do not need a lot of maintenance. Furthermore, the company has developed a wide stone portfolio and supplier network through its decades of experience,

being therefore able to anticipate and respond to the latest and future trends as well as to provide its client's products with different price ranges which can accommodate their budgets.

2.3 Competitors Analysis

2.3.1 Country Competitors

There are two types of competitors: companies that started by being quarries and later started CSF stone to sell directly to the end customers; and companies such as DP that are specialized in the CSF stone, but do not operate a quarry of their own.

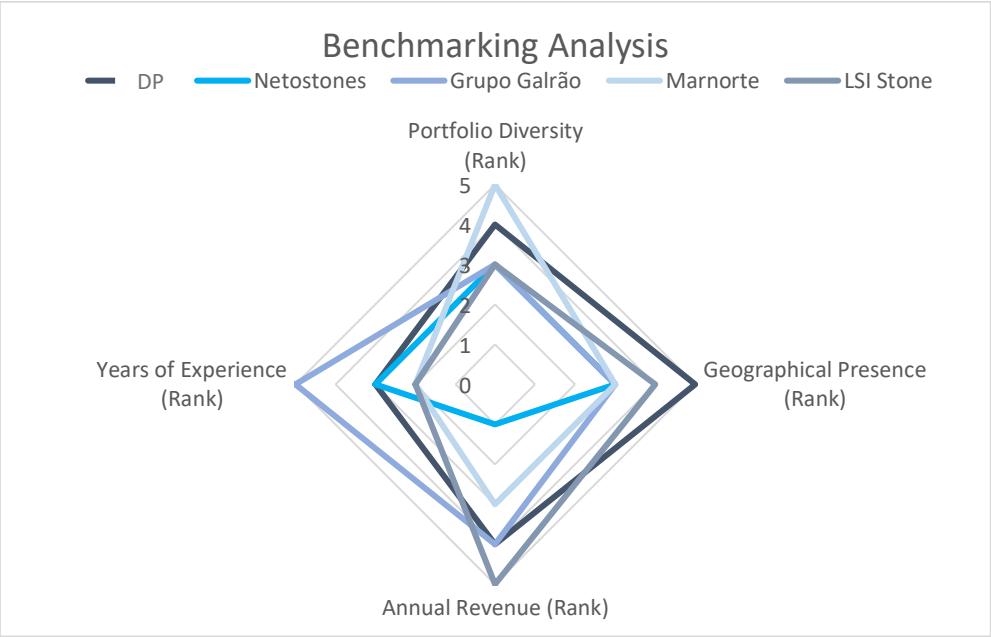
For the **first category**, it is possible to identify enterprises such as Solansis, MVC, Pedra Moca, or Grupo Galrão. For instance, Grupo Galrão (Grupo Galrão 2021) has currently a production capacity of over 7000m³ with more than twelve different hues and marble colours. By having quarries of their own, these players can offer competitive prices due to higher control over the initial stages of the supply chain, which translates in lower raw material costs. Moreover, they can easily answer to high volume orders, usually offered by the government and big construction companies.

The **second category** of competitors is national and international players that buy raw material directly from quarries all over the world. In most cases, these companies cannot compete on prices as they do not own quarries and are unable to take advantage of economies of scale, which forces them to build advantages on other characteristics. These players' experience allows them to increase price (and thus profit margin) since they add value by minimizing waste risk. Players within this category, as DP and Netostones (Netostones s.d.), usually work in lower-scale projects with medium construction companies and individual clients.

2.3.2 Benchmark Analysis

To help define the competitive landscape of the Portuguese Natural Stone industry a benchmarking analysis was conducted. By comparing DP with four of its main direct competitors in Portugal it was possible to identify its positioning and competitive advantages in the market.

The four companies to which a benchmarking analysis was performed were Netostones, Grupo Galrão, Marnorte (Marnorte 2020), and LSI Stone (LSI Stone 2020). The variables selected to measure companies were stone portfolio diversity, geographical presence, annual revenue, and years of experience.



In terms of geographical presence, DP is the one with the highest international footprint. Nonetheless, in terms of portfolio diversity, Marnorte has the widest offer with more than 200 different types of stones. Regarding the annual revenue, LSI Stone takes the lead with €8.02 m in 2019. The last variable analysed was years of experience where Grupo Galrão has the highest score given its 65 years of experience since its foundation in 1955.

2.3.3 International Competitors

The natural stone market is very competitive and after the massive entry of new players such as Turkey and China in the early ’80s, the industry is now stabilizing and maturing. In terms of the most prominent regions, Asia holds a dominant position, having a market share of more than 34% (Allied Market Research 2021). Countries such as India, China, Malaysia, and Indonesia are the main players of this region.

Following the Asian markets, the most prominent region is North America. The dominant player in this region is the US with €2 643 m in production turnover. The European region is also very important in this industry with countries such as Italy, Spain, and Greece that before the entry of developing countries used to be the market leaders.

To face the increase in global competition, key players in the market have been trying to adopt strategies that have a great impact on the industry. These decisions may influence other players in the market such as mergers and acquisitions, priming for access to a new type of stones with higher demand. An example of this situation is when Polycor INC merged (Polycor Inc. 2018) in October 2018 with the Indiana Limestone company. Nonetheless, there are other strategies that natural stone players have been implementing to increase their customer bases, such as showrooms and galleries.

The main worldwide players and competitors are listed below (Market Watch s.d.).

Polycor Inc	Founded in Quebec in 1987, it is the world’s leading natural stone quarrier with over 50 quarries, 1200 employees and 18 manufacturing plants around the world (Polycor Inc. 2018).
Levantina	Founded in Spain in 1959, it is considered a world reference in the field of Natural Stone and a pioneer in the large-format porcelain tiles and fine thickness, Techlam (Levantina: The Natural Stone Company 2021).
Dermitzakis	Founded in Greece in 1990, it is one of the most successful companies in the marble sector with a strong orientation to international markets, with 85% of its sales being exported to more than 81 countries (Dermitzakis 2020).
Xishi Group	Founded in 1990, it has become one of the biggest exporters of stone. It is one of the main players in China, has a total area of 350,000m^2 and more than 1500 employees (Xishi Group 2021).

Antolini	Founded in Verona in 1956, this Italian natural stone company has grown to include new quarries around the world to extend their offer in types of stones, and it has been at the forefront of developments in natural stone processing and new technologies (Antolini s.d.).

Other international Players:

Temmer Marble	Etgran	Xishi Group
Tekma	Amso International	Jin Long Run Yu
Pakistan Onyx Marble	Universal Marble & Granite	Xinpengfei Industry
Dimpomar	Best Cheer Stone Group	Jinbo Construction Group
Mumal Marbles	Fujian Fengshan Stone Group	Fujian Dongsheng Stone
Can Simsekler Construction	Xiamen Wanlistone stock	Guanghui
Mármoles Marín S.A.	Kangli Stone Group	
Aurangzeb Marble Industry	Hongfa	

3 Macroeconomic Analysis

3.1 PESTEL Analysis

Political: The Republic of Portugal has an executive president who is elected by universal suffrage for a renewable term of five years and appoints the prime minister. Legislative authority is vested in the unicameral Assembly of the Republic, whose 230 members are elected by universal suffrage to serve four-year terms. Currently, the Socialist Party leads a minority government.

Portugal is still affected by high levels of private and public debt, weak bank profitability, limited access of corporations to credit, high levels of unemployment, and bottlenecks in key industries. Moreover, the budget deficit equalled 0.2% in 2019 and in 2020 the deficit is expected to reach 7.1% of GDP, as a result of COVID-19 related spending, and lower revenue caused by the slowdown in economic activity. Public debt grew to €247.451 m in 2019, equivalent to 117% of GDP, but is projected to decline to around 103% of GDP by 2023. In 2019, government expenditure on social security and welfare absorbed 39.4% of the total, followed by expenditure on general public services (16.8%) (Passport).

Economical: The Portuguese economy is experiencing a steep recession in 2020. Real GDP will fall by 9.2% in 2020 after gains of 2.2% in 2019. Real GDP in quarter-on-quarter terms fell by 3.9% in the first quarter of 2020 in seasonally adjusted terms, and by 13.9% in the second quarter, as a result of the COVID-19 crisis.

The Portuguese economy is mainly driven by the service sector that represents 74% of GDP. However, the sector has been hard-hit by measures to contain the pandemic. On the other hand, the share of agriculture in GDP has been falling for several decades. The sector employs 5.7% of the workforce and Portuguese farmers are the poorest in the EU.

Tourism accounts for roughly 10% of employment. Yet foreign tourism, which accounted for 52% of Portugal's exports of services in 2019, plunged by more than 90% in the second quarter of 2020. The real value of inbound tourism and business travel receipts rose by 8.7% in 2019 and since tourism was the hardest hit sector by the pandemic, a fall of 42.7% is expected in 2020.

In the banking sector, capital ratios have increased while the stock of non-performing loans has fallen. Nevertheless, banks continue to struggle owing to the large debts of the corporate sector. Access to credit continues to be difficult for small and medium-sized enterprises and start-ups. Manufacturing makes up 14.9% of GDP and employs 18.1% of the workforce. In the past, the country’s manufacturers have survived on account of low wages. However, industries such as clothing and footwear increasingly face stiff competition from Asian countries where wages are lower.

Exports account for a modest but growing proportion of GDP. In 2019, the share of exports in GDP was 28.1%. The real value of private final consumption rose by 2.4% in 2019 and a fall of 7.7% is expected in 2020. Consumer spending is being delayed by the measures in place to contain COVID-19 but should recover in 2021 (Passport).

Social: The Portuguese population was 10.8 million in 2019. The total number has been gradually rising but is expected to decline in the future. By 2030, the population will be down to 9.9 million. The median age was 45.2 years in 2019 – slightly higher than the regional average. By 2030, this indicator will reach 49.4 years, the highest in Western Europe (World Bank).

Fertility has fallen to just 1.4 births per female in 2019 – well below both the replacement level and the regional average. As a result, people older than 65 years are expected to account for almost 27% of the total population by 2030. With fewer workers and taxpayers being born, the Portuguese could face accelerated fiscal pressure to provide for their ageing population.

Savings amounted to 7.1% of disposable income in 2019 and the ratio will increase to 7.2% in 2020. Consumer expenditure per capita was 14 124€ in 2019. In 2020, the indicator will fall by 8.2% in real terms. Health goods and medical services will be the fastest-growing consumer category in 2020-2030 followed by housing.

Technological: The actual economic and start-up ecosystem in Portugal has created great potential in the industries of Information and Communications Technology. As a result, in the last few years, Portugal has been gaining a good position worldwide concerning the ICT development index.

Moreover, Portugal has been the nest for some high-tech innovations: examples are the Multibanco network, one of the most sophisticated banking networks in the world; Via Verde, the first closed system of automatic highway tolls in the world; and the Pre-Paid Mobile Phones. Portugal is also one of the European countries with the highest FTTH penetration, all 46% of households, and has been at the forefront of the 3G and 4G infrastructure investment (Passport). From financial services to software, hardware, and telecommunications, Portuguese companies have achieved a high level of excellence and international recognition.

Environmental: The principal environmental agencies in Portugal include the Ministry of Quality of Life and the Office of the Secretary of State for the Environment. Air and water pollution are significant environmental problems, especially in Portugal's urban centres. The nation's water supply, especially in coastal areas, is threatened by pollutants from the oil and cellulose industries. Portugal has 37 cubic kilometres of renewable water, of which 53% is used to support farming and 40% is for industrial activity. In total, the nation's cities produce an average of 2.6 million tons of solid waste. The nation's wildlife and agricultural activities are threatened by erosion and desertification of the land.

Legal: Portugal has a code-based civil law justice system, and its judiciary is divided between civil and administrative courts. The civil courts are structured in a hierarchy. The lowest level civil court is the District Court (the *Tribunal Judicial de Comarca*), which is subordinate to the Appellate Court (the *Tribunal da Relação*), which is subordinate to the Superior Court of Justice (the *Superior Tribunal de Justiça*). In 2019 Portugal ranked 30th (out of 180 countries) for transparency, according to the Corruption Perception Index, with a score of 62/100.

In the last few years, **new legislation** was introduced by the Portuguese government enabling people who worked at quarries and warehouses for more than 30 years to retire early. Consequently, DP has lost some of its more experienced workers and, as a result, decided to shut down its last operative quarry.

3.2 Covid-19 Implications

The Covid-19 pandemic has impacted almost every industry and the extent of this disruption is still unknown. The construction materials industry where the natural stones are integrated is no exception. Throughout the value chain, substantial changes were identified.

In the quarries, due to lockdowns the production had to **be shut down** until orders from the governments indicated otherwise. By being closed for several months, the production suffered

a decrease of approximately 42% (McKinsey & Company s.d.). Transportation and infrastructure-related companies also had to close or delay their deliveries leading to an estimated increase in operational costs of approximately 16% (McKinsey & Company s.d.).

The COVID-19 crisis also had a very noticeable impact on family incomes, whose **purchasing power has been decreasing**. However, as a response to the COVID-19 crisis, about 750 000 employees benefited from various temporary forms of state support. Consequently, the unemployment rate increased only moderately from 6.5% in 2019 to around 7.4% in 2020 (King 2020). Many of the job cuts are likely to be temporary, but the expected slow recovery in tourism and related services is likely to harm labour demand over a longer period.

With expectations of a near-future crisis, both supply and demand have been experiencing major **disruptions in final product deliv**ery, mainly due to a reduction in demand and downstream consumption. To adapt to this new reality, companies within the construction materials industry have been reducing their planned production for 2020 by about 30% (McKinsey & Company s.d.). Also, companies have been **cancelling or delaying investments** such as expansions to avoid an increase in capital costs.

4 CSF Industry Analysis

4.1 CSF Industry Overview

In this industry, there are players focused on the discovery and exploration of the natural stone, others more focused on the processing of the natural stone, as well as players focused on both ends of the supply chain.

As a natural resource, the stone has various characteristics such as durability, rigidity, lifespan, and corrosion resistance, cracking, peeling, and chipping. All these characteristics have made the product ideal for various uses, such as kitchen counters, decoration, paving, landscaping, roofing, among others. Furthermore, it is attractive for its usefulness, comfort, and trendiness.

Natural Resources do not present themselves in the same shapes and forms. In the case of natural stones, blocks present different vein patterns, and the amount of waste from one to another may also change (from 30% waste to 80%). As such, knowledge is key to convey the most profitability possible out of the natural resource and to reduce the risk of incurring additional costs.

The industry tends to **fluctuate alongside the purchasing power** of customers. Furthermore, although some types of stone have a stable long-term demand such as black granites, white crystalline marbles, beige limestones (Grand View Research 2020), others fluctuate alongside design trends and geographical areas. The regulation applied by the governments regarding the exploration of natural resources comes to affect the profitability of the industry.

4.1.1 Market Valuation

The global natural stone market size was valued at approximately **€28.61 bn in 2018** and was projected to grow at a CAGR of **3.9%** (Covid-19 was not taken into account in this prevision) (Allied Market Research 2019).

The natural stone industry is about 5-7% the size of the ceramic industry, making it in comparison a niche market. Moreover, according to Anil Taneja (Taneja 2019), director of the World Natural Stone Association, the industry in the last decades has lost most of its profitability and needs to reinvent itself. For him, the key topics to address are the significant changes in marketing and promotion, with the increasing presence of social media and the digital world; the new role of designers that need to develop new attractive products, blending tradition with modernity; and, finally, the high presence of wastage and how to recycle them.

4.1.2 Trends & Forecast

Starting with **trends**, the market has been majorly driven by infrastructure construction activities, which include building roads, bridges, airports, power plants, and notably highway & road projects. However, in the last years, there has been an increase in the need for **residential & commercial** infrastructure setup, and in 2019 the residential application segment led the market and accounted for more than 56% of the global revenue share in 2019 (GlobeNewswire s.d.).

Major companies are adopting marketing strategies, such as **M&A and partnerships**, to strengthen their market positions, as well as increasing their geographic presence to gain a competitive advantage.

The newest trend in the natural stone industry is the pursuit of finished products with a **higher added value**, **eco-sustainable**, and with a **low environmental impact** throughout the entire life cycle of products. Nevertheless, only a few companies have specialized departments in R&D for the design and creation of new products.

Manufacturers are also integrating themselves with graphic studios that aid in the development of new graphics to produce more aesthetically appealing stone slabs. During 2018 **quartz and porcelain** took away a major share in many markets around the world. In the US where quartz and new alternative materials have met with the biggest success, but they have also replaced natural stone in many other high-income countries. Nevertheless, granite, marble and stone are forecast to grow at over 3.5% and reach a market size of 23 trillion metric tons (Globe Newswire s.d.).

In a survey conducted by the *Clear Seas Research Department at BNP Media* (Richinelli 2019), where they polled fabricators from diverse-sized shops based throughout the U.S., 31% of the polled producers reported aggregate sales increases of 10% or more in 2019. Sales were up 5

to 10% for another 31% of producers in 2019, while only 10% of producers report that their sales were up less than 5%.

Even with the increase in sales, fabricators were planning to have more spending cuts compared to years past. The most mentioned areas were marketing (32%), stock (32%), equipment (32%), personnel (26%), facilities (24%), warehousing (21%) and showroom (18%) (see Appendix 17 below).

Regarding the **forecast**, as explained before, "the global natural stone slab market size was valued at €28.69 bn in 2018 and is expected to grow at a compound annual growth rate (CAGR) of 3.5% from 2020 to 2027" (Allied Market Research 2019). Urbanization has increased considerably over the last decade and is anticipated to continue to increase during the forecast period, which is expected to offer lucrative growth opportunities for the natural stone market growth.

The urban population growth is concentrated in **emerging economies** of the world, which makes natural stones crucial, as these regions witness significant infrastructural development. This expansion of the residential and commercial construction sectors coupled with the increasing restructuring activities across the globe is anticipated to benefit the market growth. Moreover, the increasing demand for the product in the construction of arches, walls, dams, abutments, and other structures is anticipated to also promote the market. In addition, properties, such as superior strength, high functionality, and durability, offered by natural stone slabs are likely to further propel the industry growth.

In 2019, **the Asia Pacific** dominated the market and accounted for over 36% of the global revenue (Grand View Research 2020). The region is expected to retain its dominant position registering the fastest growth rate over the next years. This growth can be attributed to the rapid expansion of the residential and non-residential construction sectors. Besides, increasing

spending capacity among the individuals in economies like China, but also India, South Korea, Indonesia, and others, is likely to drive the construction sector, thereby supporting industry growth.

At the same time, the increasing rehabilitation activities of the existing infrastructures in developed economies like the U.S., Germany, the U.K., Spain, and several others are also fueling the industry growth. Besides, in the **developed countries** the increasing average age of the houses is likely to propel the demand for renovations, thereby benefiting the industry growth.

In the *BNP Media* survey mentioned before, 82% of the respondents expect business to continue to grow over the next 5 to 10 years by an average of 24% (see Appendix 18 below). They believe that the stone market sales revenue will continue to increase in the future due to the increase in demand for the product. "People are building more custom homes and using real stone instead of laminate or other products," said one fabricator. "There has been a demand in natural products – especially for aesthetic finishes," said another person.

4.2 Porter's Five Forces

Porter's Five Forces is a business analysis model created by Harvard Business School professor, Michael E. Porter and identifies an industry structure by determining its' weakness and strengths. This model analyses five competitive forces that shape the industry and is extremely useful to give an overall perspective of the market by measuring competition intensity, attractiveness, and profitability of an industry (Investopedia 2020).

An analysis with Porter's Five Forces supports identifying risks and opportunities in the industry. The industry considered is the **CSF Stone worldwide industry**. Note that, by natural stone, it is being referred to the ones that are extracted from the quarry.

4.2.1 Threat of Substitutes

The products are mainly used in commercial construction applications to build stronger, durable, and aesthetically pleasing structures. However, due to the high variety of materials that can work as substitutes (brick, ceramic, glass, plastic, steel, etc.) and the high number of suppliers around the world, the market is saturated with products.

Being the supply higher than the demand, it is easy and cheap to switch between products and suppliers. Fashion trends and prices are the main factors that can influence customers' decision making in choosing the kind of materials.

In the last few years, a new threat has risen. Thanks to technological advancements, artificial stones can emulate all the characteristics of natural stones and are now way more present in the market. The product was introduced in the market as an answer to the demand for more consistency and uniformity in the look of the finished product. Due to their light-weight nature, artificial stones are much easier and less expensive to cut and manage, when compared to real ones.

Finally, thanks to the reduction in wastage and the less impactful process of extraction, artificial stones are more environmentally friendly (Luru 2019). In conclusion, in the natural stone industry, there is a relatively **high** threat from substitutes.

4.2.2 Threat of New entrants

High initial capital investment and compliance with environmental regulations are barriers to entry (IfM- Cambridge University 2020). However, this can be easily offset by low manufacturing costs and the government incentives in developing economies, that have been growing substantially and were complying with environmental law is not a concern (Cosi 2015). With little bureaucracy, little safety legal requirements and low control, the entrance of these

far east countries (e.g. China, India, Taiwan, Indonesia) are forming strong new markets in emerging global economies.

In Southeast Asia, there are two main ongoing trends: existing companies that continue growing and new players entering the market looking for projects both in Asia and around the world.

Many natural stone producers have been expanding their international footprint as a way of gaining market share and broader their product portfolio. Agreements and formal partnerships (e.g. M&A) are facilitating the acquisition of foreign quarries as well as showrooms and galleries increasing international exposure. (Allied Market Research 2020)

Also, new entrants have been taking advantage of product development and R&D, adopting new methods in the exploration and operation of the quarries. While developed countries are using top production technologies to offset their high labour costs, developing economies such as Brazil, China and India have been developing their own manufacturing equipment over the past 20 years. The main outcome is an easy start-up and development of new quarries around the world.

Lastly, many quarries that used to be only a source of raw material are now forward integrating and becoming producers themselves. This new type of entrants benefits from absolute cost advantages and can have lower prices. Concluding, barriers to entry are low and the threat of new entrants is **medium-high**.

4.2.3 Bargaining power of suppliers

In this industry, a supplier is commonly an owner of a quarry that is actively exploring, selling, and trading blocks. Having a wide range of natural stone offerings is an important competitive advantage within this industry. As such, although there is a considerable number of suppliers, an active player within the market who acknowledges the impact of inputs differentiation is expected to have more than one supplier to meet its needs.

Loyalty and having open channels of communication with suppliers are highly valued and characteristic of this industry. Players need to secure a continued supply of both high and low quantities of various types of material. Furthermore, the waste of natural stone blocks can range from 30% to 80% which makes trustworthiness in the supplier and the quality of the delivered block highly important.

There is a high threat of forwarding integration within this industry, and when suppliers start moving throughout the supply chain, they can offer competitive prices when compared with current players.

Finally, one may say players have moderate switching costs. Although companies can easily find new suppliers, building a relationship with them is very consuming. To conclude, we may find **medium-high** supplier power in the CSF stone industry.

4.2.4 Bargaining power of buyers

In the natural stone industry, the number of buyers is limited and big construction wholesalers and construction companies are important players. Their orders represent big quantities, and their value is very high, giving them the power to negotiate prices. The wholesalers have also a unique capacity to control distribution channels and the display of the products which has an important factor in sales.

In addition, given the high number of suppliers and substitute products, the switching costs for the buyers are reduced, representing a threat for natural stone companies that must differentiate in quality while maintaining competitive prices. Given this information, one may classify the bargaining power of buyers in the Natural Stone Industry as **high.**

4.2.5 Competitive Rivalry

This market is highly competitive with numerous competitors such as Polycor Inc (Polycor INC 2020), Margraf and DP. In this specific industry, companies can only differentiate themselves on price or quality.

As aforementioned, there are two types of companies, the ones that began as quarries and started selling directly to end customers or distributors, and the enterprises that rely on quarries to get their raw materials and differentiate themselves through their experience as DP does.

Manufacturers have entered with new generation ceramics in Spain, Italy, India, China, and Turkey. These compete on the same market as natural stone, therefore increasing the market size. Artificial stone can be seen as less elegant than natural stone and even though its' price is similar to that of natural stone, high investments in marketing and technology can lead to increased competition in the forthcoming years.

Brand identity is indeed necessary to remain attractive and differentiate from the other players in the industry. Furthermore, there are little or even no switching costs for the consumers, making the market more competitive as companies need to build real and strong relations to keep their clients' loyalty. To conclude, the intensity of competition in this market is **high**.

Five Porter analysis conclusion: All in all, DP operates in a **competitive industry with many experienced companies.** This makes it unattractive to enter, and it also means that a competitive advantage for incumbents is extremely important. Since buyers generally have high power firms need to be very careful with their customers in order not to lose them.

The biggest problem this industry is facing is the threat of substitutes since the artificial stone demand is growing. The medium-high power of suppliers indicates that to strive in this industry it is necessary to build a strong and lasting relationship with the suppliers. In summary, it is a

tough industry to compete in and companies need a good competitive advantage and a good customer network.

4.3 Key Industry Success Factors

Industry Key Success Factors are the areas of a company carrying critical performance that will make it succeed in the Natural Stone Industry. The following components have been determined as key success factors based on the previous analysis of the CSF industry.

First, it is vital to have specific **knowledge** on stone and its' respective processes, gained through **experience** in the industry. This will allow players to select the best stones to later sell in their companies. Also, it enables to offer clients the most appropriate stones according to the functionalities and purpose they are looking for.

Secondly, an **efficient stone selection** is extremely important to avoid extracting stones with high waste percentages and consequently having to buy more stone. Stone blocks are very costly and usually represent a big chunk of companies' expenses. As such, to be capable of selecting good blocks greatly reduces costs and increases profit.

Likewise, having **efficient operational processes** is also a key industry success factor. This means efficacy in CSF stone through innovative processes, tools and machines enabling fewer timings and defect rates. As a result, companies will be able to cut, shape, and finish the stone and deliver it to clients in less time as well as when compared to competitors they can produce more quantity in less time.

Prosperous contact networks are also crucial in the CSF industry and complement the other mentioned key success factors. This includes having strong and wide supply (e.g. stone quarries) and distribution chain but also a large network of clients. For instance, risk can be diversified through geographically diverse customer bases.

Finally, **product portfolio variety** and **quality control** are two essential factors desired by clients. In this industry, clients enjoy having a wide range of stone alternatives they can evaluate and choose according to their preferences and purposes. Also, customers look for a quality stone with companies responsible for guaranteeing it to them. This implies controlling quality through the several stages of the supply chain they incur in.

5 Country & Firm-Specific Advantages

5.1 Home Country Business Environment - Porter's Diamond

Factor conditions: As a member of the European Union, Portugal can benefit from trade agreements which facilitate imports and exports with other member countries. Moreover, transportation efficiencies are derived from its quality ports and closeness to the Atlantic Ocean. The minimum wage is rather low (€635.00 (Pordata s.d.)) when compared to other European countries. With a high school enrolment in secondary education percentage net (~95% (The World Bank s.d.)), companies may find in Portugal skilled labour at low cost.

When analysing the different lithologies of the Portuguese territory (RTP Ensina s.d.), one may note a wide variety of natural stone. In the North and Centre of Portugal the predominant stones are from a magmatic origin (e.g. Granite) and metamorphic (e.g. schists, marbles, quartzites and gneisses). In the South and Centre of Portugal sedimentary (e.g. such as sands, sandstones, clays, conglomerates, limestones, and marl) and metamorphic stones are more common. In contrast, one may find volcanic stones in the archipelagos of Açores and Madeira, namely basalt. Concluding, the advantages in Portugal are **high**.

Demand conditions: Industry Revenue in Portugal is predicted to reach € 535 919 200 by 2021 and € 540 322 600 by 2023. Furthermore, the industry is expected to grow by 0.45% from 2020 to 2021 (Statista 2017). In comparison, the Industry Revenue in Italy is expected to be € 2 568

240 000 by 2021, € 3 707 531 600 by 2023, and an expected growth rate of 5.88% from 2020 to 2021 (Statista 2017). Thus, the advantage in Portugal is **medium**.

Related and Supporting Industries: Dealing with a natural resource, stone suppliers are dependent on the lithologies of the countries in which they operate. As such, trading of blocks and slabs is very common amongst the players of the industry, ensuring portfolio diversity. Furthermore, tight, and long-term relationships with stone suppliers ensure diminishing waste rates, as well as stable supplies of stone.

Besides, Portuguese associations such as Assimagra (Assimagra s.d.) support Natural Stone companies locally while helping them to internationalize and expand their business through the organization of projects and by sharing their knowledge on the industry. Although associations are quite organized in this industry, the market of natural stone suppliers is saturated, leading to a **medium** advantage of relating and supporting industries.

Firm Strategy, Structure, and Rivalry: As previously discussed, domestic rivalry in this industry is nowadays marked by stone suppliers with quarries which start their own business within the CSF stone industry. In Portugal, the market is at its' maturity, showing high rivalry, which is in turn pushing businesses towards innovation.

DP pursues an international strategy, doing business with various markets. By having a big portfolio, following a differentiation strategy, and offering clients excellence products, the company assures competitive advantages when competing domestically. In conclusion, the advantage in Portugal is **high**.

Government: A share of the European Union Funds was attributed to DP in the value of € 513 260.86 (Total Approved Funding) (Portugal2020 s.d.). This fund will be exercised from 01/09/2019 to 31/08/2021 and aims to support the competitiveness of small and medium companies, ensuring better productivity, intelligent processes, and better exploration of natural

resources. Concluding, the advantages of doing business in this industry in Portugal are **medium**.

Chance: With the Covid-19's pandemic, the Portuguese unemployment rate has increased, and various outcomes are yet to be seen. Nevertheless, according to the last monthly report issued by Assimagra, exports within this industry are close to reaching the point of 2018, representing over €270 m (Assimagra 2020). Hence, the advantage of chance is **medium**.

5.2 Firm-Specific Advantages

5.2.1 Company Resources and Capabilities

Following the work of Grant (2010, 127), first, it is important to grasp the company's resources and capabilities to understand how these relate amongst themselves and result in company competitive advantages. (see Appendix 32 below)

Resources are the assets owned by the company and can be divided into three main categories. DP's tangible resources are cash (along with having a high solvency ratio, an intangible resource), CSF facilities and a stone quarries, truck, containers, other equipment and machinery, and raw materials such as stone and wood. Intangible resources are the internal software and databases, brand name and company reputation, customer trust and loyalty, supply and distribution international networks, and its' culture of a familiar business that maintains close and prolonged relationships with clients. Finally, human resources are employees' skills and experience, along with specific industry know-how. (see Appendix 33 below)

Capabilities of a company are collective skills, abilities, and expertise of an organization necessary to operate and execute the strategy designed itself. DP capabilities start with stone selection, where the best blocks are chosen to avoid waste and provide clients with good quality stone.

Next, it cuts, shapes, resizes and polishes blocks, slabs and tiles, but also packages the stone in homemade wooden boxes, storages and later transports them to the harbor enabling efficient and safe loadings. As so, DP carries material management capabilities and manufacturing capabilities on supply-chain management, production scheduling assembly, quality-control procedures, and inventory control.

Besides, DP is further capable to control stone quality throughout the whole supply chain, from stone extraction to final client delivery. Moreover, the company is able to offer a wide product portfolio with different stone categories from multiple regions. (see Appendix 34 below)

Finally, DP has a clear and strong knowledge of translucency, mechanical properties, vein-matching, and cutting-direction. They also acquired experience in special fabrication processes like Honeycomb, Stork (stone & cork), Ceramic-base.

5.2.2 Company Competitive Advantages

Following the rational set by Grant (2010, 135-138), resources and capabilities will be evaluated on their relevance, scarcity, non-transferability, non-replicability, and durability. If they check the first two criteria, they will give DP a temporary advantage, however, if all criteria apply then sustainable competitive advantaged is granted.

	Relevant	Scarcity	Non-Transferability	Non-Replicability	Durability	Results
Resources						
Cash (high solvency ratio)	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
CSF facilities, Stone quarry	Yes	No	-	-	-	Parity
Equipment and machinery	Yes	No	-	-	-	Parity
Raw materials	Yes	Yes	No	No	Yes	Temporary Competitive Advantage
Internal software and database	Yes	No	-	-	-	Parity
Brand name and reputation	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Customer trust and loyalty	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Vast and Strong International Network	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Culture (close and continued relation with clients)	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Employees' know-how and experience	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Capabilities						
Product Portfolio Variety	Yes	Yes	Yes	No	Yes	Temporary Competitive Advantage
Packaging, storage and transportation	Yes	No	-	-	-	Parity
Efficient operational processes	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Effective stone selection	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Quality control throughout the value chain	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage

Raw materials such as stone and product portfolio variety can allow DP to establish a **temporary competitive advantage** but not sustain it. However, there are sources DP holds that grant **sustainable competitive advantage**.

The company has the right people with diversified skills. Both expertise in natural stones' unique characteristics and special fabrication processes is ensured by experienced craftsmen working there for over 30 years, and by a younger crew working with industry 4.0. This, along with investments made in top technology and machinery, translates into superior efficiency and CSF capacity and answering to clients' requests more accurately through the use of innovative techniques. For instance, DP not only imports but also cuts, shapes, and finishes stone from foreign countries because it is more efficient in it than the countries' companies.

Likewise, with experience to minimize wastage percentages and identify top-quality blocks, DP also benefits from a sustainable competitive advantage in its stone selection processes and ability to control quality throughout all phases of the supply channel.

Strong and vast international networks resulted from 40 years of market presence building credible long-term relationships with stakeholders from all around the world. *Customer trust and loyalty* were gained by following a direct approach with clients where close and lasting relationships are part of its' *culture*. This, together with DP's experience in stone sourcing and CSF, makes it one of the worldwide leading players and well-known brand name in the Natural Stone Business with a *reputation* for high reliability on the quality services it provides. All these aspects give DP a sustainable competitive advantage.

Finally, having a high (asset-based) *solvency ratio* grants a sustainable competitive advantage by increasing the leverage DP has on negotiations with suppliers and customers.

5.2.3 TOWS

Having performed a SWOT analysis (see Appendix 20 below) the team was able to integrate its findings into a TOWS analysis (see Appendix 21 below) to assess comprehensively the external factors and internal factors. These factors helped determined both the competitive position of DP and potential growth for the company.

Using Strengths to maximize opportunities: By using the know-how provided by several years of experience within the industry, DP could engage in R&D initiatives, exploring quarries and developing new partnerships. The know-how would give DP an edge in engaging in R&D initiatives related to the raw material. Although DP is already developing cut-to-size products that use wasted material, other players in the industry are transforming the raw material turning it into partly engineered stone or finding alternative uses for natural stone. With the help of partnerships with universities, DP could distinguish itself from other players and compete in developing markets such as synthetic stone industry.

Moreover, DP's know-how and further learning economies could be a determinant factor in efficiently exploring quarries. The backward integration would allow DP to sell blocks and slabs at competing prices to other companies and have greater control over their costs. Being know-how such a valuable resource in this industry, DP could use it to establish relevant partnerships with construction companies, which would give them more secured prospect sales and financial stability.

Furthermore, the know-how, along with the control of various stages of the supply chain, can help DP to expand its international presence through partnerships and other internationalization strategies, building new access to other markets. Finally, the large range of product portfolio, provided by long and healthy relationships with clients and suppliers abroad, fights companies that are globally threatening the industry.

Using Strengths to Minimize Threats: The competitive advantage of their established and trustworthy business international relations can be used to minimize the threat of engineered stone companies and quarries that have recently started their businesses.

Minimize Weaknesses by Taking Advantages of Opportunities: By working on a clear communication strategy, as well as an acquisition strategy of clients and partners, DP can take advantage of some external opportunities it faces. Firstly, the associations to which DP belongs work as efficient channels of communication with both potential clients, suppliers, and other players within the industry. By establishing a clear strategy to attain customers, DP could make better use of those channels as well as explore new associations that would open new opportunities in different markets.

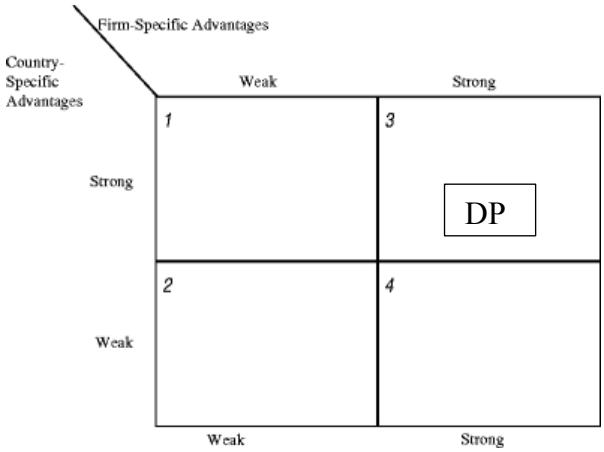
Secondly, by drafting a proper strategy to capture the segments that DP wants to target, the company can profit from having a wider range of clients whom they know how to attract and engage. Thirdly, by working on a communication strategy, DP can take advantage of new partnerships that bring more stable and high-volume sales, ensuring their financial stability.

Minimizing Weaknesses and Avoiding Threats: DP can minimize its' weaknesses and avoid current threats as it is the case of engineered stone companies and quarries that started their own business. By carefully drafting a strategy for communication and capturing clients, DP can position through its' points of differentiation within the market. This would enable the company to distance itself from these threats, fighting for a niche position within the industry. On the other hand, DP can also draft those new strategies in a way to face and compete alongside those players.

5.2.4 FSA-CSA Matrix

As explained before, DP benefits from both firm and country-specific advantages. However, while the firm-specific advantages, thanks to DP's decades of experience and presence on the

market, are strong and established, the country-specific advantages depend mainly on the relevance of the Portuguese stones in the global market. Since the demand for Portuguese marble has risen in recent times, the group decided to collocate DP in the third quadrant however, this position could change towards the fourth quadrant in the future.



6 Global Readiness

6.1 Internal Drivers: Motives to Internationalize

Since its early days, DP has always had an **international vision and presence**. In 1984, DP was already exporting stones for four clients in three different countries. Today, it has projects over the five continents, exporting to more than forty countries. Currently, close to 80% of the sales are made to international customers being the US, China and the United Kingdom their top three international markets (see Appendix 23 below). The remaining 20% are made to Portuguese clients through its DP.1 office. In the past, the percentage was even higher with 90% of the revenues coming from international clients.

DP's supply chain goes beyond the Portuguese quarries with suppliers of stones from fifteen countries. In fact, for DP, building relationships with players from all over the world has always been a key action to **extend its' stone portfolio**, to **find new clients,** and **enter new markets.**

In the last years, natural stone companies as DP have been facing **difficult moments** (see Appendix 17 below) accentuated by the Covid-19 pandemic that caused a delay in multiple projects launchings. The decline in profit registered over the last years depends also on the company's **fewer sales in Portugal**. Hence, DP sees further internalization as a way to offset this situation, believing it will **increase sales and efficiency** by using its factory available production capacity.

However, the change in the management provided by the introduction of a new CEO has pushed the company's strategy even more towards internationalization and has caused a shift in DP's strategy. The company has decided to focus less on finding new partnerships with companies that own quarries to extend their portfolio, and instead, they want to rely on stronger and more comprehensive networks by increasing their partnership with the main actors of the value chain of the construction industry. As a result, DP will be able to rely less on a reactive approach and shift to a more proactive one.

6.2 Global Readiness Assessment

DP has already proved its understanding of customer needs in multiple countries, as shown by the sales in the United Kingdom, China and the US, respectively 26.63%, 18.51% and 8.7% of the total sales. Besides comfortably playing in international markets, it is a financially healthy company. As such, DP is ready to further expand its' international presence worldwide and strengthen resource commitment by adopting new possible entry modes.

Nevertheless, to assure a successful internationalization plan, DP will have to follow a clear path and focus on four groups of capabilities. The first one is "**Leadership and Governance**". DP's new CEO carries a strong leadership that can be seen through the complex changes that she implemented and that were necessary. For instance, a high number of international stones was added to the portfolio, allowing DP to answer to a broader demand for stones. However,

since this change in governance is recent it is key to align stakeholders' minds towards the same goal. This will reduce the risk of losing key partners that could jeopardize the entire process.

The next one is "**Business capabilities**". DP holds powerful technical and production capabilities. As explained before, DP detains a clear and strong understanding of the stone and mechanical properties. At the same time, the company has mastered the main technical skills needed in this industry, as well as owning state-of-the-art machines for the cut, shape and finish of stones.

The third group of capabilities regards "**Organisational and Executional alignment**", where DP is strong. Their primary focus has always been to offer the best product and experience to their customers. DP has succeeded by currently holding close and long-lasting client relationships. Additionally, by guaranteeing the quality of the "Cutting, Shaping and Finishing" of the stone, DP was able to position itself as a strong actor in the market.

Lastly, regarding "**Learning and Agility capabilities**", DP has forty years of experience in the Natural stone market with a strong and experienced board. In every industry, to be a key player for a long time is proof of company agility. To remain competitive against newcomers, a company always have to reassess its knowledge and operational processes.

7 Conclusions and Next Steps

An analysis of the company was conducted to understand DP's product and processes, but most importantly its' **competitive advantages** – employees with know-how and experience; efficient stone selection and CSF processes; quality control throughout the supply channels; Strong and vast international networks; the company culture, brand and reputation, customer trust and loyalty; and a high (asset-based) solvency ratio.

Moreover, drawing its business model allowed a holistic and detailed understanding of each segment of the business it runs. Joining this information with the one obtained from industry analysis hinted at **potential opportunities** DP can take advantage of by using its strengths.

However, some **urgencies** were also highlighted. Despite DP being a main player in the CSF industry, this industry has been suffering changes with the emergence of a new type of suppliers (e.g. ceramic stone) and increased use of mergers and acquisitions to create stronger and powerful companies (e.g. Polycor INC). Therefore, if DP wants to keep its market position and/or increase its presence, further actions must be taken.

Moreover, a saturated domestic market encouraged DP to look for new sources of revenues, namely international markets. In this sense, DP's **internalization readiness** was evaluated and confessed readiness to jump further in the worldwide trade. As such, multiple analyses will be made to find the best country for the internationalization process and the best strategy to enter it.

In the **next steps**, a geographical analysis will evaluate existing countries using qualitative and quantitative variables. The three top countries will be further analyzed through a market in-depth analysis. This consists of searching information on these countries and ranking them according to their attractiveness compared to DP value proposition and maturity.

Having done that, the best country or countries will be chosen, and an entry strategy and marketing plan will be drafted as well as a financial analysis to ensure the project is viable and that it will bring value to DP. For the entry strategy to be successful, the company will have to follow the different steps outlined along with the marketing actions associated.

Part G: Increasing International Footprint of Natural Stone Business – Final Remarks

1 Risk Assessment

The most plausible risks that can result from the internationalization plan, the impact they can have on the plans' success and possible actions that can predict or resolve these risks were identified. The table below illustrates this analysis.

Risk	Description	Suggested Action	Probability	Impact on the Plan
Planning Failures	Difficulty in estimate the time necessary for each phase of the plan.	It is important to define clear objectives in terms of revenues, number of projects and types of stones for strategic alliance to reach before moving to following phase. This way, it will be easier to understand when DP will be ready for each phase.	Medium	Medium
Difficulty in enstablishing contacts in foreign countries	Since in the industry loyalty and contacts are extremely important, the clients tend to stick with their current suppliers. In the beginning DP could have problems in winning the trust of the clients.	Thanks to decades of presence in the business, DP has already some contacts in the target countries. However, to expand their reach it is key to participate to fairs and to contact stone national associations.	Medium	High
Difficulty in finding qualified employees	Along the expansion plan DP will need to hire different new employees, with precise skills. It is possible that the selection problem could require an important amount of time.	It is possible that DP will have some problems in finding qualified personnel, especially for the sales representive in Australia that will need to be fluent in Portuguese. To minimize this possibility, is important to start the recruiting process in the first phase of the expansion plan, in order to have some time flexibility.	Low	High
Inability to find worth Strategic Alliances in Germany	After succeding in Australia, DP could have problems to replicate the same strategy in Germany due to the different maturity of the market.	It is possible that due to the German market being more mature, DP will have more difficult in making strategic alliances with local companies. In this case, DP will need the flexibility to be ready to shift and target other European market that could offer more opportunities.	Medium	Medium
Underestimation of the competitive environment	Due nature of the industry and recent trend for quarries to start working directly on the stones, the market could have a higher degree of competition than expected.	In case the Australian and Germany markets will turn out to be more competitive than expected, DP will need to be ready to offer better conditions in terms of prices and days to pay than the other competitors. Moreover, DP will need to invest in marketing strategies to underline the higher quality of their products.	Medium	High
Financial Risk	If to initiate and sustain the project DP will need a higher investment than planned.	DP, currently, has a really solid financial position. Moreover, the expansion plan will depend mainly on reinvesting profits, so that DP's finances will not be stressed. Nevertheless, DP could always wait before moving from one phase to the next, to delay the expenses; or could change the ratio between equity and debt, and ask for a bigger loan.	Low	Medium

2 Main Limitations

Reaching the end of the internationalization project for DP, it is now possible to get an overview of the limitations underlined in the processes and methodologies executed.

Over the course of the project, the main limitations found were mostly due to the **lack of accurate and reliable information**. This limitation is related to the fact that the natural stone industry is considered very closed regarding information sharing. Looking for data on market size and market shares showed to be difficult at a global level and a country level. Also, finding the prices of the products from companies in the industry was extremely hard if not impossible given the secrecy surrounding the pricing strategies within natural stone companies, as they are

usually set by negotiation. The same limitations were found on information about the geographical footprint of the competitors.

To overcome the lack of information regarding the industry and DP's competitors, several assumptions were created based on data from previous years and by taking advantage of every piece of information gathered. A close relationship with DP was also particularly important when making those assumptions since the knowledge they shred was fundamental to understand the strengths of each hypothesis and assumption made. There are however other actions DP can take to overcome this situation, namely, to buy industry reports available online. However, when doing so it must be careful to only choose reliable sources.

Another limitation found during the process was the **lack of information about the company** due to inexistent or incomplete files. Although DP is in the process of informatization of all internal data, several databases and financial documents were still to be formatted. That led to the creation of extrapolations and assumptions when the information was not available, especially on sales and marketing efforts such as the list of sales breakdowns and the different prices practised by the company within different markets and types of products.

To help overcome this issue in the future, when automatizing its' data files DP should also implement a business intelligence software. By taking advantage of these types of data-driven tools, it will be able to combine the data it has available on multiple sources and analyse the information in a quicker and more visually appealing way. In addition, it will give the ability to analyse market trends, capture opportunities and optimize operations in real-time. This will also lead to the development of new strategies supported by data.

Still regarding DP's data systems, at a financial level, DP is recommended to implement an accounting system that allows for a continuous update of the financial information of the company. This way it will be easier to track the numbers of each operation and consequently

analyze profitability and efficiency. In addition, DP will be able to make its business decision based on financial data such as deciding if a certain type of stone is profitable or should be removed from the portfolio.

3 Recommendations and Future considerations

3.1 General Recommendations

After the implementation of the internationalization project, DP must keep adapting its business model to be successful in an everchanging market. Thus, two recommendation will be presented to help DP preparing for what is coming.

The first recommendation is to do a **continuous evaluation of the market**. To do so, DP must perform regular market analysis, not only at a country level but also globally to capture new market opportunities, threats, and trends. Additionally, DP must pay close attention to the customers in the market, by understanding if their needs are changing and finding ways to tackle them. Surveys, customer analysis and feedback collection should be performed regularly.

The second recommendation is to **keep updating and performing new sensitivity and scenario analysis** to each project DP undertakes. This step is especially important as it identifies the forecasts and assumptions that might incur in more risk to the company. DP should analyze the behaviour of the financial models' most problematic variables and the impact they have on the financial situation of the company. By doing so DP would gather a better understanding of the different scenarios and it would be able to prepare in advance strategies on how to overcome each one of those scenarios. The more prepared DP is, the better it will perform in the future.

3.2 Future Considerations: Given the Failure of the Internationalization Plan

Problem 1: The first problem that could arise in DP's expansion plan is the **failing of the strategic alliances** made with the local companies in Australia and Germany. Particularly, problems as a lack of commitment and few projects from the partners, different cultures and ways of working or mismatched expectations could arise. To prevent these DP must make sure to clarify the objectives and responsibilities with partners during the negotiations phase. It can also set joint KPIs for a clear understanding of the alliance's performance. Since Strategic Alliances are flexible contracts it is usually easy to terminate the relationship if necessary.

Another problem could be to face difficulties in handling partner company's' orders by lacking available production capacity or simply not being able to comply with timings set to produce and ship the products. In this case, DP should try to ensure active communication before and during the development of projects so the partner is aware of all the delays or problems that could emerge in the production.

Problem 2: Secondly, some problems might arise related to the **Sales Branch**. To prevent **discrepancies** with the parent company, DP should organize quarterly meetings with the branch and ensure alignment in objectives, global strategy, as well as in the value proposition.

Transportation inefficiencies might also arise such as late deliveries, missed shipments, or damaged goods. Such problems might damage DP's value proposition and brand reputation. Nevertheless, they might be tackled by re-organizing the contractual terms with transportation companies, doing partnerships with different shipping companies, improving the predictability of future orders by analysing client's history, or even require clients to order with more days in advance.

Furthermore, possible **trusting issues** could be tackled by planning occasional trips for DP's employees to Australia and ensuring personal contact. DP should consider dropping the Sales

Branch if none of the recommendations proves to be successful or changing the entry mode strategy in the case that the delivery standards are not adequate to a specific client segment.

Problem 3: Lastly, DP could find out that the **Australian market is less profitable than expected**. In this scenario, DP should try to re-adapt its strategy, focusing only on the clients and products that bring more revenues and stop selling to the others.

On top of that, DP should also re-analyze the market with the insights they have collected during the time spent in Australia in order to understand if there is the possibility to focus on different types of clients and products, that can have a better market in the country.

Finally, DP should delay the following phases of the expansion plan until the revenues improve or in the worst-case scenario, disinvest from Australia and focus to different countries.

3.3 Future Considerations: Given the Success of the Internationalization Plan

Consideration 1: The strategic alliances and sales representatives aim to increase footprint in Australia to be profitable. Having these two steps successfully launched, DP will move to the **acquisition of the CSF company**. The team gave a preview of the acquisition cost, nevertheless DP will have to execute a "Precedent transaction analysis". Specific information is available on "equity research reports", "Bloomberg", and "M&A Global". Three multiples often used in the evaluation of companies are EV/Revenue, EV/EBITDA, EV/Capital employed. These multiples will give a complete overview of the financial efficiency of the company.

Consideration 2: If the acquisition proves to be successful, DP can further consider **doing business with other Asian countries**. It can think of markets that are attractive to trade stone with such as China, South Korea, Singapore, Japan, New Zealand and Hong Kong. It can also consider geographically close countries, namely Papua New Guinea, Malaysia, Indonesia, Philippines and Vietnam.

To decide which country to choose, DP can follow the analysis done in this project: to gather data on variables that characterize the market's potential (e.g. demand on stone, GDP, etc.) and do a ranking and clustering analysis. If the trend remains, a possibility could be to do strategic alliances with companies in South Korea, a country that has proven to be attractive for DP.

Following the rationale of the entry strategy proposed for Australia, DP can opt by entering these countries through externalization entry modes and then increase resource commitment once market knowledge and experience is gained.

Consideration 3: Provided with a prosperous Internationalization Plan, DP could consider engaging on some of the **identified opportunities**, sustaining the longevity of its competitive advantage. Examples include: Engaging in R&D initiatives, facing the competition of artificial stone; Acquiring a quarry to diversify their product portfolio and control prices; Explore alternative use for their existing quarries; Make use of relationships with local stone associations to secure client and supply networks; Keep increasing its' international footprint and thus its' revenue; Proactively exploring new customer acquisition strategies; and Making more partnerships with clients, securing stable demand for their products.

4 Conclusions

The project was divided into seven different parts. After analyzing, in the first part, the situation analysis of both DP and the CSF Stone industry, it was concluded that the company shows readiness to internationalize.

In the second part, a ranking and clustering analysis was conducted using quantitative and qualitative variables. This highlighted potential countries DP could expand to, the top three being Australia, Germany, and South Korea. Afterwards, a market in-depth analysis on these three evaluated crucial factors to be considered when entering a market: country overview

through Pestel analysis, the intensity of competition, market revenue potential, contacts in the country and entry mode.

The Australian market is the one with the most expected growth in the future both in terms of market size and production turnover. Moreover, since the market is still developing the competition is less severe than the German and South Korean ones. On the other hand, since DP has already a small footprint in Germany, it is plausible that they will have fewer problems in finding clients, thanks to the contacts that they have made in the past. Yet, since the German CSF stone industry is much more mature, DP will need to comply with a higher level of competition. Appendix 36 summarizes the final scores for each country, with Australia, closely followed by Germany, proving to be the best countries to expand to.

Next, an expansion strategy was developed to extend DP's life cycle and guarantee its competitiveness in the CSF industry. DP will do so by raising international demand and revenues once its domestic market is saturated. A two-way entry strategy was then proposed: to first enter the Australian market and then the German one.

This outlines DP should change its approach to demand by embracing a more proactive attitude by going after client and project opportunities. It is also suggested to start engaging in contractual modes to guarantee annual demand levels and have sustainable growth over time. Finally, DP is left with the possibility of creating an Asian hub by extending production to Australia. Following an organic and sustainable path, it will be finally capable to answer demand orders from big countries such as China and South Korea.

A Marketing Plan was suggested with the purpose of optimally and sustainably drive DP's profitability. In that train of thought, several actions were recommended in line with DP's luxurious and premium offerings following proactive customer acquisition and retention strategies.

In the sixth part of the project, a Financial Plan was conducted where the financial viability of the project was analyzed in an operational, investment and financing level. At the end of the analysis, the project showed to be viable and sustainable not only in the short-term but also in a medium, long-term perspective.

To finalize the work, a risk assessment was performed to understand the which were the actions in the implementation plan what imply more risk to DP and its internationalization project. Thus, to complement the risk analysis, limitations, recommendations, and future considerations were presented to help DP minimize risks and maximize its success. The recommendations were separated in 3 parts. The first part contemplated general recommendations for DP, the second part presented considerations and recommendations in the case of specific implementations failures that might happen in the future. The last part presented recommendations and considerations for the future of DP's internationalization project, given the success of its implementation, as it is expected.

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6 Appendixes

Appendix 1. Human Resources Data

Distribution of Human Resources by Level of Training									
Personnel	< = Level 3			Level 4			Level 6		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Men	65	64	58	2	3	3	4	3	3
Women	9	7	10				3	3	3
Total	74	71	68	2	3	3	7	6	6

Personnel	Total		
	2017	2018	2019
Men	71	70	64
Women	12	10	13
Total	83	80	77

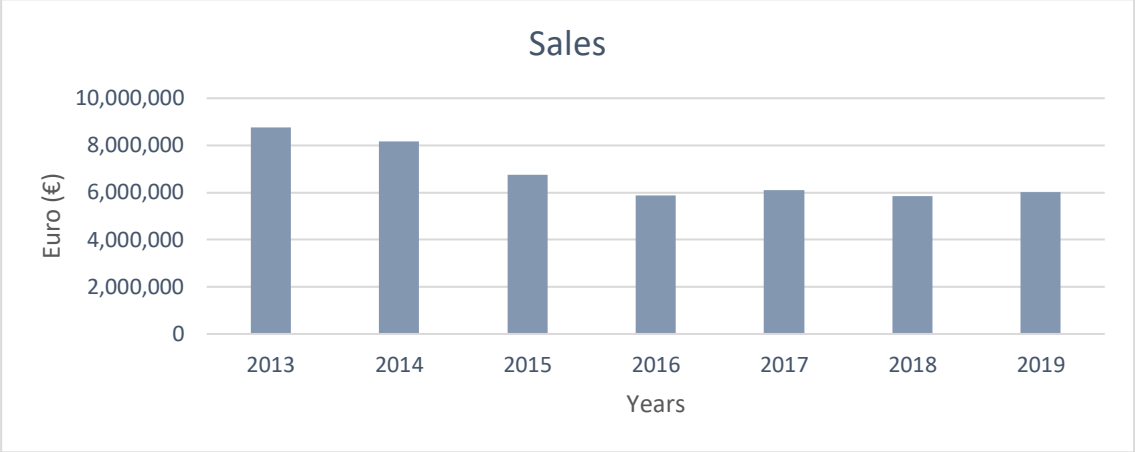
Appendix 2. DP Financial Statements

Profit & Loss Account			
REVENUES AND EXPENSES	Periods		
	2019	2018	2017
Sales	6,018,037.48	5,835,688.25	6,109,894.72
Operating grants	405	3,683.05	3,391.01
Inventories of production change	-129,033.32	-16,420.94	95,086.93
Cost of goods sold (and consumed)	-3,243,296.01	-2,908,955.46	-2,872,750.03
External supplies and services	-1,057,704.36	-1,092,812.13	-1,237,147.82
Employees expenses	-1,623,733.32	-1,644,998.73	-1,656,108.30
Impairment of debts (losses/reversions)	4,012.35	-13,989.99	
Fair value Increase/Decrease	152,392.14	-144,731.05	35,495.86
Other revenues and gains	371,281.66	443,805.20	278,885.76
Other expenses and losses	-35,477.03	-74,164.86	-491,842.19
EBITDA	**456,884.59**	**387,103.34**	**264,905.94**
Expenses/reversions of depreciation and amortisation	-299,717.24	-250,674.52	-284,234.97
EBIT	**157,167.35**	**136,428.82**	**-19,329.03**
			-0.57
Result before taxes	**157,167.35**	**136,428.82**	**-19,329.60**
Income tax for the period	-35,477.69	-34,893.67	-46,045.49
Net result for the period	**121,689.66**	**101,535.15**	**-65,375.09**
			Unit: Euro

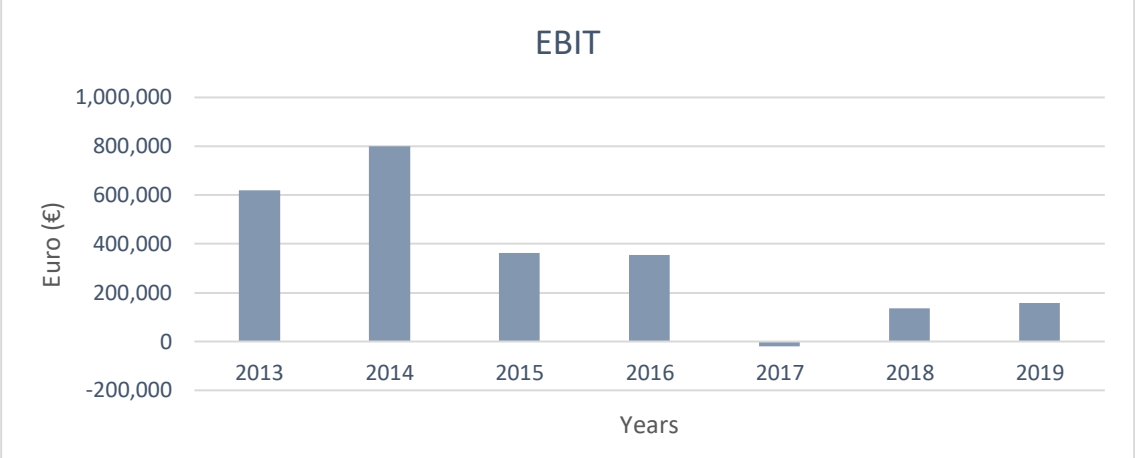
Statement of Cash Flows			
ITEMS	Periods		
	2019	2018	2017
Cash flows from operations			
Cash receipts from customers	5,989,246.53	6,394,703.38	5,962,664.73
Cash paid to suppliers	-4,174,335.05	-4,370,908.05	-4,544,459.25
Cash paid to employees	-1,624,856.59	-1,645,121.18	-1,652,788.43
Cash generated from operations	190,054.89	378,674.15	-234,582.95
Income Tax Payment / Receipt	-68,446.15	22,511.89	-79,876.76
Other receivables/payables	167,156.26	120,640.42	-1,218,190.30
Net Cash Flow from Operations	**288,765.00**	**521,826.46**	**-1,532,650.01**
Cash flows from investing activities			
Cash receipts from			
Tangible fixed assets	-252,843.09	-239,484.67	-173,294.94
Intangible assets		-22,567.16	-65,780.01
Financial Investments		-785.54	
Other assets	-366,285.63		
Cash paid for			
Tangible fixed assets	27,571.00	58,500.00	18,008.94
Financial Investments	7,500.00	7,500.00	6,397.92
Other assets	144	144	
Investment subsidies	29,229.61		
Interest and Similar income	51,160.83	21,681.40	12,157.88
Dividends	17,227.79	20,436.67	
Net Cash Flow from Investing Activities	**-486,295.49**	**-154,575.30**	**-202,510.21**
Cash flows from financing activities:			
Cash paid for			
Repayment of loans	-1,298.58	-3,117.15	-41,588.18
Interest and Similar expenses		-3,339.78	-0.57
Other financing activities		-11,149.98	
Net Cash Flow from Financing Activities	**-1,298.58**	**-17,606.91**	**-41,588.75**
Net Change in Cash and Equivalents	**-198,829.07**	**349,644.25**	**-1,776,748.97**
Effect of Exchange Rate Changes	85,975.99	168,615.18	-431,985.40
Cash at Beginning of Period	2,626,951.31	2,108,691.88	4,317,426.25
Cash at End of Period	2,514,098.23	2,626,951.31	2,108,691.88
			Unit: Euro

Balance Sheet			
ITEMS	Date		
	31/12/2019	31/12/2018	31/12/2017
ASSETS			
Fixed Assets	**2,064,896.07**	**1,779,406.53**	**1,778,218.79**
Tangible fixed assets	1,414,939.90	1,426,976.07	1,520,118.35
Investment properties	456,263.40	91,905.86	93,833.95
Intangible fixed assets	112,940.46	172,566.67	70,728.10
Other financial investments	80,752.31	86,823.93	93,538.39
Deferred taxes assets		1,134.00	
Current Assets	**7,746,973.76**	**8,122,758.27**	**7,905,903.73**
Stocks	1,172,283.35	1,463,069.45	1,462,569.24
Clients	1,678,981.26	1,795,471.98	1,995,863.45
State and other public bodies	72,300.51	149,314.51	94,290.49
Other receivables	435,919.21	282,802.16	148,386.89
Deferred	34,433.98	24,472.44	33,530.64
Financial assets held for trading	1,838,957.22	1,780,676.42	2,062,571.14
Cash and deposits	2,514,098.23	2,626,951.31	2,108,691.88
Total assets	**9,811,869.83**	**9,902,164.80**	**9,684,122.52**
EQUITY			
Subscribed capital	99,759.58	99,759.58	99,759.57
Legal reserves	57,559.46	57,559.46	57,559.46
Other reserves	667,400.75	667,400.75	667,400.75
Transited results	7,562,296.40	7,459,997.10	7,524,608.04
Revaluation surplus	9,934.01	10,698.16	11,462.32
Other equity changes	254,160.15	86,892.22	94,570.65
Net result for the period	121,689.66	101,535.15	-65,375.09
Total Equity	**8,772,800.01**	**8,483,842.42**	**8,389,985.70**
LIABILITIES			
Non-current Liabilities	**76,672.50**	**26,668.44**	**28,466.80**
Deferred tax liabilities	2,884.07	3,105.92	3,327.77
Other debt payables	73,788.43	23,562.52	25,139.03
Current Liabilities	**962,397.32**	**1,391,653.94**	**1,265,670.02**
Suppliers	159,445.57	270,578.26	464,578.79
Advances from clients	406,317.96	660,082.28	434,042.73
State and other public bodies	73,408.88	107,607.34	77,335.12
Current financing obtained	2,590.04	3,888.62	7,005.77
Other current liabilities	320,634.87	349,497.44	279,108.16
Deferred			3,599.45
Total Liabilities	**1,039,069.82**	**1,418,322.38**	**1,294,136.82**
Total Liabilities and Equity	**9,811,869.83**	**9,902,164.80**	**9,684,122.52**
			Unit: Euro

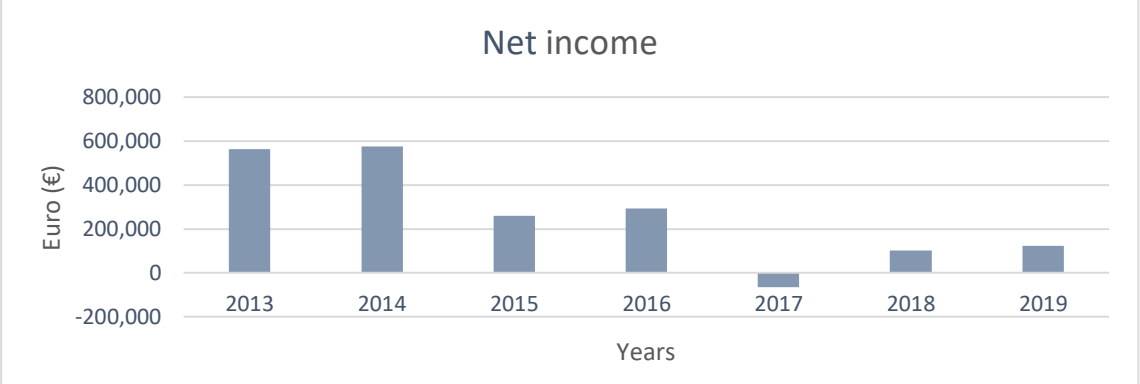
Appendix 3. DP's Sales



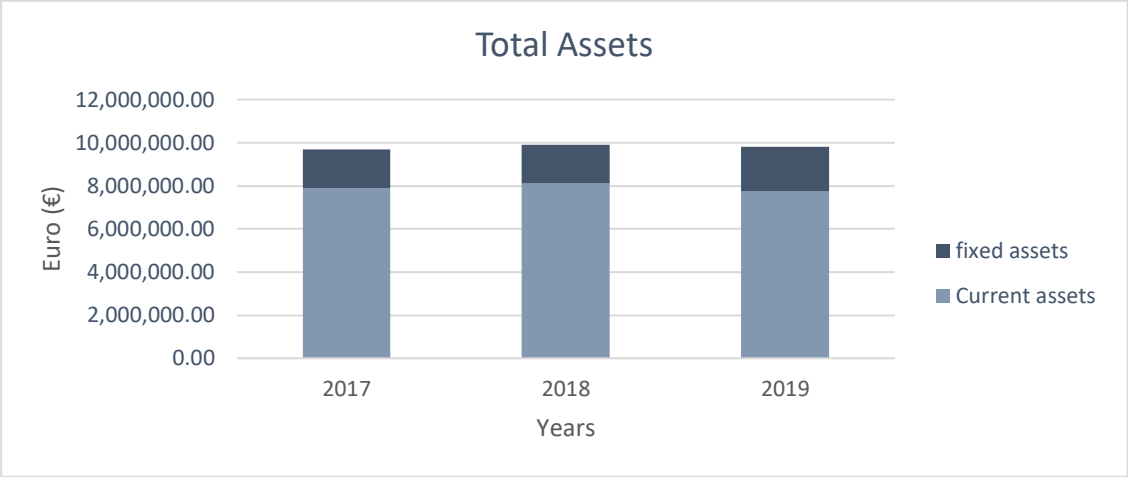
Appendix 4. DP's EBIT



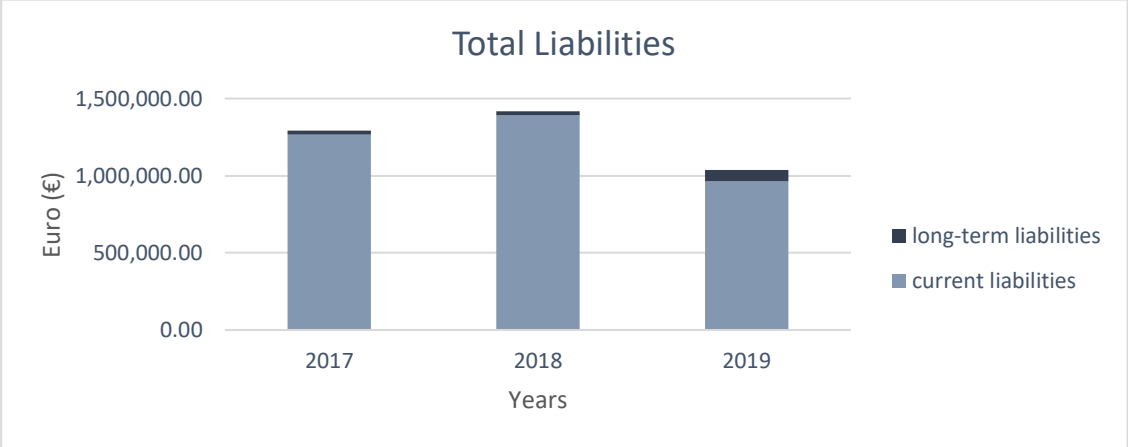
Appendix 5. DP's Net Income



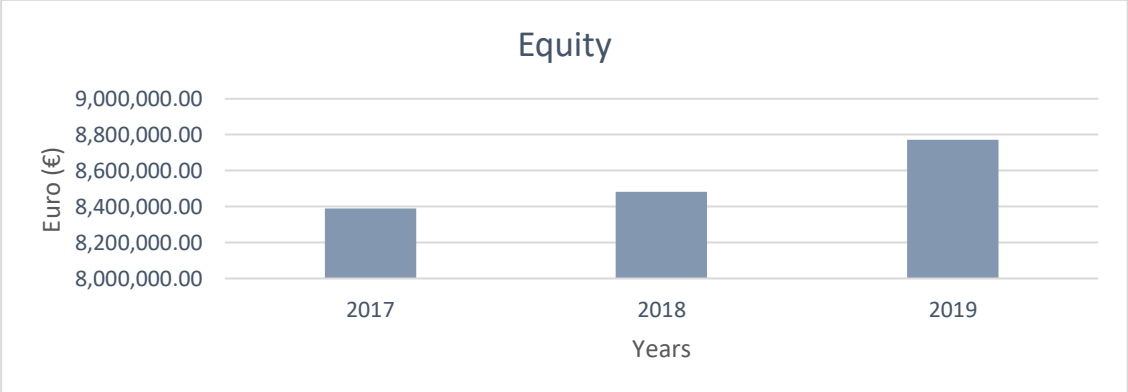
Appendix 6. DP'S Total Assets



Appendix 7. DP's Total Liabilities



Appendix 8. DP's Equity



Appendix 9. DP'S Liquidity ratios

Liquidity ratios 2019	
Current ratio	**8,05**
Current assets	7 746 973,76
Current liabilities	962 397,32
Quick ratio	**6,83**
Current assets	7 746 973,76
Inventories	1 172 283,35
Current liabilities	962 397,32
Cash ratio	**2,61**
Cash	2 514 098,23
Current liabilities	962 397,32
NWC	**6 784 576,44**
Current assets	7 746 973,76
Current liabilities	962 397,32

Appendix 10. DP's Solvency ratios

Solvency ratios 2019	
D/E ratio	0,0003
Total debt	2 590,04
Equity	8 772 800,01
Debt to Assets ratio	0,0003
Total debt	2 590,04
Assets	9 811 869,83
Financial Leverage ratio	1,1184
Assets	9 811 869,83
Equity	8 772 800,01
Net Debt to EBITDA	-15,9798
Total debt	2 590,04
Cash	2 514 098,23
EBITDA	157 167,35
Debt Structure Ratio	0
Long-term debt	0
Total debt	2590,04

Appendix 11. DP's Efficiency Ratios

Efficiency ratios 2019	
Total Assets Turnover	0,61
Total assets	9 811 869,83
Sales	6 018 037,48
Fixed Assets Turnover	2,91
Fixed assets	2 064 896,07
Sales	6 018 037,48
Inventory Turnover	5,13
Sales	6 018 037,48
Inventory	1 172 283,35
Days to Sell Inventory	130,12
Inventory	1 172 283,35
COGS	3 243 296,01
Average Collection Period	100,44
Accounts Receivables	1 678 981,26
Sales	6 018 037,48
Average Payment Period	9,00
Accounts Payable	159 445,57
Purchases	6 377 822,80
Cash conversion cycle	221,56
Days to sell inventory	130,12
Average collection period	100,44
Average payment period	9,00

Appendix 12. Industry Average Ratios (Ready Ratios s.d.)

Industry: 32 - Stone, Clay, Glass, And Concrete Products

Measure of center: median (recommended)

Financial ratio	Year					
	2019	2018	2017	2016	2015	2014
Solvency Ratios						
Debt ratio	0.68	0.54	0.52	0.46	0.61	0.61
Debt-to-equity ratio	1.21	1.02	0.67	0.70	0.80	0.75
Interest coverage ratio	1.80	2.06	2.03	2.92	1.74	2.05
Liquidity Ratios						
Current Ratio	1.99	1.85	1.80	1.75	1.23	1.67
Quick Ratio	1.00	0.96	1.13	1.08	0.77	0.87
Cash Ratio	0.11	0.17	0.19	0.28	0.16	0.30
Profitability Ratios						
Profit margin	2.4%	3.8%	2.6%	3.1%	2.1%	2.9%
ROE (Return on equity), after tax	12.7%	7.3%	4%	8.8%	3%	6.4%
ROA (Return on assets)	7.5%	2.6%	1.9%	3.3%	1.8%	1.4%
Gross margin	19.3%	20.9%	24.5%	25.8%	21.3%	23.3%
Operating margin (Return on sales)	6.4%	6.9%	9.4%	9.4%	5.8%	6.4%
Activity Ratios						
Asset turnover (days)	112	433	440	416	422	375
Receivables turnover (days)	12	38	37	44	47	45
Inventory turnover (days)	17	60	60	45	54	53

Appendix 13. DP's Risk Ratios

Risk Ratios 2019	
Breakeven point	3521657,09
Total fixed costs	1 623 733,32
Gross Profit	2 774 741,47
Sales	6 018 037,48
Margin of safety	0,41
Actual sales	6 018 037,48
Breakeven sales	3 521 657,09
Degree of operational leverage	17,65
Gross profit	2 774 741,47
EBIT	157 167,35
Degree of financial leverage	1,00
EBIT	157 167,35
EBT	157 167,35
Tax burden	0,77
Net Income	121 689,66
EBT	157 167,35
Degree of combined leverage	
DOL	17,65
DFL	1,00

Appendix 14. DP's Profitability Ratios

Profitability Ratios 2019	
Return on Sales	2,61%
EBIT	157 167,35
Sales	6 018 037,48
Return on Assets	1,60%
EBIT	157 167,35
Total Assets	9 811 869,83
Return on Equity	1,39%
Net Income	121 689,66
Equity	8 772 800,01
Gross Margin	46,11%
Sales	6 018 037,48
COGS	3 243 296,01

Appendix 15. Bowman's Strategy Clock

Appendix 16. DP's Business Model

Key Partners

- Stone quarries
- Associations (national and international)
- Transportation companies

Key Activities

- Assure quality throughout value chain
- Stone Selection, Cutting blocks into slabs and tiles, Cut to size projects
- Building relationships with suppliers and clients

Key Resources

- Stone
- Competitive Machinery
- Industry experience and knowledge (C3 employees)
- Client and Supply network

Value Propositions

- High status, attractive stone for clients to build unique spaces
- High quality stone (durability, resistant to corrosion, slip resistant)
- Quality guaranteed through know-how and long experience in the industry (40 years)

Customer Relationships

- Reputation and trust are key
- Prolonged dedicated personal assistance
- Close and continued communication with clients
- Maintain long-term client relationships

Channels

- C3_1 and C3_2 facilities
- International/national events (fairs)
- Word of Mouth
- Website and Social Media (Facebook, LinkedIn, Instagram)
- Newsletter, Magazine

Customer Segments

- Individuals
- Construction companies (some fit under the category of architectures, design, consultants, installation)
- Wholesalers
- Cutting, Shaping and Finishing of Stone companies

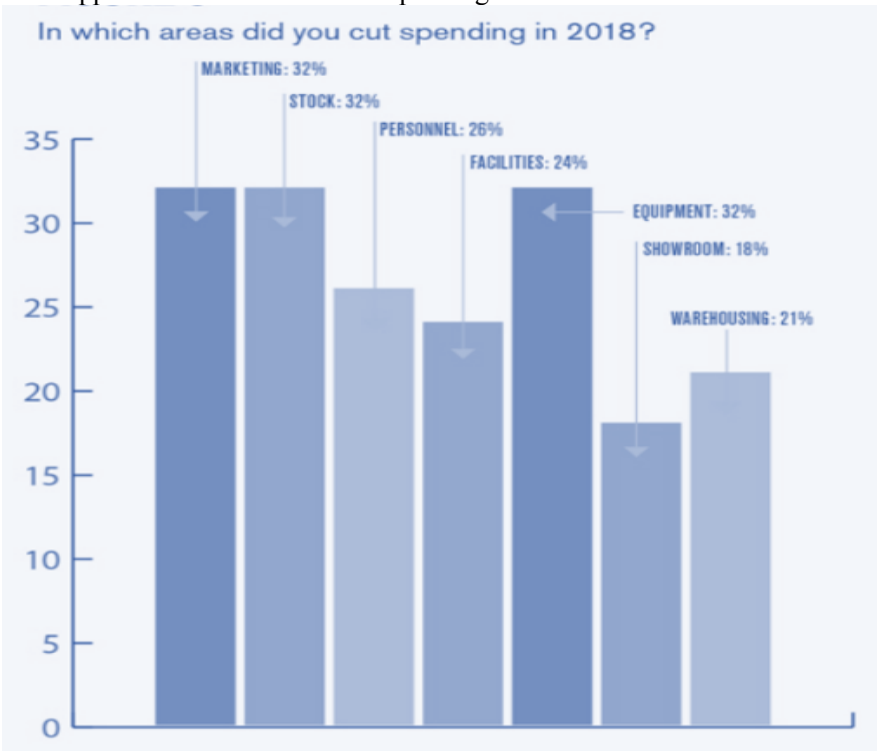
Cost Structure

- Value driven (focused on value creation, premium value proposition)
  - Fixed costs (employees salary, manufacturing facilities, machinery)
  - Variable Costs (raw materials, e.g. stone and wood)

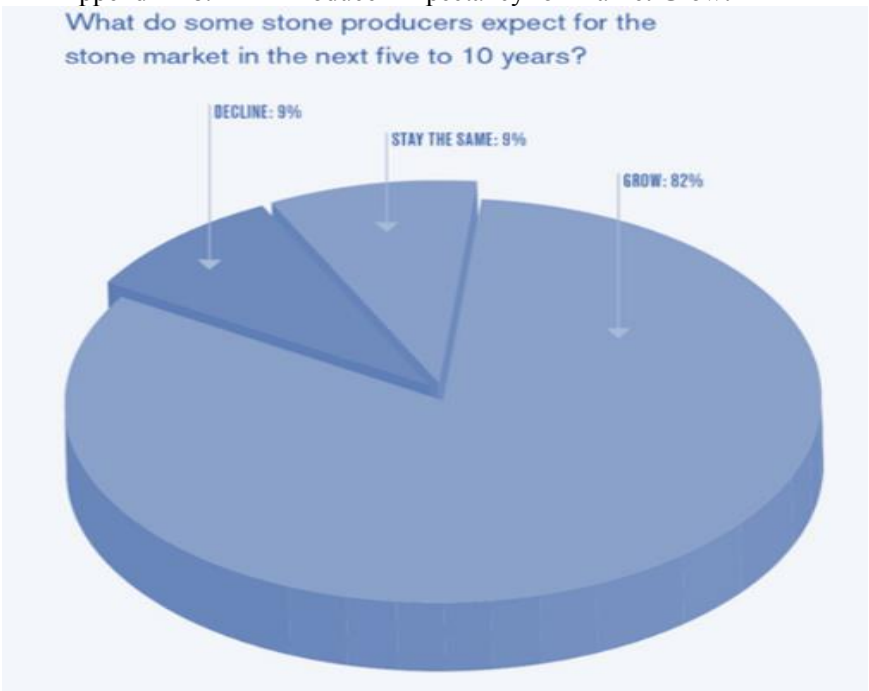
Revenue Streams

- Transaction based Revenues, namely asset sales (one time payment for stone purchased)
  - Money received per contract (in Slabs / Blocks / Cut to size project)
  - According to the type of project, contract payments are: Product feature dependant or Volume feature dependant payments

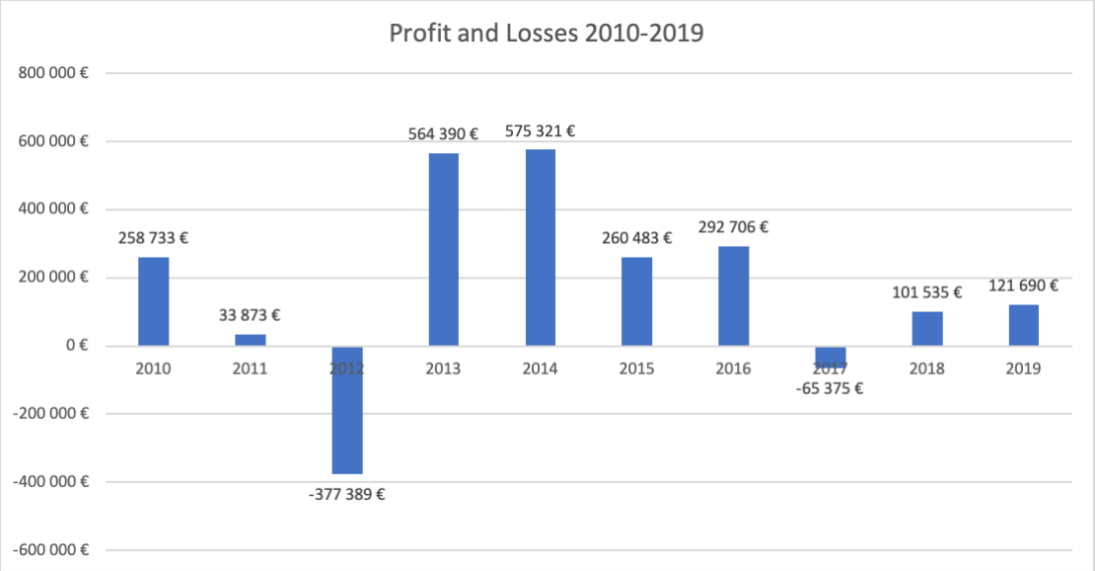
Appendix 17. Planned Spending Cuts



Appendix 18. Producer Expectancy for Market Growth



Appendix 19. DP's P&L



Appendix 20. SWOT Analysis

The origins of the SWOT analysis date back to the 1960s and 1970s in a research project at Stanford University led by Albert S. Humphrey (Wikipedia 2020), to whom it was credited. SWOT analysis assesses both internal factors (Strengths and Weaknesses) and external factors (Opportunities and Threats) of a company, providing a glance at the current and future potential of the company within its competitive set.

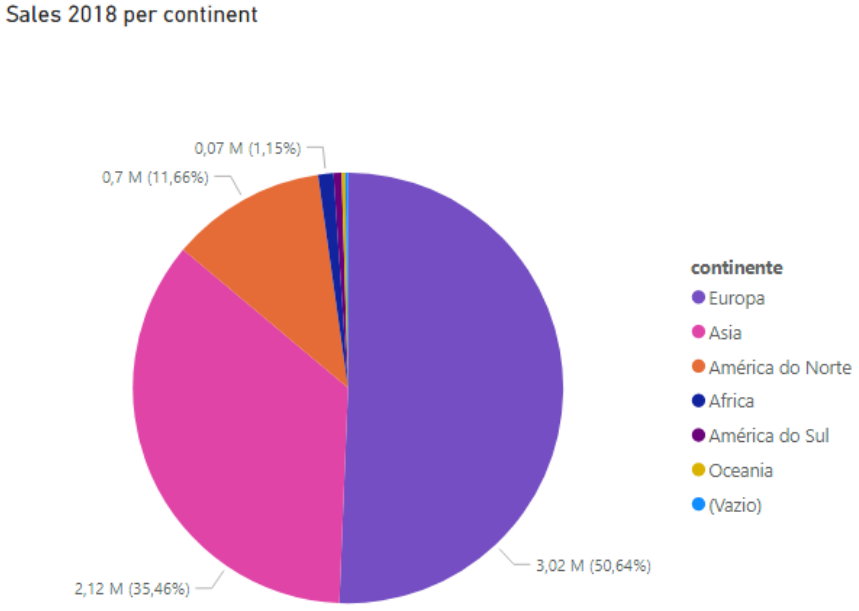
Strengths	Weaknesses
Know-how provided by the years of experience: The Natural Stone business profitability fluctuates a lot given the quality of raw material. As such, having experience in dealing and sourcing blocks is key. DP has access to the knowledge on Natural Stone's unique characteristics as book-matching, translucency, mechanical properties, vein-matching, cutting direction. Furthermore, their years of experience in Special Fabrication processes as well as their investment in proper machinery have translated into the mastery of Honeycomb, Stock (stone and cork), and Ceramic base techniques. **International footprint:** As further discussed above, the company has long time partners in Portugal and abroad with suppliers of raw material and clients. This has enabled them to enlarge the range of their product portfolio. **Control over some stages in the supply chain:** As one goes further down the supply chain, the profitability that can be attained with the end-product decreases. DP has successfully concentrated its business on profitable stages of the supply chain and their mastery of various product applications has made them control the supply chain from the Block to the end-product.	**Communication Strategy:** DP has been making increasing efforts to improve communication with potential clients. Recently, they have hired a new Marketing Manager, who has been activating their social media, and their website has been renewed. Nevertheless, in terms of communication strategy, the company seems to be behind other competitors. **Strategy to capture new clients and potential partners:** Currently, DP may choose the projects in which it wants to participate and sources new clients mainly through contacts and international fairs. Given that the company is not working up to its full capacity, it could invest in new strategies for attaining new clients and potential partners.
Opportunities	**Threats**
R&D initiatives: Some companies have been developing R&D teams dedicated to finding alternative uses to their raw materials. Some R&D initiatives aim at new uses of waste, others at transforming raw material, making it partly natural and partly engineered. Furthermore, R&D initiatives could be used to enhance current processes as well as an incentive for the design and creation of new products. **Acquiring and/or exploring a Quarry:** DP used to explore 3 quarries which at this time are abandoned. By backward integrating their business, they could secure the supply of some types of stone and better control prices, being also able to offer more competitive products. **Explore alternative uses for the abandoned Quarries:** Some alternative uses have been found for abandoned quarries, such as artificial lakes. DP could explore alternative uses for their quarries. **The Associations:** Currently, DP is part of a couple of associations. One of them, Assimagra, provides various services to the belonging partners. Given the current situation of the European Union, DP could explore those services and consider applying for the London Association of natural stone. **Enlarging their international footprint:** By doing so, the company could integrate new product offerings on their portfolio as well as find new clients in other countries. Currently, DP has been exploring this option. **Create new ways of acquiring customers:** They could showcase their products in a home-decoration magazine, generate engagement through their current communication channels, amongst other options. **Making a partnership with construction or architect companies:** As referenced before, their current plant is not working up to its full capacity. By partnering with other businesses at the end of the supply chain, the company could secure their financial stability, as well as high volume demands.	**Engineered Stone:** Engineered and partly engineered stone has been flooding the market. China is currently the most competitive country in the production of these alternative products. **Quarries starting their own businesses:** DP has no active quarries, and their natural stone is supplied by long-term partners (nationally and internationally). The quarries control the supply of natural stone both in quantity and price. When the owner of a quarry decides to start his/her own business, it will be able to sell slabs at a lower price or supply natural stone at a higher price. Both situations will (and have) negatively impacted DP. **Covid-19 epidemics:** As in other industries, the sales of DP have been negatively impacted by this global epidemic. **Labour laws:** The retirement age for this industry has changed in Portugal since it has been considered forced labour. As such, DP has been experiencing early retirements, especially motivated by the current pandemic.

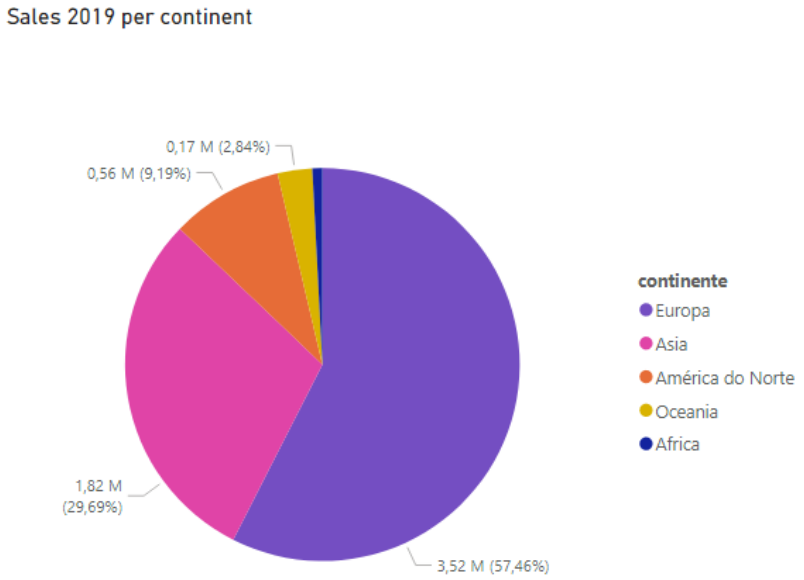
Appendix 21. TOWS Analysis

	Internal Strengths 1.Know-how provided by the years of experience 2.International footprint 3.Control over some stages in the supply chain	**Internal Weaknesses** 1.Communication Strategy 2.Strategy to capture new clients and potential partners
External Opportunities 1.R&D initiatives 2.Acquiring and/or exploring a quarry 3.Explore alternative uses for the abandoned Quarries 4.The associations 5.Enlarging their international footprint 6.Create new ways of acquiring customers 7.Making a partnership with construction or architect companies	**Use Strengths to maximize Opportunities** By using the know-how provided by several years of experience within the industry, DP could engage in R&D initiatives, exploring quarries and developing new partnerships. The know-how would give DP an edge in engaging in R&D initiatives related with the raw material. Although DP is already developing cut-to-size products that use wasted material, other players in the industry are transforming the raw material turning it into partly engineered stone or finding alternative uses for natural stone. With the help of partnerships with universities, DP could distinguish itself from other payers and compete in developing markets such as synthetic stone industry. DP's know-how and further learning economies could be a determinant factor in exploring efficiently quarries. The backward integration would allow DP to sell blocks and slabs at competing prices to other companies and have greater control over their costs. Being know-how such a valuable resource in this industry, DP could use it to establish relevant partnerships with construction companies, which would give them more security on prospect sales and on financial stability. Finally, the know-how, along with the control of various stages of the supply chain can help DP to expand its international presence through partnerships and other internationalization strategies, building new access to other markets. Finally, the large range of product portfolio, provided by a long and healthy relationship with clients and suppliers abroad, fights companies that are globally threatening the industry.	**Minimize Weaknesses by taking advantage of Opportunities** The associations to which DP belongs work as efficient channels of communication with both potential clients, suppliers, and other players within the industry. By establishing a clear strategy to attain customers, DP could make a better use of those channels as well as explore new association that would open new opportunities in different markets. By drafting a proper strategy to capture the segments that DP wants to attract, the company can profit from having more a wide range of clients whom they know how to attract and engage. By working on a communication strategy, DP can take advantage of new partnerships that bring more stable and high-volume sales, ensuring their financial stability.
External Threats 1.Engineered stone 2.Quarries starting their own business 3.Covid-19 epidemics 4.Labour laws	**Use Strengths to minimize Threats** The competitive advantage of their established and trustworthy business international relations can be used to minimize the threat of engineered stone companies and quarries that have recently started their own businesses.	**Minimize Weaknesses and avoiding Threats** DP can minimize its weaknesses and avoid current threats as engineered stone companies and quarries that started their own business. By carefully drafting a strategy for communication and capturing clients, DP can position through its points of differentiation within the market. This would enable DP to distance itself from these threats, fighting for a niche position within the industry. On the other hand, DP can also draft those new strategies in a way to face and compete alongside those players.

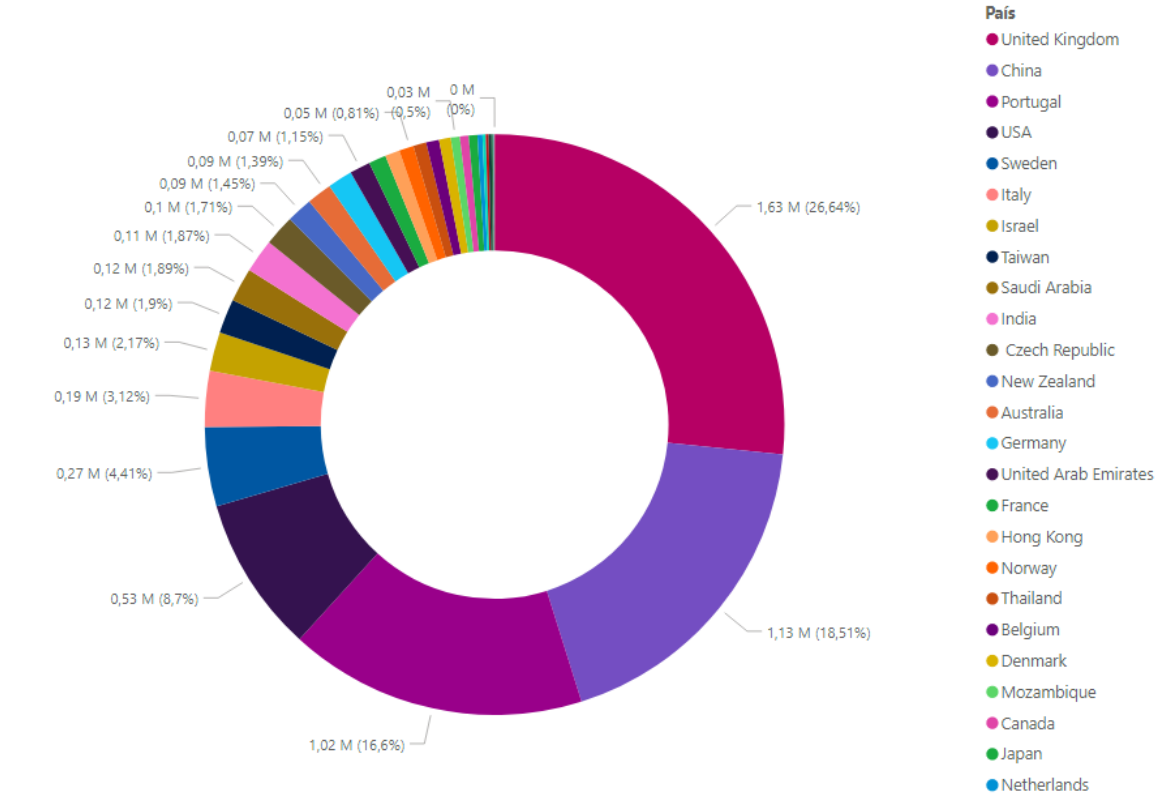
Appendix 22. Global Outlook of DP's Sales 2019

Appendix 23. DP's Sales per Continent for 2018 and 2019



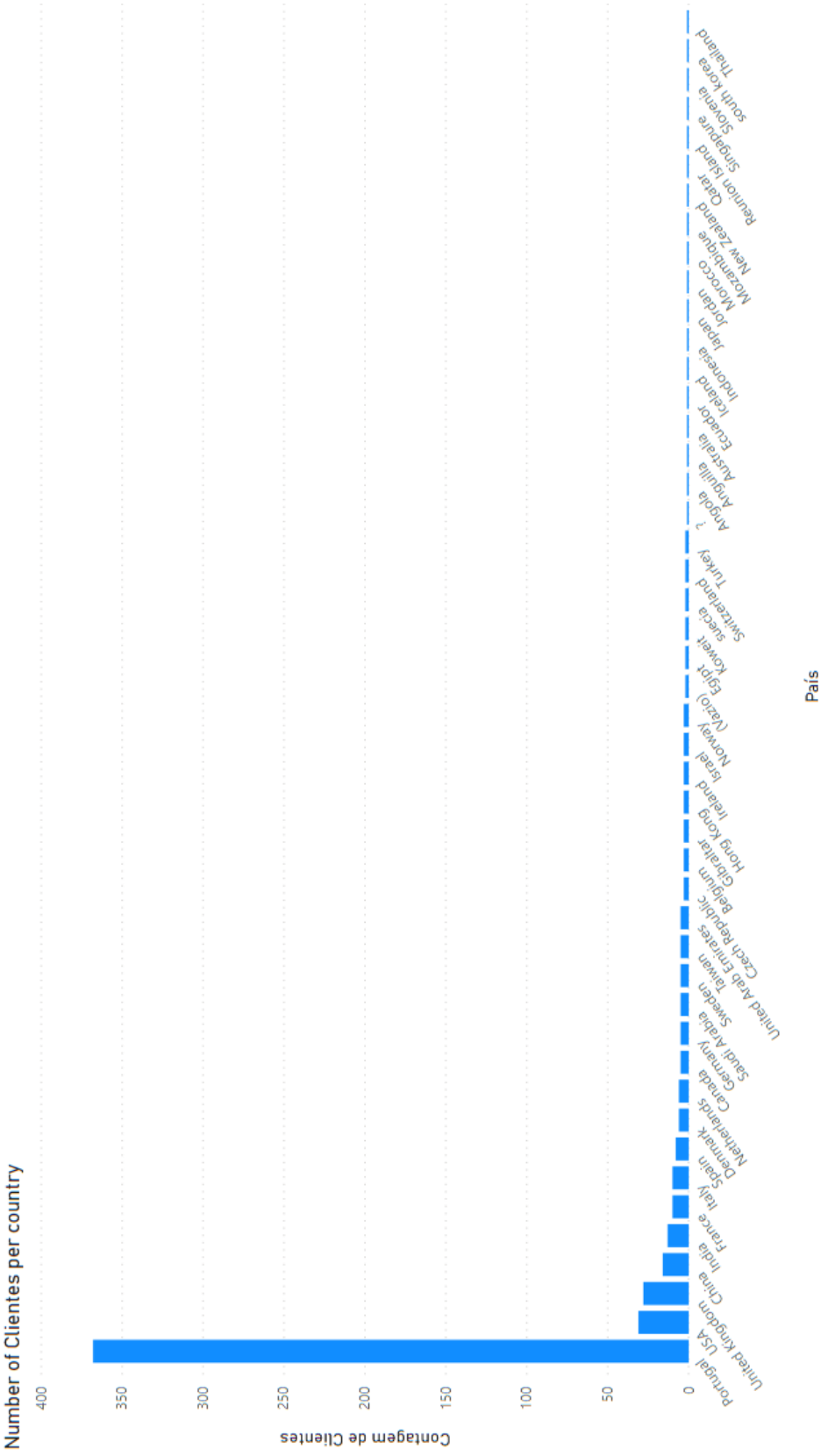


Appendix 24. DP's Percentage of Sales per Country 2019

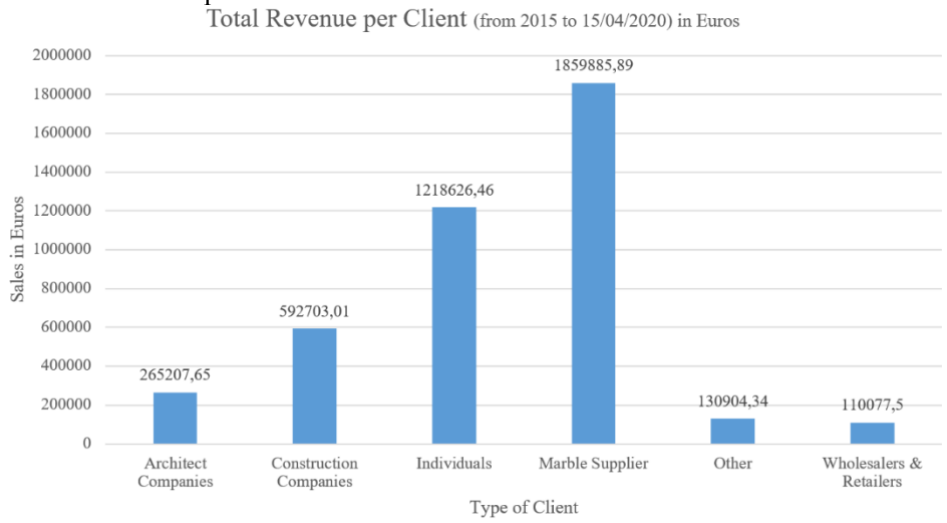


Appendix 25. DP's Sales per Country for 2018 and 2019

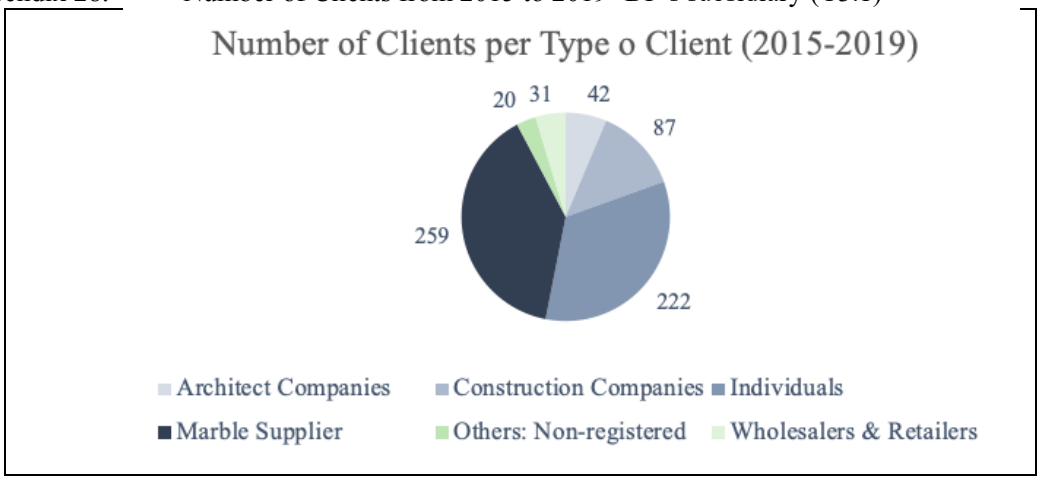
Appendix 26. Number of Clients per Country for 2019



Appendix 27. Repartition of DP's Sales 2015-2020

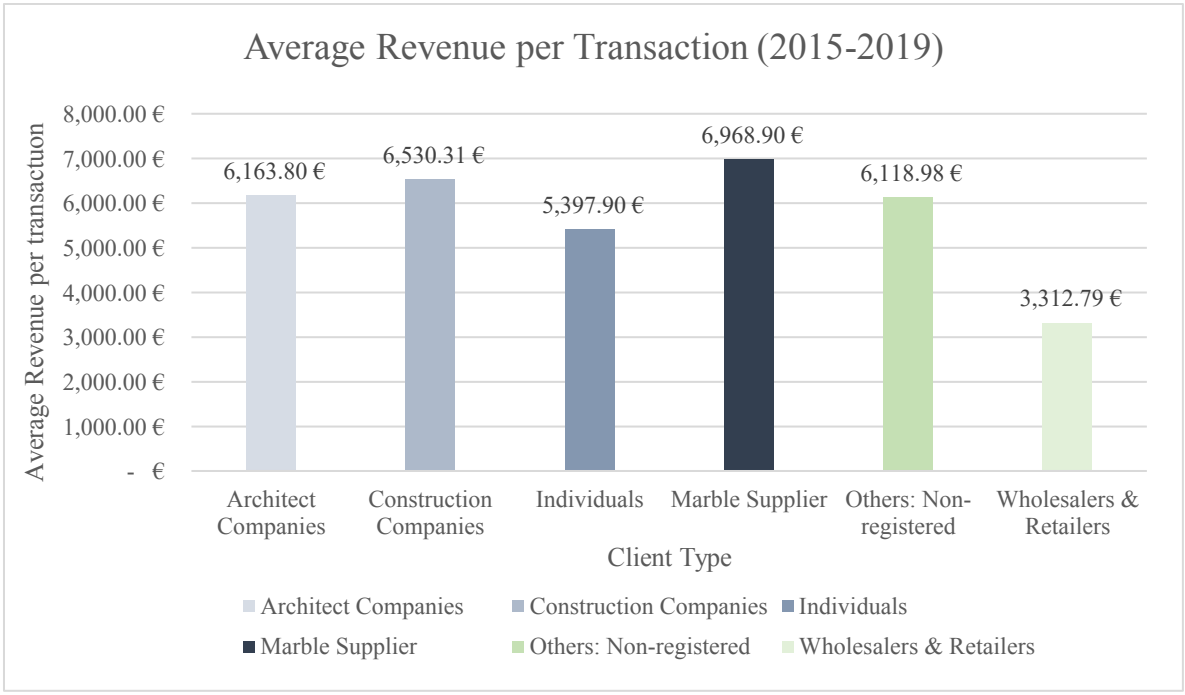


Appendix 28. Number of Clients from 2015 to 2019- DP's subsidiary (C3.1)

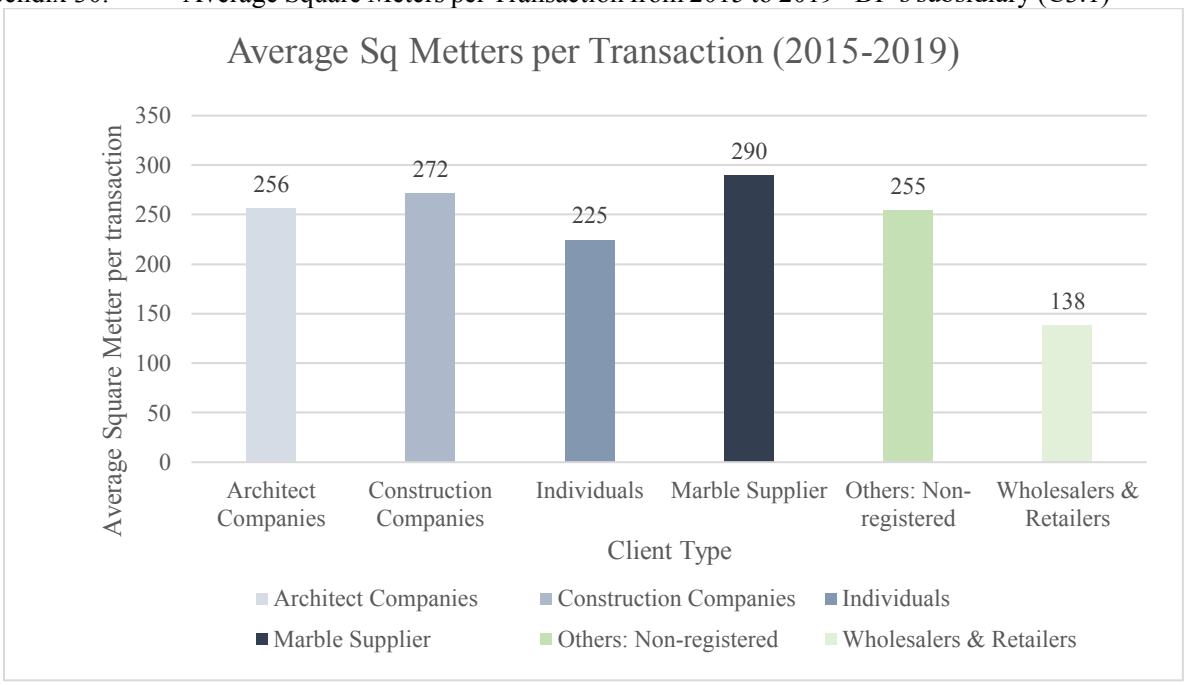


Note: These architect companies mentioned are construction companies that also do architectural projects in this area. (Architect and Design companies *per se* are not the focus of DP as they do not buy stone but simply prescribe alternatives to their clients)

Appendix 29. Average Revenue per Transaction from 2015 to 2019 - DP's subsidiary



Appendix 30. Average Square Meters per Transaction from 2015 to 2019 - DP's subsidiary (C3.1)



Note: These architect companies mentioned are construction companies that also do architectural projects. (Architect and Design companies *per se* are not the focus of DP as they do not buy stone but simply prescribe alternatives to their clients)

Appendix 31. Summary Table of Clients' Needs Assessment

Features/ Type of customer	DP's Offer	Individuals	Construction Companies	Architecture and Design Companies	Wholesalers
Role	-	One-time purchasers	High volume but on a budget purchaser	Promoters/ Prescribers	Price sensitive purchasers
Products	Blocks, Slabs, Tiles, Cut-to-size products	Tiles, Cut-to-size products	Slabs, Tiles, Cut-to-size	-	Tiles from various types of stone
Quality of Raw Martials	High quality stone, while providing on-budget solutions	Value more luxurious appearance than quality	Highly valued although these clients rely on other agents to choose type of stone	Highly valued, these clients possess deep product understanding	Valued, although they demand for stones with different quality levels
Price	Highly priced, while providing also on-budget offerings	Willingness to pay for status provided by high quality products	Price sensitive, depending on their client's available budget	High willingness to pay	Price sensitive: change stone supplier when offered a better deal. Value offers with high price diversity
Durability	High, due to high quality materials products do not need much maintenance	Highly valued	Highly valued, maintenance represents extra cost	Highly valued, maintenance represents extra cost	Valued
Flexibility in cuts, shapes, and finishes	Distinguishable cuts, shapes, and sizes which meet every possible need	Highly valued	Highly valued	Fundamental, allows to fully express their creativity	Not as valued, sell only standardized products
Trendiness	On track due to high product portfolio and decades of experience in the business	Highly valued	Highly valued, follow design guidelines of Stone consultants and Architecture and Design companies	Highly valued, these clients influence the global trendiness of types of stone	Valued, although variety of stone is preferable to trendiness

Appendix 32. Resources, capabilities and competitive advantage relation

Source: Grant, Robert (2010). Contemporary Strategy Analysis. 7th Edition.

Appendix 33. Resources of DP

Tangible		Intangible				Human
Financial	Physical	Technology	Reputation	Social	Organizational	
Cash (high solvency ratio - intangible)	Facilities, stone quarry, equipment and machinery, raw materials: stone and wood	Internal software and information database	Brand name and reputation, customer trust and loyalty	Client, supply and distribution vast and strong international networks	Culture (familiar company, close and continued relation with clients)	Employees' skills and experience, know-how

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Appendix 34. Capabilities of DP

Capabilities	Description
Product Variety	The offer a large product portfolio with many different categories of stone available
Product Storage, Packaging and Transportation	To pack, store and transport stones in na efficient and safe way.
Effecient Operational Processes	To cut, shape, resize and polish blocks, slabs and tiles
- Materials management capability - Manufacturing capability (CSF)	Involves the capailities of supply-chain management, production scheduling assembly, quality-control procedure, inventory control
Effective Stone Selection	To select the best blocks to avoid waste costas and give clietns quality stone
Quality control throughout the value chain	To guarantee and control the quality of stone from blocks extraction to final delivery

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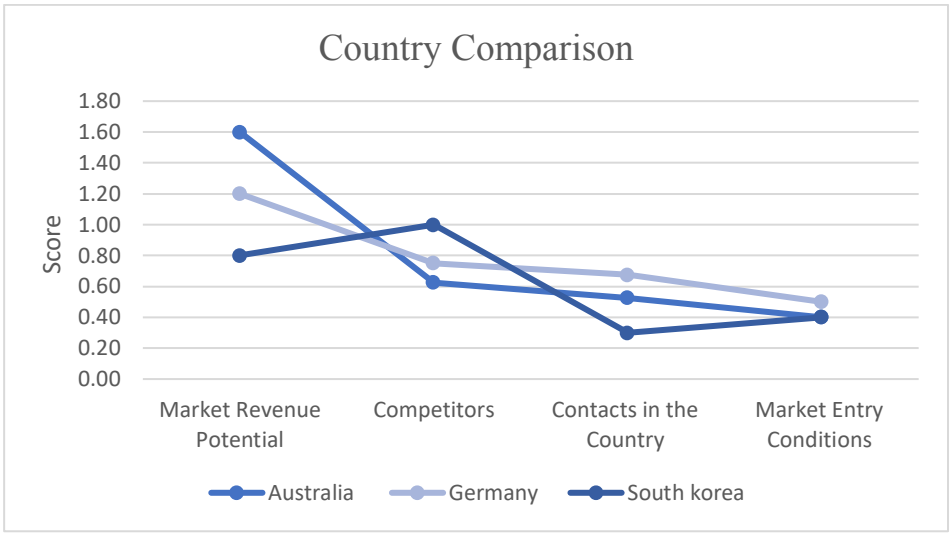
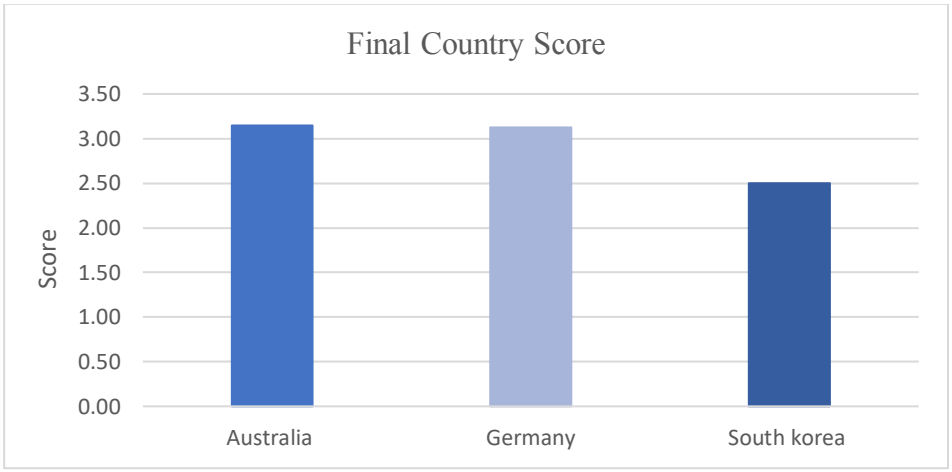
Appendix 35. DP Competitive advantages

	Relevant	Scarcity	Non-Transferability	Non-Replicability	Durability	Results
Resources						
Cash (high solvency ratio)	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
CSF facilities, Stone quarry	Yes	No	-	-	-	Parity
Equipment and machinery	Yes	No	-	-	-	Parity
Raw materials	Yes	Yes	No	No	Yes	Temporary Competitive Advantage
Internal software and database	Yes	No	-	-	-	Parity
Brand name and reputation	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Customer trust and loyalty	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Vast and Strong International Network	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Culture (close and continued relation with clients)	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Employees' know-how and experience	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Capabilities						
Product Portfolio Variety	Yes	Yes	Yes	No	Yes	Temporary Competitive Advantage
Packaging, storage and transportation	Yes	No	-	-	-	Parity
Efficient operational processes	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Effective stone selection	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage
Quality control throughout the value chain	Yes	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage

Appendix 36. Country comparisons and Final scores





A Work Project, presented as part of the requirements for the Award of a Master's degree in Management from the Nova School of Business and Economics.

INCREASING INTERNATIONAL FOOTPRINT OF A NATURAL STONE BUSINESS – FINANCIAL PLAN

Sara Oliveira São João - 40977

Work project carried out under the supervision of:

João Pedro Delgado

04-01-2021

This work is divided into 7 different parts:

Part A: Increasing International Footprint of a Natural Stone Business

Part B: Increasing International Footprint of a Natural Stone Business - Geographical Analysis *(by Guillaume Labarre)*

Part C: Increasing International Footprint of a Natural Stone Business - In-depth Market Analysis (*by Tommaso Bordignon)*

Part D: Increasing International Footprint of a Natural Stone Business - Entry Strategy (*by Inês Moraes Sarmento)*

Part E: Increasing International Footprint of a Natural Stone Business - Marketing Plan *(by Cláudia Marques)*

Part F: Increasing International Footprint of a Natural Stone Business- Financial Plan (*by Sara São João)*

Part G: Increasing International Footprint of a Natural Stone Business - Final Remarks

Keywords (Internationalization; Market Selection; Entry Strategy; Strategic Analysis; Portugal, Germany, Natural Stone; Financial Plan; Australia; Cutting, Shaping, and Finishing)

Abbreviations (DP: Company the group is doing this project for, short for DP Stones; CSF: Cutting, Shaping and Finishing; SA: Strategic Alliance; WC: Worst Case; BC: Best Case)

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

Table of Contents

1. Financial Chapter Overview

After extensively analysing the entry strategy and designing both a business and marketing plan for the implementation of DP's internationalization project, the **organizational challenge** of this chapter is to propose a viable and sustainable financial plan for the project.

Thus, in this chapter, it is possible to find the financial plan for the four phases of the project, defined previously in the chapter Entry Strategy and summarized in Appendix 1.

The financial **chapter is divided into two main parts**. The **first part** gives a short-term perspective on the project, contemplating the first 6 years of the project, including phases 1, 2, and 3. To do so, a breakdown of the operational, investment and financing plans and its cash-flows are analysed in detail. In the end, valuation methodologies are computed to help understand the financial viability of the three phases.

The **second and last part** of the chapter presents an analysis of the fourth phase of the project separately since its implementation was designed in a medium-long term perspective. As phase 4 would not appear in the 6 years projection, its operational, financial, and investment plans and related cash-flows were computed independently. This approach facilitates the understanding of the capabilities and resources necessary for DP to take on an acquisition and to guarantee the financial viability of the acquisition on its own.

2. Methodology

The methodology applied in this chapter is the combination of business/project fundamentals and financial modelling principles.

According to the **financial modelling principles**, the estimation of the cash-flows should be based on business fundamentals and the calculation of key metrics should be used to support the decision. Besides, according to financial modelling best practices, an analysis of flexibility

and adaptability should be performed using both sensitivity and scenario analysis (Santos 2020).

On the other hand, according to **business/project fundamentals** methodology, the identification and estimation of business drivers that impact the business such as growth rates, margins, and synergies should be taken into consideration. Moreover, all estimations should be based on forecasts and assumptions which will imply uncertainty, no matter how reliable the sources of information are (Santos 2020).

3. Market-Related Drivers

Identifying and estimating the drivers of the project is the first step when performing financial modelling. Although most drivers of a business are dependent on the business model and internal decisions of the company, there are always some drivers that will never be controlled by DP. Thus, market-related drivers such as market size are extremely important drivers of revenues for the project and must be forecasted.

3.1 Market Size Forecast

The project was designed for DP to enter both Australia and Germany. Given this, it is important to forecast the market size for both. Data was gathered on the total revenue of the Cutting, Shaping, and Finishing Stone industry from 2014 to 2019 in both countries of interest. After analysing the market size through the years, a trend similar to a linear growth for both countries was noticed (Appendix 2) which led to the assumption that the market size would follow a linear regression until 2027. The computation of the market size can be found in Appendix 3.

4. Operational Plan

The operational plan contemplates all the cash-flows for the operating activities, from the revenues generated in the sales to the costs that DP must undertake to guarantee the normality

of its business activities. The assumptions for the calculation of the cash-flows related to the project operations are based on the Business model, defined in the Entry Strategy chapter, and the marketing activities of the Marketing Plan chapter.

4.1 Revenue Breakdown

The revenues from the project come from the sales both in Australia and Germany (Appendix 4), of three types of products: tiles, slabs, and Cut-to-Size projects.

There are two variables that affect revenues, the **price of the products,** which is higher in Australia given the added transportation costs, and the **quantity sold** that is influenced by two main drivers: number of strategic actions, and average revenue per strategic action.

The **first driver**, already defined in the entry strategy model, clearly demonstrates a strategic focus on Australia with 5 strategic alliances, a branch, and 4 wholesale contracts within the first 5 years, while Germany only counts with 5 strategic alliances.

The **second driver** is more complex since it requires multiple indicators to be considered for its calculation. For both countries data was gathered on revenues from construction projects in 2018 and 2019, which allowed to compute construction projects average revenue per year per country. Since in each strategic alliance DP is expected to have twice the number of projects it currently has; the expected annual average revenue was multiplied by two. The same rationale was applied to tiles sold to wholesalers. The calculations for the annual revenue estimation can be found in Appendix 5 and Appendix 6.

After, it was necessary to consider the **growth of each strategic action** over the years. Given that DP is already present in these countries and has experience in the industry, it is expected to grow faster than a newcomer, especially considering the synergies that will create throughout this expansion process. As such, it was assumed that DP's growth in the Australian and German markets will reach the construction and wholesale market industry growth by the fifth year.

Simply put, it was established that in the first year DP would grow at 1/6 of the industry's average growth, in the second at 2/5, then at 3/4, and finally at 4/4 of the industry's average growth in year 4. Industries expected growth rates from 2021 to 2027 were used to get the industry average growth rate (Appendix 7). On Appendix 8 the yearly growth rates per industry and country of DP's projects are presented.

After gathering the data and computing all drivers of revenue, the values of the annual revenue were finally computed for each country by multiplying the number of strategic actions by the average industry revenue and then by the growth rate of the respective year (Appendix 9).

4.2 Cost Structure Breakdown

The cost structure of the project accounts for the various types of expenses DP must incur to guarantee its operations. The costs are composed of fixed and variable costs and will both increase with the implementation of the new business model (Appendix 10).

The **costs of goods sold will increase** given the additional quantity of products produced. The percentage of production costs was assumed to remain the same (approximately 50% of total sales) since there are no changes in the production processes. Given this assumption, COGS are expected to grow at the same rate of revenues (Appendix 11).

It is also important to consider the **internal transfer costs** of a project by including on a pro-rata basis other operating costs that are not specific to the home country. To do so, the internal transfer price for each 1 euro of products sold was computed (Appendix 12) by creating an assumption according to which 10% of the total operational costs (excluding COGS) are considered transferable internationally. After reaching the internal transfer price, the value was multiplied by the sales of each year of the project to obtain the total internal transfer costs.

For **transportation costs**, the average ratio between transportation cost and sales price in the industry (The Geography of Transport Systems s.d.) was computed. To that value, in the first phase of the project, 20% was added given the distance from Portugal to Australia. From 2024

onwards, with the rent of the warehouse in Australia, the transportation costs will decrease, resulting in a decrease of 10% in transportation costs. It is important to note that the transportation costs equal the extra value charged at the final price to the Australian clients.

On **external supplies and services**, in 2024 DP will acquire a new truck and by law, it must acquire annual automotive insurance for it. Also, lawyer services will be needed to guide and overview the legal matters related to the branch in Australia.

There will be also new changes in the **employees' expenses**, starting in 2021, with the hiring of two sales representatives, one for the Australian market and the other for Germany, and a social media manager. In 2024, with the opening of the new branch in Australia, a branch manager, a secretary, and 3 warehouse workers should also be hired. In 2026, with the increase of strategic alliances and wholesale contracts, a second sales representative will also be hired to balance the workload of the first representative. Even though these expenses are accounted for in Portugal, it was taken into consideration that people will be paid according to their country salary standards.

The item "**Rent and Overhead**" accounts for the annual rent payments on the branch/warehouse starting in the year 2024.

For the Item "**Other expenses and losses**" the marketing expenses described in the chapter Marketing Plan, were imputed, including guarantees, website development, advertisement, marketplaces, and international fairs.

At last, the computation of **depreciation** took into account the truck needed for the operation related to the Branch in Australia since the expansion plan predicts the renting of the Australian Warehouse. To do so, the team used a Straight-Line Depreciation Method and assumed an acquisition cost of €66 665, a salvage value of €0, and useful life of 10 years.

4.3 P&L Statement

To organize and summarize the operational activities of the project, such as its revenues and costs, a P&L statement was created from 2021 to 2027 and can be found in Appendix 13, using the Portuguese tax rate of 22.57%.

For simplistic purposes, the group also drafted a P&L from 2021 to 2027 including only the expansion operations related to Germany, and to Australia until 2024 (Appendix 14). From this year onwards, a parallel P&L was created to register all Australian branch operations exclusively (Appendix 15). The main purpose of this rationale was to provide a clear overview of the cash flows involved in each country, to better understand and compare country returns and performances. Yet, note that all German and Australian related operations must be reported in Portugal according to the legal terms.

4.4 Operational Risk Analysis

Executing an operational risk analysis is very important to evaluate the risk underlined in the operational model of the project. To do so, ratios and analysis can be performed such as a breakeven analysis, a margin of safety ratio, and the degree of operational leverage.

Performing a **break-even analysis** (Appendix 16) helps DP understand the necessary level of performance of the project for the revenues to cover the costs. The breakeven point of the project is reached within the first year with a value of €438 398, higher than the expected level of sales for the same period.

To compute the break-even point, three elements were considered: the variable cost per sale, the total fixed costs, and the average price of the products. To estimate the variable cost per sale, COGS, transportation costs, SG&A costs, and internal transfer costs were accounted for. For the fixed costs calculations, employee expenses, marketing expenses, and the rent of the warehouse were combined. Regarding the average price, the average price of slabs, tiles, and cut-to-size projects was multiplied by their expected percentage of the total sales.

The **margin of safety ratio** (Appendix 17) is built into break-even forecasts to inform a firm's management of the existing cushion in actual sales or budgeted sales before the firm would incur a loss (Chen 2020). The average margin of safety ratio of the project is 0.49 which means that on average, 49% of the total sales is considered buffer from loss.

The last indicator of operational risk is the **degree of operating leverage** (Appendix 18) which indicates how the company operating income will fluctuate according to a change in sales. On average, DP's ratio for the project is 6.66, meaning that an increase in sales of 1% will increase the operating income on average by 6.66% (Corporate Finance Institute s.d.).

5. Investment Plan

The investment plan contemplates all the investment activities carried throughout the project. It is extremely important for DP to have a well-structured investment plan since it is one of the main drives of growth and capital in a company. All cash-flows of the investment plan were combined and summarized in Appendix 19.

5.1 Capital Expenditure

The account Capital Expenditures includes the investment in electronic equipment, transportation equipment, and warehouse equipment, all happening in 2024 with the opening of the branch in Australia. The summary of CAPEX calculations is presented in Appendix 20.

Regarding **electronic equipment**, two tablets were accounted for the showroom in Australia, each one value in €200. For the **transportation equipment**, it is important to note that DP has both options: renting or buying a truck and container. For the forecasts, buying was the option considered since it is more expensive and, in this way, represents the worse-case scenario of DP's decision. The combined price of both, in Australia, considering the exchange rate, should be approximately €66 650. The **warehouse equipment** includes buying a forklift, necessary for the logistics in the warehouse, which costs in Australia approximately €20 000.

5.2 Investment in Net Working Capital

Investment in Net Working Capital reflects the changes in Net (Operating) Working Capital. When the variation is positive, it means that DP is investing in NWC; on the contrary, if the variation is negative it means that DP is divesting (Santos 2020). To compute the investment in NWC it is necessary to consider three components: variation in receivables, payables, and inventories. In Appendix 21 the calculations for the investment in NWC are summarized.

When calculating the **variation in receivables (**Appendix 22), the group recured to the drafts of the contracts with both construction companies and wholesalers and it was possible to create an assumption that the clients would take on average two months to pay. To compute the revenues in the last two months of the year, another assumption was created that the annual revenues are evenly distributed every month of the year. In this way, the receivables will equal the total revenues of November and December in each year. The variation in receivables is the difference between the receivables in the current year and the receivables of the year before.

The **variation in inventories (**Appendix 23) is calculated by the difference between the inventories in the current year and the inventories in the previous year. The value of inventories in each year was reached by multiplying the days in inventories ratio by the total value of COGS. For the ratio of the days in inventories, an assumption was created according to which DP's cost of inventory per euro of goods sold remains the same since the production operations will remain in Portugal. Based on this assumption, the ratio was calculated by multiplying the cost of inventory per euro of goods sold in 2019 by 365 days. To reach the value of inventories in each year the previous ratio was multiplied by the COGS of that year.

The **variation of payables** will follow the same rationale. The ratio average payment period for DP was previously computed in the first chapter of the project. Since DP, on average, takes approximately 9 days to pay its suppliers, the accounts payable were computed assuming that the ratio will remain the same throughout the project. Secondly, the ratio assumed was

multiplied by DP's purchases. Since the value of the total purchases value of DP was unknown, it was assumed that it equalled the sum of the costs of goods sold and the costs of inventories. In this way, it was possible to compute the payables for the project and its respective variation through the periods, as shown in Appendix 24.

5.3 Salvage value

The salvage value after taxes represents the asset sales that occur throughout the life of the project and especially at the end of it. Since all assets included in CAPEX are fully depreciated within the first 5 years of the project, the salvage value equals zero at the end of the project.

6. Financing Plan

After accounting for all the operational and investment cash-flows of the project, it is time to define a structured plan to finance the new business model proposed.

There are three options for DP to finance the project, it can raise **equity**, **debt,** or a **combination of both**. A summary of the characteristics of each method is presented in Appendix 25 (Santos, Capital Structure - Impact on Value 2020).

While Equity financing has the advantage of providing extra working capital without any payment obligations, it might also mean involving new investors resulting in less control over the project. Since DP explicitly said how valuable having total control of the company was for them, this means that the equity that might be raised must be the owners' equity. On the other hand, debt financing's main advantages are keeping full control of the company and being tax-deductible (Maverick 2020). Nevertheless, too much debt can put the company in a difficult situation if the sales are lower than expected leading to risk of default and, in a very extreme case, bankruptcy.

There are three extremely important factors in this decision: the **current financial situation** of DP, the **total amount necessary to finance the project**, and the **distress costs**.

To analyse the **first factor**, it was considered the financial ratios already analysed in Chapter 1 (Appendix 26), such as liquidity and solvency ratios. The results demonstrated that DP is financially stable, has a significant amount of cash, and has an extremely low level of debt.

Regarding the **total amount necessary to finance the project**, the group considered that the total amount necessary to finance the internationalization project should cover the costs of the first two years of the project, which equals approximately €240 000 (Appendix 27). After the second year, the forecasted revenues from sales will cover all the costs and DP will not have the necessity to raise more money since the project will be solely profitable. Following this assumption, the total amount necessary to be financed for the project is relatively low, representing only approximately 4% of DP total revenues in 2019.

The last factor is **the financial distress costs** that can occur in case of default and that are described in Appendix 28 (Santos, Capital Structure - Impact on Value 2020). To avoid a distress situation, a limitation for the total debt raised was created according to which DP must not incur in debt payments higher than 10% of its average net income of the project.

Before deciding on the financial schema for the project, the cost of debt and equity were computed to strengthen the reasoning. **The cost of debt** (Appendix 30) for the project equals the sum of the risk-free rate in Portugal (1.60%) (Norrestad 2020), and the estimated default spread of the company. To get the default spread of DP, it was computed the rating of the company given by the banks, which is presented in Appendix 29 (Damodaran, Ratings, Interest Coverage Ratios and Default Spread 2020). The rating is based on the interest coverage ratio of the DP, which analyses its capacity to pay loans given its current capital structure. Knowing that the interest coverage ratio of DP is higher than 12.5, the rating is Aaa/AAA, corresponding to a default spread of approximately 0.76%. Having all the information required, it was possible to reach a cost of Debt of 2.36%.

The cost of equity is computed by considering the risk-free rate of return and the risk premium multiplied by the Company's Beta. According to the financial data on the industry, the risk-free rate in Portugal (average 2020) is 1.60% (Norrestad 2020) and the risk premium expected for the industry is 9.50% (Damodaran 2020). To compute the Beta of DP was created an assumption that the Beta would be equal to the average unlevered beta of the companies in the industry considering which is 0.8 (Aswath Damodaran 2020). After collecting all the information necessary, a cost of equity for the project of 9.20% was reached (Appendix 31).

After analysing the three main factors that influence the capital structure as well as performing the calculations for the cost of debt and equity, it is possible to compute the **optimal capital structure** of the project and respective cost of capital (WACC), which, according to the Modigliani-Miller Proposition is given by the formula $WACC = \frac{D}{D+E} r_D(1-t) + \frac{E}{D+E} r_E$.

For the calculation of the optimal WACC (Appendix 32) the Modigliani-Miller Proposition as followed, in which the WACC is maximized when the debt-to-equity is the highest. Nonetheless, by adding the restriction proposed to avoid financial distress to the model, the optimal capital structure was reached with a cost of capital of 3.28% and 2.16 D/E ratio.

7. Financial Viability Analysis

To analyse the performance of the internationalization project, some indicators can be calculated such as the NPV, IRR, Payback period, and even ratios that evaluate the profitability of the investment.

7.1 Profitability Ratios

The profitability ratios essential to evaluate the viability of a project all the ratios' calculations and respective comparisons with the ratios of DP pre-project can be found in Appendix 33.

The **net profit margin ratio** gives insight into the profitability of a company. The higher the percentage, the better DP can generate net income per dollar of revenue. On average, the net profit margin is 11.63%, higher than DP's ratio in 2019 (2.02%).

The **gross margin ratio** on average is 59.63% meaning that more than half of the money generated through the sales is consumed by the goods which represents an increase in the profitability ratio compared to DP in 2019.

The **return on sales ratio** shows how much profit is generated per euro of sales. Over the internationalization process, the ratio on average is 11.63 % which represents an increase compared to the 2.02% pre-project, indicating that the project is increasing the profitability of the company. Indeed, on average most companies in the industry are satisfied with a 5% to 10% ROS (Andromeda Simulations International s.d.).

7.2 NPV

To further access the viability of the proposed expansion project the **Net Present Value** was computed (Appendix 34). The NPV analyses the profitability of the project by weighting the negative and positive cash-flows of the project, discounting the time value of money. The calculation is given by the formula $NPV = \sum_{t=0}^{T} \frac{FCF_t}{(1+wacc)^t}$. If the NPV of a project is positive, one should conclude that the investment will be profitable and should proceed with its implementation. (Fernando 2020). According to the calculations, NPV equals €308 174, meaning that the internationalization project of DP is expected to be profitable.

7.3 IRR

After assessing the NPV, it is time to analyse other valuation metrics such as the Internal Rate of Return. The IRR is the annual growth rate an investment is expected to generate, by making the NPV equal to zero. (Fernando, Internal Rate of Return (IRR) 2020). The equation to compute IRR is given by $\sum_{t=0}^{T} \frac{FCF_t}{(1+IRR)^t} = NPV = 0$. According to its acceptance criteria, the

higher an internal rate of return, the more desirable the investment is to undertake. Nonetheless, the project is only considered profitable if the IRR is higher than its discount rate. The IRR of the project is 31%. (Appendix 34) which means that the Internationalization project of DP is expected to be profitable, corroborating with the NPV's valuation.

7.4 Payback Period

The last project viability indicator presented is the **payback period**. The payback period provides an estimate of how much time it will take to recover the initial investment. To compute the payback period, one should use an algorithm in which the iteration is given by the formula $I_T = \sum_{t=1}^{T} FCF_T$. For a project to be profitable, the payback period must be lower than the life of the project. To give a more detailed analysis, two payback periods were computed, the simple payback and the discounted payback. The first uses the FCF of the project and the other uses the discounted FCF to add more comprehensiveness to the formula by considering the time value of money. After performing the calculations for both payback periods (Appendix 35) it was possible to conclude that the period is 3 (2024) and 4 (2025) years, respectively.

8. Sensitivity and Scenario Analysis

At this point in the chapter, the financial plan of the project was already proven to be financially viable. Nonetheless, all computations are exposed to uncertainty and instability. Thus, it is of great importance to analyse the flexibility and adaptability of the business model by performing both a sensitivity and scenario analysis.

8.1 Sensitivity Analysis

From all the assumptions created and forecasts performed for the financial analysis of the project, some are exposed to more uncertainty than others. Thus, a sensitivity analysis was conducted for the more problematic variables to capture the magnitude of risk exposure.

The first sensitivity analysis was performed for **total revenues** (Appendix 36). This variable contemplates one of the riskiest assumptions since it is not fully controlled by DP's actions but also directly impacted by the partners' actions in the SA. Given this, positive and negative changes of 5% and 10%, and 15%, were made to the total revenues of the project. It is possible to observe that the model is very sensitive to changes in the revenues. For example, with a decrease of 15%, the NPV turns negative and the project is no longer considered financially viable. Thus, it is important to control closely this variable for the project to be successful.

The other variable that is exposed to variability is the **cost of capital**. In the sensitivity analysis for the cost of capital positive and negative changes of 5%, 10%, 15% 20%, and 30% were performed (Appendix 37). It is possible to observe that the impact of the changes in the cost of capital is much smaller than the impact of changing sales. Using the same, example, an increase of 15% on the cost of capital only impacts the NPV in -2.94% meaning that changes in the assumptions created will not have such a critical impact on the financial model of the project.

8.2 Scenario Analysis

To perform a scenario analysis, two different scenarios were created. The first is an optimist scenario and the second a pessimist one.

In the **pessimistic scenario** (Appendix 38), it was assumed a decrease in revenues by 15%. Thus, as a consequence, the cost of revenues decreases as well. Nonetheless, this decrease will not be enough to compensate for the fall in revenues. An increase in marketing expenses by 15% is also considered to try to restore the previous level of sales. Finally, it was assumed an increase in the cost of external supplies and services by 15% as well as an increase in the same percentage on the internal transfer price. As a result, the Net Profit decreased on average 140% and the NPV decreased 245%, becoming negative, which means the project is no longer viable.

On the other hand, in the **optimistic scenario** (Appendix 39), it was assumed an increase in revenues by 15%. Consequently, the cost of revenues increases as well since the production

level increases. Nonetheless, a higher gross profit is verified. Thanks to the high level of sales, it was also expected a decrease in 15% marketing costs since DP´s products are already successful. Finally, it was assumed a decrease of 15% in the cost of external supplies and services and the internal transfer price. As a result, the Net Profit increased on average 146% and the NPV 235%, reaching €1 030 983.

9 Phase 4 "The Acquisition" –Financial Viability Analysis

The Financial Viability Analysis of the fourth phase of the project can be found on Appendix 40 since it is considered an extraordinary analysis on its medium-long term perspective.

10 Conclusion

Reaching the end of the Financial Chapter, it is possible to state that the business model built for the internationalization of DP has shown to be **financially viable**. A thorough analysis of the operational, investment, and financing strategies of each phase of the project led to a positive NPV of €308 174 for the first six years and a discounted payback period of 4 years. Moreover, the **profitability of the company will increase** with the implementation of the project, as shown by the 12.42% increase in the profitability ratio Return on Sales. For the project's implementation, DP will need **to invest** in the first year **approximately €240 000** of which, €164 000 should be financed by debt and €76 000 by owners' equity, in the optimal scenario. At the end of the chapter, both a sensitivity and scenario analysis were performed to understand the project's flexibility to changes in the forecasts. In the sensitivity analysis, **revenues were considered the most volatile variable** in the model. In the Scenario analysis, both the WC (NPV of - €447 266) and BC (NPV of €1 030 983) scenarios were important to identify the impact of variables in the project's viability, and consequently, helping DP prepare to face future challenges and reduce the risk and uncertainty underlined in its implementation plan.

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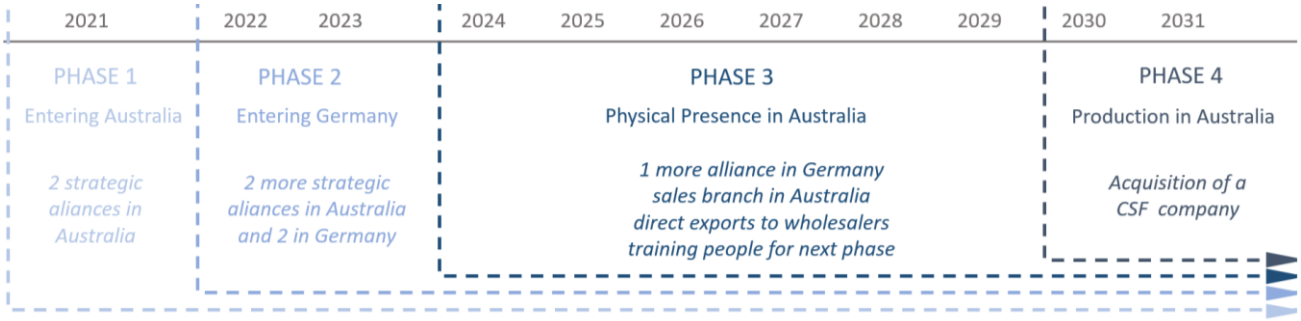
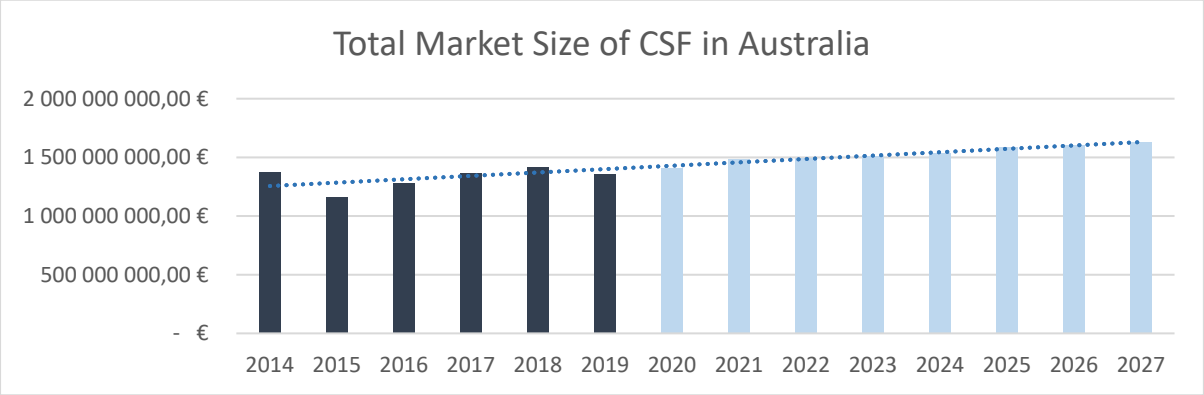
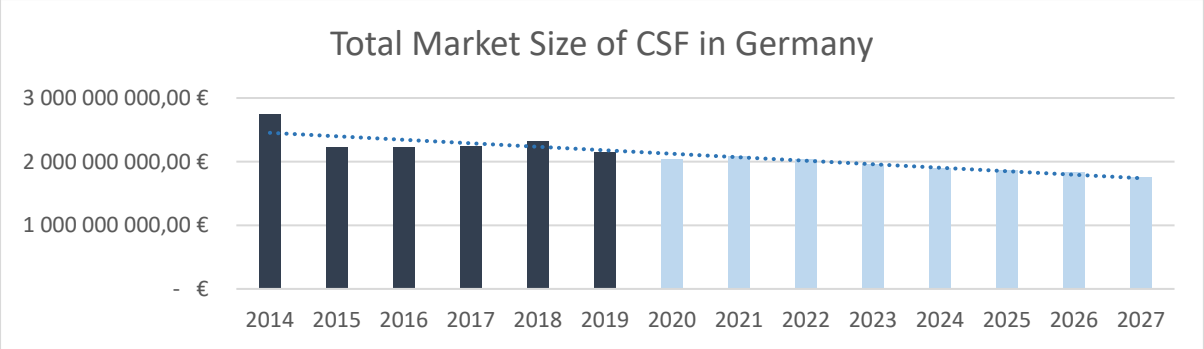
12 Appendixes

Appendix 1. *Project Overview and Timeline*



Appendix 2. *Market Size Evolution of Australia and Germany*

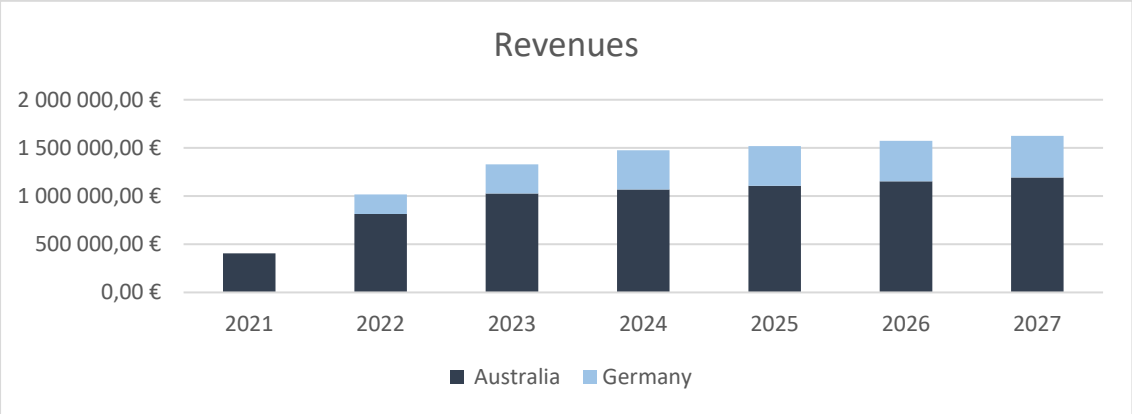




Appendix 3. *Computation of the Market Size*

		Australia			Germany		
		Market Size	C3		Market Size	C3	
Years	Period	Total Market Size (EUR)	Revenue (EUR)	Market Share	Total Market Size (EUR)	Revenue (EUR)	Market Share
2014	1	1 372 896 000,00 €			2 749 740 000,00 €		
2015	2	1 160 460 000,00 €			2 230 284 000,00 €		
2016	3	1 282 596 000,00 €			2 221 212 000,00 €		
2017	4	1 365 756 000,00 €			2 235 660 000,00 €		
2018	5	1 415 904 000,00 €			2 313 864 000,00 €		
2019	6	1 360 716 000,00 €			2 143 848 000,00 €		
2020	7	1 405 247 200,00 €	- €	0,00%	2 039 340 800,00 €	- €	0,00%
2021	8	1 482 624 266,67 €	406 142,92 €	0,03%	2 086 507 733,33 €	- €	0,00%
2022	9	1 491 816 604,44 €	814 844,71 €	0,05%	2 030 155 928,89 €	201 398,52 €	0,01%
2023	10	1 507 843 514,07 €	1 026 655,00 €	0,07%	1 960 153 108,15 €	303 097,64 €	0,02%
2024	11	1 537 062 909,23 €	1 068 435,34 €	0,07%	1 889 398 554,47 €	406 708,42 €	0,02%
2025	12	1 584 089 998,35 €	1 106 314,48 €	0,07%	1 868 284 476,71 €	412 074,62 €	0,02%
2026	13	1 608 803 098,37 €	1 153 098,91 €	0,07%	1 827 312 236,21 €	420 078,52 €	0,02%
2027	14	1 629 066 772,07 €	1 193 681,24 €	0,07%	1 758 400 700,04 €	430 750,50 €	0,02%

Appendix 4. *Weight of the Australian Revenues with the German revenues*



Appendix 5. *Calculations for the annual revenue estimation*

Calculation of Average Construction Revenues per Year Per Strategic Alliance in Australia	
year 2019	85 247,18 €
year 2018	16 288,55 €
Average	50 767,87 €
Calculation of Average Construction Revenues per Year per Strategic Alliance in Germany	
year 2020	11 393,51 €
year 2019	41 539,63 €
year 2018	22 591,31 €
Average	25 174,82 €
Calculation of Average Wholesale Revenues per Year in Australia	
year 2019	4 288,32 €
year 2018	1 939,38 €
Average	3 113,85 €

Appendix 6. *Annual Revenue Estimation Summary*

Annual Revenue Estimations		
Australia		Germany
Construction	Wholesale	Construction
50 767,87 €	3 113,85 €	25 174,82 €

Appendix 7. *Industry Average Growth Rate*

Growth Rate per Industry Calculation									
years		2020	2021	2022	2023	2024	2025	2026	2027
Construction (Australia)	turnover (EUR million)	231 762,8	241 423,9	250 241,4	259 841,6	269 719,4	279 965,2	290 238,1	300 498,0
	growth rate		4,17%	3,65%	3,84%	3,80%	3,80%	3,67%	3,54%
Construction (Germany)	turnover (EUR million)	342 743,9	362 774,5	380 530,5	392 612,7	400 683,3	407 444,7	414 112,8	420 564,2
	growth rate		5,84%	4,89%	3,18%	2,06%	1,69%	1,64%	1,56%
Wholesale (Australia)	turnover (EUR million)	78 218	80 602	82 454	84 483	86 255	88 018	89 639	91 214
	growth rate		3,05%	2,30%	2,46%	2,10%	2,04%	1,84%	1,76%

Appendix 8. *Yearly Growth Rates per Industry and per Country*

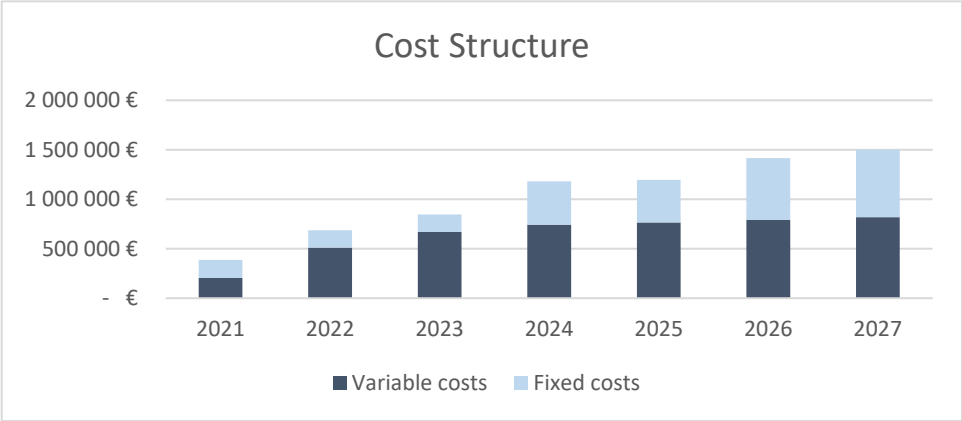
Yearly Expected Growth Rate per Industry								
years	2021	2022	2023	2024	2025	2026	2027	Average 2021-2027
Construction (Australia)	4,17%	3,65%	3,84%	3,80%	3,80%	3,67%	3,54%	**3,78%**
Construction (Germany)	5,84%	4,89%	3,18%	2,06%	1,69%	1,64%	1,56%	**2,98%**
Wholesale (Australia)	3,05%	2,30%	2,46%	2,10%	2,04%	1,84%	1,76%	**2,22%**

DP 's Yearly Growth per Strategic Action per Industry					
Project year	1	2	3	4	5
Construction Market Growth - Australia	0,63%	1,51%	2,27%	3,02%	3,78%
Construction Market Growth - Germany	0,50%	1,19%	1,79%	2,38%	2,98%
Wholesalers Market Growth - Australia	0,37%	0,89%	1,33%	1,78%	2,22%

Appendix 9. *Yearly Revenues Calculation*

Yearly Revenues Calculation							
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
AUSTRALIA							
Nr 1 and 2 SA with Construction	*(2 Strategic Alliances)*						
Average Annual Revenue per AS	406142,92	408701,7863	414881,7581	424291,8867	437123,3055	453647,6381	470796,631
G		0,63%	1,51%	2,27%	3,02%	3,78%	3,78%
Nr 3 of SA with Construction		*(2 Strategic Alliance)*					
Average Annual Revenue per AS		406142,92	408701,7863	414881,7581	424291,8867	437123,3055	453647,6381
G			0,63%	1,51%	2,27%	3,02%	3,78%
Nr 4 of SA with Construction			*(1 Strategic Alliance)*				
Average Annual Revenue per AS			203071,46	204350,8932	207440,8791	212145,9433	218561,6527
G				0,63%	1,51%	2,27%	3,02%
Total Revenue per Year - Strategic Alliances	**406142,92**	**814844,7063**	**1026655,004**	**1043524,538**	**1068856,071**	**1102916,887**	**1143005,922**
Nr 1 and 2 Contracts with Wholesalers				*(2 Contracts)*			
Annual Average transaction revenue with wholesalers				24910,8	25003,00629	25225,12052	25561,25158
G					0,37%	0,89%	1,33%
Nr 3 DE with Wholesalers					*(1 Contracts)*		
Annual Average transaction revenue with wholesalers					12455,4	12501,50315	12612,56026
G						0,37%	0,89%
Nr 4 DE with Wholesalers						*(1 Contracts)*	
Annual Average transaction revenue with wholesalers						12455,4	12501,50315
G							0,37%
Total Revenue per Year - Wholesale Contracts	**0**	**0**	**0**	**24910,8**	**37458,40629**	**50182,02366**	**50675,31498**
Total Revenue per Year – AUSTRALIA	**406142,92**	**814844,7063**	**1026655,004**	**1068435,338**	**1106314,478**	**1153098,911**	**1193681,237**
GERMANY							
Nr 1 and 2 of SA with Construction Companies		*(2 Strategic Alliance)*					
Average Annual Revenue per company		201398,52	202398,3828	204809,967	208470,4444	213438,3104	219796,1236
G			0,50%	1,19%	1,79%	2,38%	2,98%
Nr 3 of SA with Construction Companies			*(1 Strategic Alliance)*				
Average Annual Revenue per company			100699,26	101199,1914	102404,9835	104235,2222	106719,1552
G				0,50%	1,19%	1,79%	2,38%
Nr 4 of SA with Construction Companies				*(1 Strategic Alliance)*			
Average Annual Revenue per company				100699,26	101199,1914	102404,9835	104235,2222
G					0,50%	1,19%	1,79%
Total Revenue of Germany	**0**	**201398,52**	**303097,6428**	**406708,4184**	**412074,6193**	**420078,5161**	**430750,501**
Total Revenue per Year	**406142,92**	**1016243,226**	**1329752,647**	**1475143,756**	**1518389,097**	**1573177,427**	**1624431,738**

Appendix 10. *Cost structure (excluding transportation costs)*



Appendix 11. *Cost of Goods Sold Estimation*

COGS Estimation											
year	**2017**	**2018**	**2019**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
sales	6 109 894,72	5 835 688,25	6 018 037,48	406 143 €	1 016 243 €	1 329 753 €	1 475 144 €	1 513 023 €	1 573 177 €	1 624 432 €
COGS	2 872 750,03	2 908 955,46	3 243 296,01	204 099 €	510 692 €	668 239 €	741 303 €	763 035 €	790 567 €	816 324 €
COGS (in % of sales)	0,47017996	0,49847684	0,538929181	0,502529	0,502529	0,502529	0,502529	0,5043113	0,502529	0,502529
average COGS (in % of sales)	0,50252866									

Appendix 12. *Internal Transfer Price Calculations*

Calculation of Internal Transfer Price				
year	2017	2018	2019	Average
Operational Costs of DP (excluding COGS)				
Inventories of production change	95 086,93	-16 420,94	-129 033,32	
external supplies and services	-1 237 147,82	-1 092 812,13	-1 057 704,36	
employee expenses	-1 656 108,30	-1 644 998,73	-1 623 733,32	
impairment of debts	0	-13 989,99	4 012,35	
gains and losses on fair value	35 495,86	-144 731,05	152 392,14	
other expenses and losses	-491 842,19	-74 164,86	-35 477,03	
expenses of depreciation and amortisation	-284 234,97	-250 674,52	-299 717,24	
Total	-3 538 750,49	-3 237 792,22	-2 989 260,78	
Total Costs transferable (assumption: 10% of total costs)	-353875,049	-323779,222	-298926,078	
total sales	6 109 894,72	5 835 688,25	6 018 037,48	
Internal transfer price	0,057918355	0,055482611	0,049671688	**0,054358**

Appendix 13. *P&L of the Project from 2021 to 2027*

DP's P&L							
Variables (everything in annual terms)	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Sales	537 733 €	1 280 253 €	1 662 389 €	1 792 469 €	1 846 964 €	1 915 648 €	1 978 955 €
DP Portugal	537 733 €	1 280 253 €	1 662 389 €	406 708 €	412 075 €	420 079 €	430 751 €
Australian Branch	- €	- €	- €	1 385 761 €	1 434 890 €	1 495 569 €	1 548 205 €
COGS	204 099 €	510 692 €	668 239 €	741 303 €	763 035 €	790 567 €	816 324 €
DP Portugal	204 099 €	510 692 €	668 239 €	204 383 €	207 079 €	211 102 €	216 465 €
Australian Branch	- €	- €	- €	536 920 €	555 955 €	579 466 €	599 859 €
Internal Transfer Costs	29 230 €	69 592 €	90 364 €	97 435 €	100 397 €	104 131 €	107 572 €
DP Portugal	29 230 €	69 592 €	90 364 €	22 108 €	22 400 €	22 835 €	23 415 €
Australian Branch	- €	- €	- €	75 327 €	77 998 €	81 296 €	84 157 €
External supplies and services	131 590 €	264 010 €	332 636 €	357 510 €	368 760 €	382 655 €	394 708 €
DP Portugal	131 590 €	264 010 €	332 636 €	- €	- €	- €	- €
Australian Branch	- €	- €	- €	357 510 €	368 760 €	382 655 €	394 708 €
Employees expenses	97 804 €	97 804 €	97 804 €	320 397 €	320 397 €	364 627 €	364 627 €
DP Portugal	97 804 €	97 804 €	97 804 €	53 574 €	53 574 €	53 574 €	53 574 €
Australian Branch	- €	- €	- €	266 823 €	266 823 €	311 053 €	311 053 €
Rent and Overhead (Warehouse Rent)	- €	- €	- €	23 064 €	23 064 €	23 064 €	23 064 €
DP Portugal	- €	- €	- €	- €	- €	- €	- €
Australian Branch	- €	- €	- €	23 064 €	23 064 €	23 064 €	23 064 €
Other expenses (Marketing Expenses)	85 111 €	87 278 €	80 821 €	84 311 €	87 838 €	91 553 €	105 447 €
DP Portugal	85 111 €	87 278 €	80 821 €	69 968 €	73 448 €	77 105 €	80 947 €
Australian Branch	- €	- €	- €	14 342 €	14 390 €	14 449 €	24 500 €
EBIT	- 10 101 €	250 878 €	470 346 €	238 418 €	256 921 €	236 155 €	416 475 €
DP Portugal	- 10 101 €	250 878 €	470 346 €	126 644 €	129 022 €	132 568 €	137 297 €
Australian Branch	- €	- €	- €	111 774 €	127 900 €	103 586 €	279 177 €
Result before taxes	- 10 101 €	250 878 €	470 346 €	231 753 €	250 256 €	229 490 €	409 810 €
DP Portugal	- 10 101 €	250 878 €	470 346 €	126 644 €	129 022 €	132 568 €	137 297 €
Australian Branch	- €	- €	- €	105 109 €	121 235 €	96 921 €	272 512 €
Income tax for the period	- 2 280 €	56 623 €	106 157 €	52 307 €	56 483 €	51 796 €	92 494 €
DP Portugal	- 2 280 €	56 623 €	106 157 €	28 584 €	29 120 €	29 921 €	30 988 €
Australian Branch	- €	- €	- €	23 723 €	27 363 €	21 875 €	61 506 €
Net result for the period	- 7 821 €	194 255 €	364 189 €	179 446 €	193 774 €	177 694 €	317 316 €
DP Portugal	- 7 821 €	194 255 €	364 189 €	98 060 €	99 902 €	102 648 €	106 309 €
Australian Branch	- €	- €	- €	81 386 €	93 872 €	75 046 €	211 006 €

Appendix 14. *P&L from Operations in Portugal*

DP PORTUGAL							
Variables (everything in annual terms)	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Sales	537 733 €	1 280 253 €	1 662 389 €	406 708 €	412 075 €	420 079 €	430 751 €
Revenues on Australian Strategic Alliances (before branch)	406 143 €	814 845 €	1 026 655 €				
Transportation Cost Estimation	131 590 €	264 010 €	332 636 €				
Revenues on German Strategic Alliances	- €	201 399 €	303 098 €	406 708 €	412 075 €	420 079 €	430 751 €
COGS	204 099 €	510 692 €	668 239 €	204 383 €	207 079 €	211 102 €	216 465 €
Internal Transfer Costs	29 230 €	69 592 €	90 364 €	22 108 €	22 400 €	22 835 €	23 415 €
External supplies and services	131 590 €	264 010 €	332 636 €	- €	- €	- €	- €
Lawyer Services	- €	- €	- €	- €	- €	- €	- €
Automobile Insurance cost	- €	- €	- €	- €	- €	- €	- €
Transportation Cost Estimation	131 590 €	264 010 €	332 636 €	- €	- €	- €	- €
Employees expenses	97 804 €	97 804 €	97 804 €	53 574 €	53 574 €	53 574 €	53 574 €
Sales Representatives Expected Salary	75 629 €	75 629 €	75 629 €	31 399 €	31 399 €	31 399 €	31 399 €
Secretary Expected Salary		- €	- €	- €	- €	- €	- €
Warehouse workers Expected Salary		- €	- €	- €	- €	- €	- €
Customer Journey Manager	22 175 €	22 175 €	22 175 €	22 175 €	22 175 €	22 175 €	22 175 €
Branch Manager		- €	- €	- €	- €	- €	- €
Rent and Overhead (Warehouse Rent)	- €	- €	- €	- €	- €	- €	- €
Other expenses and losses (Marketing Expenses)	85 111 €	87 278 €	80 821 €	69 968 €	73 448 €	77 105 €	80 947 €
Guarantees	510 €	1 277 €	1 671 €	511 €	518 €	528 €	541 €
Website for Australia and Germany Markets	10 001 €	10 001 €	- €	- €	- €	- €	- €
Add marketplace function	1 600 €	- €	- €	- €	- €	- €	- €
Google AdWords	60 000 €	63 000 €	66 150 €	69 458 €	72 930 €	76 577 €	80 406 €
Ad Magazine	10 000 €	10 000 €	10 000 €	- €	- €	- €	- €
Fair (DesignBuild)	3 000 €	3 000 €	3 000 €	- €	- €	- €	- €
Results before taxes, interests, depreciation, and amortisation	- 10 101 €	250 878 €	470 346 €	126 644 €	129 022 €	132 568 €	137 297 €
Result before taxes	- 10 101 €	250 878 €	470 346 €	126 644 €	129 022 €	132 568 €	137 297 €
Income tax for the period	- 2 280 €	56 623 €	106 157 €	28 584 €	29 120 €	29 921 €	30 988 €
Net result for the period	- 7 821 €	194 255 €	364 189 €	98 060 €	99 902 €	102 648 €	106 309 €

Appendix 15. *P&L from Operations in Australia*

SUBSIDIARY AUSTRALIA							
Variables (everything in annual terms)	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Sales				1 385 761 €	1 434 890 €	1 495 569 €	1 548 205 €
Revenues in Australian				1 068 435 €	1 106 314 €	1 153 099 €	1 193 681 €
Transportation Cost Estimation				317 325 €	328 575 €	342 470 €	354 523 €
COGS				536 920 €	555 955 €	579 466 €	599 859 €
Internal Transference Price				75 327 €	77 998 €	81 296 €	84 157 €
External supplies and services				357 510 €	368 760 €	382 655 €	394 708 €
Lawyer Services				64 113 €	64 113 €	64 113 €	64 113 €
Automobile Insurance cost				701 €	701 €	701 €	701 €
Transportation Cost Estimation				317 325 €	328 575 €	342 470 €	354 523 €
Employees expenses				266 823 €	266 823 €	311 053 €	311 053 €
Sales Representatives Expected Salary				44 230 €	44 230 €	88 460 €	88 460 €
Secretary Expected Salary				42 770 €	42 770 €	42 770 €	42 770 €
Warehouse workers Expected Salary				116 711 €	116 711 €	116 711 €	116 711 €
Branch Manager				63 113 €	63 113 €	63 113 €	63 113 €
Rent and Overhead (Warehouse Rent)				23 064 €	23 064 €	23 064 €	23 064 €
Other expenses (Marketing Expenses)				14 342 €	14 390 €	14 449 €	24 500 €
Guarantees				1 342 €	1 390 €	1 449 €	1 500 €
Website for Each Subsidiary				- €	- €	- €	- €
Add marketplace function				- €	- €	- €	- €
Google AdWords				- €	- €	- €	- €
Ad Magazine				10 000 €	10 000 €	10 000 €	20 000 €
Fair (DesignBuild)				3 000 €	3 000 €	3 000 €	3 000 €
EBIT				111 774 €	127 900 €	103 586 €	279 177 €
Expenses/reversions of depreciation and amortisation (Truck Depreciation)				6 665 €	6 665 €	6 665 €	6 665 €
Result before taxes				105 109 €	121 235 €	96 921 €	272 512 €
Income tax for the period				23 723 €	27 363 €	21 875 €	61 506 €
Net result for the period				81 386 €	93 872 €	75 046 €	211 006 €

Appendix 16. *Breakeven Analysis*

Breakeven Analysis							
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
variable costs per unit							
Cost of raw materials	4 347,72 €	4 413,80 €	4 495,90 €	3 689,28 €	3 778,56 €	3 870,00 €	3 963,65 €
Transportations cost	2 030,83 €	2 061,70 €	2 100,05 €	1 579,67 €	1 617,89 €	1 506,41 €	1 542,86 €
SG&A	463,34 €	197,57 €	156,68 €	119,24 €	118,52 €	117,04 €	116,03 €
Total (without internal transfer costs)	4 811,06 €	4 611,37 €	4 652,58 €	3 808,51 €	3 897,08 €	3 987,03 €	4 079,69 €
internal transfer costs	25,19 €	10,74 €	8,52 €	6,48 €	6,44 €	6,36 €	6,31 €
Total	4 836,24 €	4 622,11 €	4 661,10 €	3 815,00 €	3 903,52 €	3 993,40 €	4 085,99 €
Fixed costs							
Salaries of employees	97803,6685	97803,6685	97803,6685	320397,2181	320397,2281	364627,1466	364627,1566
Warehouse rent	0	0	0	23064	23064	23064	23064
Marketing Costs	85111,24649	87277,72923	80820,59817	84310,75629	87837,96639	91553,3082	105446,5501
total	182914,915	185081,3977	178624,2667	427771,9744	431299,1945	479244,4548	493137,7067
average price of products	6 268,00 €	6 363,27 €	6 481,63 €	5 318,74 €	5 447,45 €	5 579,28 €	5 714,30 €
average price of slabs	108,49 €	110,14 €	112,19 €	114,70 €	117,48 €	120,32 €	123,23 €
% of slabs	0,00%	0,00%	0,00%	15,00%	15,00%	15,00%	15,00%
average price of tiles	1,49 €	1,51 €	1,54 €	1,58 €	1,61 €	1,65 €	1,69 €
% of tiles	0,00%	0,00%	0,00%	5,00%	5,00%	5,00%	5,00%
average price of cut-to-size	6 268,00 €	6 363,27 €	6 481,63 €	6 626,82 €	6 787,19 €	6 951,44 €	7 119,66 €
% of cut-to-size	100,00%	100,00%	100,00%	80,00%	80,00%	80,00%	80,00%
average transportation costs per unit	2 030,83 €	2 061,70 €	2 100,05 €	1 579,67 €	1 617,89 €	1 506,41 €	1 542,86 €
total	8 298,83 €	8 424,97 €	8 581,68 €	6 898,40 €	7 065,35 €	7 085,69 €	7 257,16 €
contribution margin (Average price- Variable costs)	3 462,59 €	3 802,86 €	3 920,58 €	3 083,41 €	3 161,83 €	3 092,29 €	3 171,17 €
contribution margin ratio (CM/ average price)	0,42	0,45	0,46	0,45	0,45	0,44	0,44
Breakeven Point							
Quantity (fixed costs /contribution margin)	**52,83**	**48,67**	**45,56**	**138,73**	**136,41**	**154,98**	**155,51**
Value of Sales (price*quantity)	**438 394,64 €**	**410 035,00 €**	**390 986,88 €**	**957 039,66 €**	**963 771,54 €**	**1 098 142,62 €**	**1 128 537,00 €**

Appendix 17. *Margin of Safety Ratio*

Margin of safety ratio								
year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**Average margin of safety ratio**
total sales	537 733,23 €	1 280 252,91 €	1 662 388,87 €	1 792 469,05 €	1 846 964,50 €	1 915 647,80 €	1 978 955,07 €	
breakeven point	438 394,64 €	410 035,00 €	390 986,88 €	957 039,66 €	963 771,54 €	1 098 142,62 €	1 128 537,00 €	
Margin of safety	99 338,59 €	870 217,91 €	1 271 401,99 €	835 429,40 €	883 192,96 €	817 505,18 €	850 418,06 €	
Margin of safety ratio	**0,184735821**	**0,679723436**	**0,764804198**	**0,466077445**	**0,478186214**	**0,426751296**	**0,429730861**	**0,4900**

Appendix 18. *Degree of Operational Leverage*

Degree of operational leverage								
year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**Average DOL**
Sales	406142,92	1016243,226	1329752,647	1475143,756	1518389,097	1573177,427	1624431,738	
EBIT	-10100,69313	250878,1486	470345,5766	231752,9582	250256,3991	229489,8223	409809,7125	
% Change in EBIT		2583,77%	87,48%	-50,73%	7,98%	-8,30%	78,57%	
% Change in Sales		150,22%	30,85%	10,93%	2,93%	3,61%	3,26%	
DOL		**17,20**	**2,84**	**-4,64**	**2,72**	**-2,30**	**24,12**	**6,66**

Appendix 19. *Investment Cash-flows Summary*

Investment Plan							
year	2021	2022	2023	2024	2025	2026	2027
CAPEX							
Tablets		400 €					
Truck + Container		66 650 €					
Warehouse Materials		20 000 €					
(-) Capex Total	0 €	87 050 €	0 €	0 €	0 €	0 €	0 €
NET WORKING CAPITAL							
(+) Accounts receivable	67 690 €	169 374 €	221 625 €	245 857 €	253 065 €	262 196 €	270 739 €
(+) Inventory	73 771 €	184 589 €	241 534 €	267 942 €	275 797 €	285 749 €	295 059 €
(-) Accounts payable	6 852 €	17 144 €	22 433 €	24 885 €	25 615 €	26 539 €	27 404 €
(=) Net Working Capital	134 610 €	336 819 €	440 727 €	488 914 €	503 247 €	521 406 €	538 393 €
(-) Change in Net Working Capital	134 610 €	202 209 €	103 908 €	48 188 €	14 333 €	18 159 €	16 987 €
SALVAGE VALUE							
(+) Salvage value after taxes							0 €
Investment Cashflows	-134 610 €	-289 259 €	-103 908 €	-48 188 €	-14 333 €	-18 159 €	-16 987 €

Appendix 20. *CAPEX calculations*

Calculation of CAPEX							
Years	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Tablets		400 €					
Truck + Container		66 650 €					
Warehouse Materials		20 000 €					
Capex Total	0 €	87 050 €	0 €	0 €	0 €	0 €	0 €

Appendix 21. *Changes in Net Working Capital Calculation*

Calculation of NWC							
year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
NET WORKING CAPITAL							
(+) Accounts receivable	67 690 €	169 374 €	221 625 €	245 857 €	253 065 €	262 196 €	270 739 €
(+) Inventory	73 771 €	184 589 €	241 534 €	267 942 €	275 797 €	285 749 €	295 059 €
(-) Accounts payable	6 852 €	17 144 €	22 433 €	24 885 €	25 615 €	26 539 €	27 404 €
(=) Net Working Capital	134 610 €	336 819 €	440 727 €	488 914 €	503 247 €	521 406 €	538 393 €
(-) Change in Net Working Capital	134 610 €	202 209 €	103 908 €	48 188 €	14 333 €	18 159 €	16 987 €

Appendix 22. *Change in Receivables Calculation*

Calculation of Δ Receivables							
Years	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Sales	406 143 €	1 016 243 €	1 329 753 €	1 475 144 €	1 518 389 €	1 573 177 €	1 624 432 €
monthly sales	33 845 €	84 687 €	110 813 €	122 929 €	126 532 €	131 098 €	135 369 €
Receivables	67 690 €	169 374 €	221 625 €	245 857 €	253 065 €	262 196 €	270 739 €
Δ Receivables	67 690 €	101 683 €	52 252 €	24 232 €	7 208 €	9 131 €	8 542 €

Appendix 23. *Change in Inventories Calculation*

Calculation of Δ Inventories									
Calculation of Cost of inventories per 1€ of COGD in 2019		**YEAR**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Total Cost of inventories in 2019	1172283,35	Cost of inventories per 1€ of COGS	0,3614	0,3614	0,3614	0,3614	0,3614	0,3614	0,3614
COGS in 2019	3243296,01	COGS	204 099 €	510 692 €	668 239 €	741 303 €	763 035 €	790 567 €	816 324 €
		Total Value of Inventories	73 771 €	184 589 €	241 534 €	267 942 €	275 797 €	285 749 €	295 059 €
Cost of inventories per 1€ of COGS	**0,361448152**	**Δ Inventories**	**73 771 €**	**110 818 €**	**56 945 €**	**26 409 €**	**7 855 €**	**9 952 €**	**9 310 €**

Appendix 24. *Change in Accounts Payable*

Calculation of Δ Payables							
year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
COGS	204 099 €	510 692 €	668 239 €	741 303 €	763 035 €	790 567 €	816 324 €
Inventories	73 771 €	184 589 €	241 534 €	267 942 €	275 797 €	285 749 €	295 059 €
Purchases	277 870 €	695 280 €	909 773 €	1 009 245 €	1 038 832 €	1 076 316 €	1 111 383 €
average payment period (days)	9	9	9	9	9	9	9
total payables	6 852 €	17 144 €	22 433 €	24 885 €	25 615 €	26 539 €	27 404 €
Δ Payables	6 852 €	10 292 €	5 289 €	2 453 €	730 €	924 €	865 €

Appendix 25. *Summary of characteristics of Debt and Equity Financing*

Debt and Equity Financing Characteristics		
	Debt	**Equity**
types	Bank loan, commercial paper, leases, corporate bonds	Common stock, Preferred Stock
return	Interest and Principal (tax deductible for the company)	Dividends (not tax deductible for the company)
priority	Priority over shareholders	residual claimholders usually with limited liability
voting rights	No voting rights, protected by covenants	Usually with voting rights
risk	Default risk	Uncertainty about how much and when shareholders get dividends
volatility	Low, fixed payments	High, uncertain payments

Appendix 26. *Liquidity and Solvency Ratios of DP*

Liquidity ratios	
Current ratio	**8,05**
Current assets	7 746 973,76
Current liabilities	962 397,32
Quick ratio	**6,83**
Current assets	7 746 973,76
inventories	1 172 283,35
Current liabilities	962 397,32
Cash ratio	**2,61**
cash	2 514 098,23
Current liabilities	962 397,32
NWC	**6 784 576,44**
Current assets	7 746 973,76
Current liabilities	962 397,32

Solvency ratios	
D/E ratio	0,0003
Total debt	2 590,04
Equity	8 772 800,01
Debt to Assets ratio	0,0003
Total debt	2 590,04
assets	9 811 869,83
Financial Leverage ratio	1,1184
assets	9 811 869,83
Equity	8 772 800,01
Net Debt to EBITDA	-15,9798
Total debt	2 590,04
cash	2 514 098,23
EBITDA	157 167,35
Debt Structure Ratio	0
Long-term debt	0
Total debt	2590,04

Appendix 27. *Amount to be financed calculation.*

Calculation of amount needed to be financed							
Incremental CFs of the Project	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
(+) Net sales	537 733 €	1 280 253 €	1 662 389 €	1 792 469 €	1 846 964 €	1 915 648 €	1 978 955 €
(-) Cost of sales	204 099 €	510 692 €	668 239 €	741 303 €	763 035 €	790 567 €	816 324 €
(=) Gross Margin	333 635 €	769 561 €	994 150 €	1 051 167 €	1 083 930 €	1 125 081 €	1 162 631 €
(+) Internal Transfer Costs	29 230 €	69 592 €	90 364 €	97 435 €	100 397 €	104 131 €	107 572 €
(+) Salaries	97 804 €	97 804 €	97 804 €	320 397 €	320 397 €	364 627 €	364 627 €
(+) Rent	0 €	0 €	0 €	23 064 €	23 064 €	23 064 €	23 064 €
(+) Other	216 702 €	351 287 €	413 457 €	441 821 €	456 598 €	474 208 €	500 155 €
(=) Operating expenses	343 735 €	518 683 €	601 625 €	882 717 €	900 457 €	966 030 €	995 418 €
EBITDA	-10 101 €	250 878 €	392 525 €	168 450 €	183 473 €	159 050 €	167 213 €
(-) Depreciation	0 €	0 €	0 €	6 665 €	6 665 €	6 665 €	6 665 €
EBIT	-10 101 €	250 878 €	392 525 €	161 785 €	176 808 €	152 385 €	160 548 €
(-) Taxes	-2 280 €	56 623 €	88 593 €	36 515 €	39 906 €	34 393 €	36 236 €
NO PLAT	-7 821 €	194 255 €	303 932 €	125 270 €	136 903 €	117 992 €	124 312 €
(+) Depreciation	0 €	0 €	0 €	6 665 €	6 665 €	6 665 €	6 665 €
Operating Cash Flows	-7 821 €	194 255 €	303 932 €	131 935 €	143 568 €	124 657 €	130 977 €
CAPEX							
Tablets		400 €					
Truck + Container		66 650 €					
Warehouse Materials		20 000 €					
(-) Capex Total	0 €	87 050 €	0 €	0 €	0 €	0 €	0 €
NET WORKING CAPITAL							
(+) Accounts receivable	67 690 €	169 374 €	221 625 €	245 857 €	253 065 €	262 196 €	270 739 €
(+) Inventory	73 771 €	184 589 €	241 534 €	267 942 €	275 797 €	285 749 €	295 059 €
(-) Accounts payable	6 852 €	17 144 €	22 433 €	24 885 €	25 615 €	26 539 €	27 404 €
(=) Net Working Capital	134 610 €	336 819 €	440 727 €	488 914 €	503 247 €	521 406 €	538 393 €
(-) Change in Net Working Capital	134 610 €	202 209 €	103 908 €	48 188 €	14 333 €	18 159 €	16 987 €
SALVAGE VALUE							
(+) Salvage value after taxes							0 €
Investment Cashflows	-134 610 €	-289 259 €	-103 908 €	-48 188 €	-14 333 €	-18 159 €	-16 987 €
FCF	-142 431 €	-95 004 €	200 024 €	83 747 €	129 235 €	106 498 €	113 990 €
Amount needed to be financed (approximate)	**240 000€**						

Appendix 28. *Financial Distress Costs Breakdown*

Financial Distress Costs			
Context	**Examples**		
More debt increases the probability of bankruptcy. Under Modigliani-Miller assumptions, should not be costly. Creditors would take over the firm when the value of equity falls to zero. But there are costs of financial distress. These are not related with default but related to the possible decrease of expected cash flows because firm is near or in bankruptcy. Financial distress (firms claims cannot be serviced) does not imply economic distress (firm's assets are generating a net economic loss)	Direct Costs	legal expenses	When facing financial distress and close to or in bankruptcy, the company will have extra expenses that it would not have otherwise if it did not have debt. Increasing debt will increase these costs and/or the probability of occurrence.
		Court costs	
		Advisory fees	
		(…) Other	
	Indirect Costs	reputation	Financial distress may affect demand since the company cannot commit to remain in business specially in cases where post-sales services such as maintenance are contemplated. Suppliers may stop sending raw materials. Loosing flexibility due to closely monitored by creditors. Employees may be less willing to make firm-specific investments when the firm is in or near distress.
		fire sales	Assets may be liquidated at fire sale prices because 1. Creditors have little incentive to search for prices higher than the value of their claims or 2. firms with highly specific assets that cannot be sold quicky without significant losses in value will suffer most.
	Agency Costs	risk shifting	Shareholders may take high risk, negative NPV projects in the hope of realizing the upside potential, leaving bondholders to bear the downside risk (overinvestment).
		debt overhang	Shareholders may be unwilling to finance positive NPV projects when the firm is in financial distress since debtholders have priority over the CFs (underinvestment).
		cashing out	Shareholders may try to get money out of the firm ahead of higher priority claims.

Appendix 29. *Rating for the spread of Companies by Banks*

Rating of Companies by Banks			
If interest coverage ratio is			
greater than	≤ to	Rating is	Spread is
-100000	0,499999	D2/D	21,66%
0,5	0,799999	C2/C	16,25%
0,8	1,249999	Ca2/CC	12,38%
1,25	1,499999	Caa/CCC	11,75%
1,5	1,999999	B3/B-	10,08%
2	2,499999	B2/B	8,25%
2,5	2,999999	B1/B+	4,31%
3	3,499999	Ba2/BB	2,95%
3,5	3,9999999	Ba1/BB+	2,32%
4	4,499999	Baa2/BBB	1,81%
4,5	5,999999	A3/A-	1,34%
6	7,499999	A2/A	1,19%
7,5	9,499999	A1/A+	1,08%
9,5	12,499999	Aa2/AA	0,86%
12,5	100000	Aaa/AAA	0,76%

Appendix 30. *Cost of Debt Calculation*

Cost of debt Calculation	
Current long term government bond rate	1,60%
Estimated Default Spread	0,76%
Rd	**2,36%**

Appendix 31. *Cost of Equity Calculation*

Cost of equity Calculation using CAPM model	
Risk- Free Rate of Return	1,60%
Beta	0,8
Expected Market Return	7,90%
risk premium expected	9,50%
Re	**9,20%**

Appendix 32. *Optimal Capital Structure Calculations*

Computation of Optimal Capital Structure							
Computation of optimal Annual Loan Payment							
year	2021	2022	2023	2024	2025	2026	2027
net profit of project	- 7 820,97 €	194 255 €	364 189 €	179 446 €	193 774 €	177 694 €	317 316 €
Average net profit	202 693,15 €						
Limit of annual loan payments (10% of average net profit)	**20 269,31 €**						
Computation of optimal Total Debt Value							
Value of the loan	**240 000,00 €**	**220 000,00 €**	**200 000,00 €**	**190 000,00 €**	**180 000,00 €**	**170 000,00 €**	**164 000,00 €**
Years	10	10	10	10	10	10	10
Payment per year if borrowed	29 664,00 €	27 192,00 €	24 720,00 €	23 484,00 €	22 248,00 €	21 012,00 €	**20 270,40 €**
total debt + interest	296 640,00 €	271 920,00 €	247 200,00 €	234 840,00 €	222 480,00 €	210 120,00 €	202 704,00 €
annual debt payment	24 000,00 €	22 000,00 €	20 000,00 €	19 000,00 €	18 000,00 €	17 000,00 €	16 400,00 €
annual interest payment	5 664,00 €	5 192,00 €	4 720,00 €	4 484,00 €	4 248,00 €	4 012,00 €	3 870,40 €

Optimal Capital Structure	
Total amount need to be financed	240 000 €
optimal Debt Level	164 000,00 €
optimal Equity Level	76 000,00 €
D/E ratio	2,157894737
Re	9,20%
Rd	2,36%
tax rate	22,57%
WACC	**3,28%**

Appendix 33. *Project's Profitability Ratios*

Profitability Ratios									
Year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**Average**	**Comparison with ratio pre-project**
Return on Sales	-1,88%	19,60%	28,29%	12,93%	13,55%	11,98%	20,71%	15,03%	2,61%
EBIT	-10100,69	250878,149	470345,577	231752,958	250256,399	229489,822	409809,7		Increase of
Sales	537733,23	1280252,91	1662388,87	1792469,05	1846964,5	1915647,8	1978955		12,42%
Gross Margin ratio	62,04%	60,11%	59,80%	58,64%	58,69%	58,73%	58,75%	59,54%	46,11%
sales	537733,23	1280252,91	1662388,87	1792469,05	1846964,5	1915647,8	1978955		Increase of
COGS	204098,6	510691,692	668239,268	741302,517	763034,554	790567,279	816324,1		13,43%
Net Profit Margin	-1,45%	15,17%	21,91%	10,01%	10,49%	9,28%	16,03%	11,63%	2,02%
net profit	-7820,967	194254,95	364188,58	179446,315	193773,53	177693,969	317315,7		Increase of
sales	537733,23	1280252,91	1662388,87	1792469,05	1846964,5	1915647,8	1978955		9,61%

Appendix 34. *FCF, NPV and IRR calculations*

FCF, NPV and IRR calculations							
Incremental CFs of the Project	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
(+) Net sales	537 733 €	1 280 253 €	1 662 389 €	1 792 469 €	1 846 964 €	1 915 648 €	1 978 955 €
(-) Cost of sales	204 099 €	510 692 €	668 239 €	741 303 €	763 035 €	790 567 €	816 324 €
(=) Gross Margin	333 635 €	769 561 €	994 150 €	1 051 167 €	1 083 930 €	1 125 081 €	1 162 631 €
(+) Internal Transfer Costs	29 230 €	69 592 €	90 364 €	97 435 €	100 397 €	104 131 €	107 572 €
(+) Salaries	97 804 €	97 804 €	97 804 €	320 397 €	320 397 €	364 627 €	364 627 €
(+) Rent	0 €	0 €	0 €	23 064 €	23 064 €	23 064 €	23 064 €
(+) Other	216 702 €	351 287 €	413 457 €	441 821 €	456 598 €	474 208 €	500 155 €
(=) Operating expenses	343 735 €	518 683 €	601 625 €	882 717 €	900 457 €	966 030 €	995 418 €
EBITDA	-10 101 €	250 878 €	392 525 €	168 450 €	183 473 €	159 050 €	167 213 €
(-) Depreciation	0 €	0 €	0 €	6 665 €	6 665 €	6 665 €	6 665 €
EBIT	-10 101 €	250 878 €	392 525 €	161 785 €	176 808 €	152 385 €	160 548 €
(-) Taxes	-2 280 €	56 623 €	88 593 €	36 515 €	39 906 €	34 393 €	36 236 €
NO PLAT	-7 821 €	194 255 €	303 932 €	125 270 €	136 903 €	117 992 €	124 312 €
(+) Depreciation	0 €	0 €	0 €	6 665 €	6 665 €	6 665 €	6 665 €
Operating Cash Flows	-7 821 €	194 255 €	303 932 €	131 935 €	143 568 €	124 657 €	130 977 €
CAPEX							
Tablets		400 €					
Truck + Container		66 650 €					
Warehouse Materials		20 000 €					
(-) Capex Total	0 €	87 050 €	0 €	0 €	0 €	0 €	0 €
NET WORKING CAPITAL							
(+) Accounts receivable	67 690 €	169 374 €	221 625 €	245 857 €	253 065 €	262 196 €	270 739 €
(+) Inventory	73 771 €	184 589 €	241 534 €	267 942 €	275 797 €	285 749 €	295 059 €
(-) Accounts payable	6 852 €	17 144 €	22 433 €	24 885 €	25 615 €	26 539 €	27 404 €
(=) Net Working Capital	134 610 €	336 819 €	440 727 €	488 914 €	503 247 €	521 406 €	538 393 €
(-) Change in Net Working Capital	134 610 €	202 209 €	103 908 €	48 188 €	14 333 €	18 159 €	16 987 €
SALVAGE VALUE							
(+) Salvage value after taxes							0 €
Investment Cashflows	-134 610 €	-289 259 €	-103 908 €	-48 188 €	-14 333 €	-18 159 €	-16 987 €
Loan Interest	3 870,40 €	3 870,40 €	3 870,40 €	3 870,40 €	3 870,40 €	3 870,40 €	3 870,40 €
(-) Taxes	873,55 €	873,55 €	873,55 €	873,55 €	873,55 €	873,55 €	873,55 €
Financing Cashflows	-2 997 €	-2 997 €	-2 997 €	-2 997 €	-2 997 €	-2 997 €	-2 997 €
FCF	-145 428 €	-98 000 €	197 027 €	80 750 €	126 238 €	103 501 €	110 993 €
Discounted FCF	-145 428 €	-94 888 €	184 711 €	73 298 €	110 949 €	88 077 €	91 453 €
NPV				**308 174 €**			
IRR				**31%**			

Appendix 35. *Payback Period Calculations*

Simple Payback Period							
year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
FCFt	-145 428 €	-98 000 €	197 027 €	80 750 €	126 238 €	103 501 €	110 993 €
Simple Payback period calculation	-145 428 €	-243 428 €	-46 401 €	34 349 €			
Simple Payback period	**2024**						
Discounted Payback Period							
year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Discounted FCFt	-145 428 €	-94 888 €	184 711 €	73 298 €	110 949 €	88 077 €	91 453 €
Discounted Payback period calculation	-145 428 €	-240 316 €	-55 604 €	17 694 €	128 643 €		
Discounted Payback period	**2025**						

Appendix 36. *Sensitivity Analysis for Forecasted Revenues*

Sensitivity Analysis - Revenues							
year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Revenues	**537 733,23 €**	**1 280 252,91 €**	**1 662 388,87 €**	**1 792 469,05 €**	**1 846 964,50 €**	**1 915 647,80 €**	**1 978 955,07 €**
-15%	457 073,24 €	1 088 214,97 €	1 413 030,54 €	1 523 598,69 €	1 569 919,82 €	1 628 300,63 €	1 682 111,81 €
-10%	483 959,90 €	1 152 227,62 €	1 496 149,98 €	1 613 222,15 €	1 662 268,05 €	1 724 083,02 €	1 781 059,56 €
-5%	510 846,56 €	1 216 240,27 €	1 579 269,43 €	1 702 845,60 €	1 754 616,27 €	1 819 865,41 €	1 880 007,31 €
5%	564 619,89 €	1 344 265,56 €	1 745 508,31 €	1 882 092,50 €	1 939 312,72 €	2 011 430,19 €	2 077 902,82 €
10%	591 506,55 €	1 408 278,20 €	1 828 627,76 €	1 971 715,96 €	2 031 660,95 €	2 107 212,58 €	2 176 850,57 €
15%	618 393,21 €	1 472 290,85 €	1 911 747,20 €	2 061 339,41 €	2 124 009,17 €	2 202 994,97 €	2 275 798,32 €

Revenues Impact	NPV	NPV Impact	% NPV Impact	IRR	IRR Impact	% IRR Impact
-15%	-12 959	-321 132,84 €	-104,21%	-2%	-33%	-106%
-10%	94 085	-214 088,84 €	-69,47%	12%	-19%	-61%
-5%	201 130	-107 043,84 €	-34,73%	22%	-9%	-29%
0%	308 173,84 €	0	0,00%	31%	0	0,00%
5%	415 218	107 044,16 €	34,73%	39%	8%	26%
10%	522 262	214 088,16 €	69,47%	47%	16%	52%
15%	629 307	321 133,16 €	104,21%	54%	23%	74%

Appendix 37. *Sensitivity Analysis for Cost of Capital*

Sensitivity analysis - Cost of Capital								
D/E impact	**Cost of capital Impact**	**Cost of Capital**	**NPV**	**Impact on NPV**	**%NPV Impact**	**IRR**	**Impact on IRR**	**% IRR impact**
more debt on the capital structure (D/E > 2,16)	**-30%**	2,30%	327 023,49 €	18 849,64 €	6,12%	32%	1%	3%
	-20%	2,62%	320 630,49 €	12 456,65 €	4,04%	32%	1%	3%
	-15%	2,79%	317 475,61 €	9 301,76 €	3,02%	32%	1%	3%
	-10%	2,95%	314 348,06 €	6 174,22 €	2,00%	32%	1%	3%
	-5%	3,12%	311 247,57 €	3 073,73 €	1,00%	31%	0%	0%
optimal	**0%**	**3,28%**	**308 173,84 €**	0	0,00%	31%	0%	0%
more equity on the capital structure (D/E < 2,16)	**5%**	3,44%	305 126,59 €	-3 047,25 €	-0,99%	31%	0%	0%
	10%	3,61%	302 105,53 €	-6 068,31 €	-1,97%	31%	0%	0%
	15%	3,77%	299 110,39 €	-9 063,45 €	-2,94%	31%	0%	0%
	20%	3,94%	296 140,89 €	-12 032,95 €	-3,90%	30%	-1%	-3%
	30%	4,26%	290 277,74 €	-17 896,10 €	-5,81%	30%	-1%	-3%

Appendix 38. *Pessimistic Scenario*

Pessimistic Scenario							
year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Sales (-15%)	457 073 €	1 088 215 €	1 413 031 €	1 346 914 €	1 569 920 €	1 628 301 €	1 682 112 €
DP Portugal	457 073 €	1 088 215 €	1 413 031 €	345 702 €	350 263 €	357 067 €	366 138 €
Australian Branch	- €	- €	- €	1 001 212 €	1 219 656 €	1 271 234 €	1 315 974 €
COGS	173 484 €	434 088 €	568 003 €	630 107 €	648 579 €	671 982 €	693 875 €
DP Portugal	173 484 €	434 088 €	568 003 €	173 725 €	176 018 €	179 436 €	183 995 €
Australian Branch	- €	- €	- €	456 382 €	472 562 €	492 546 €	509 881 €
Internal Transfer Costs (+15%)	28 572 €	68 026 €	88 331 €	84 198 €	98 138 €	101 788 €	105 152 €
DP Portugal	28 572 €	68 026 €	88 331 €	21 610 €	21 896 €	22 321 €	22 888 €
Australian Branch	- €	- €	- €	62 587 €	76 243 €	79 467 €	82 264 €
External supplies and services (+15%)	128 630 €	258 069 €	325 152 €	356 398 €	367 395 €	380 977 €	392 759 €
DP Portugal	128 630 €	258 069 €	325 152 €	- €	- €	- €	- €
Australian Branch	- €	- €	- €	356 398 €	367 395 €	380 977 €	392 759 €
Employees expenses	97 804 €	97 804 €	97 804 €	320 397 €	320 397 €	364 627 €	364 627 €
DP Portugal	97 804 €	97 804 €	97 804 €	53 574 €	53 574 €	53 574 €	53 574 €
Australian Branch	- €	- €	- €	266 823 €	266 823 €	311 053 €	311 053 €
Rent and Overhead	- €	- €	- €	23 064 €	23 064 €	23 064 €	23 064 €
DP Portugal	- €	- €	- €	- €	- €	- €	- €
Australian Branch	- €	- €	- €	23 064 €	23 064 €	23 064 €	23 064 €
Marketing Expenses (-15%)	97 790 €	100 149 €	92 656 €	96 638 €	100 685 €	104 945 €	120 911 €
DP Portugal	97 790 €	100 149 €	92 656 €	80 376 €	84 376 €	88 579 €	92 996 €
Australian Branch	- €	- €	- €	16 262 €	16 309 €	16 366 €	27 916 €
EBITDA	- 69 206 €	130 079 €	330 741 €	- 83 512 €	96 037 €	69 496 €	239 246 €
DP Portugal	- 69 206 €	130 079 €	330 741 €	96 793 €	98 777 €	101 736 €	105 681 €
Australian Branch	- €	- €	- €	- 180 305 €	- 2 739 €	- 32 240 €	133 565 €
Result before taxes	- 69 206 €	130 079 €	330 741 €	- 90 177 €	89 372 €	62 831 €	232 581 €
DP Portugal	- 69 206 €	130 079 €	330 741 €	96 793 €	98 777 €	101 736 €	105 681 €
Australian Branch	- €	- €	- €	- 186 970 €	- 9 404 €	- 38 905 €	126 900 €
Income tax for the period	- 15 620 €	29 359 €	74 648 €	- 20 353 €	20 171 €	14 181 €	52 494 €
DP Portugal	- 15 620 €	29 359 €	74 648 €	21 846 €	22 294 €	22 962 €	23 852 €
Australian Branch	- €	- €	- €	- 42 199 €	- 2 123 €	- 8 781 €	28 641 €
Net result for the period	- 53 586 €	100 720 €	256 092 €	- 69 824 €	69 201 €	48 650 €	180 088 €
DP Portugal	- 53 586 €	100 720 €	256 092 €	74 946 €	76 483 €	78 774 €	81 829 €
Australian Branch	- €	- €	- €	- 144 771 €	- 7 282 €	- 30 124 €	98 259 €
Change in Net Result	- 45 765 €	- 93 535 €	- 108 096 €	- 249 270 €	- 124 573 €	- 129 044 €	- 137 228 €
Impact on Net Result (%)	-585,16%	-48,15%	-29,68%	-138,91%	-64,29%	-72,62%	-43,25%
Average impact on Net Result	-140,29%						
NPV	-447 266 €						
Change in NPV	-755 440 €						
Impact on NPV (%)	-245,13%						

Appendix 39. *Optimistic Scenario*

Optimistic Scenario							
Year	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Sales (+15%)	618 393 €	1 472 291 €	1 911 747 €	2 061 339 €	2 124 009 €	2 202 995 €	2 275 798 €
DP Portugal	618 393 €	1 472 291 €	1 911 747 €	467 715 €	473 886 €	483 090 €	495 363 €
Australian Branch	- €	- €	- €	1 593 625 €	1 650 123 €	1 719 905 €	1 780 435 €
COGS	234 713 €	587 295 €	768 475 €	852 498 €	877 490 €	909 152 €	938 773 €
DP Portugal	234 713 €	587 295 €	768 475 €	235 040 €	238 141 €	242 767 €	248 934 €
Australian Branch	- €	- €	- €	617 458 €	639 348 €	666 385 €	689 838 €
Internal Transfer Costs (+15%)	28 572 €	68 026 €	88 331 €	95 243 €	98 138 €	101 788 €	105 152 €
DP Portugal	28 572 €	68 026 €	88 331 €	21 610 €	21 896 €	22 321 €	22 888 €
Australian Branch	- €	- €	- €	73 632 €	76 243 €	79 467 €	82 264 €
External supplies and services (+15%)	128 630 €	258 069 €	325 152 €	344 342 €	355 339 €	368 922 €	380 704 €
DP Portugal	128 630 €	258 069 €	325 152 €	- €	- €	- €	- €
Australian Branch	- €	- €	- €	344 342 €	355 339 €	368 922 €	380 704 €
Employees expenses	97 804 €	97 804 €	97 804 €	320 397 €	320 397 €	364 627 €	364 627 €
DP Portugal	97 804 €	97 804 €	97 804 €	53 574 €	53 574 €	53 574 €	53 574 €
Australian Branch	- €	- €	- €	266 823 €	266 823 €	311 053 €	311 053 €
Rent and Overhead (Warehouse Rent)	- €	- €	- €	23 064 €	23 064 €	23 064 €	23 064 €
DP Portugal	- €	- €	- €	- €	- €	- €	- €
Australian Branch	- €	- €	- €	23 064 €	23 064 €	23 064 €	23 064 €
Marketing Expenses (+15%)	72 410 €	74 349 €	68 911 €	71 900 €	74 905 €	78 072 €	89 890 €
DP Portugal	72 410 €	74 349 €	68 911 €	59 538 €	62 497 €	65 606 €	68 874 €
Australian Branch	- €	- €	- €	12 362 €	12 409 €	12 466 €	21 016 €
EBITDA	56 265 €	386 747 €	628 986 €	413 433 €	437 172 €	422 976 €	606 991 €
DP Portugal	56 265 €	386 747 €	628 986 €	157 490 €	160 275 €	164 429 €	169 967 €
Australian Branch	- €	- €	- €	255 943 €	276 897 €	258 547 €	437 024 €
Result before taxes	56 265 €	386 747 €	628 986 €	406 768 €	430 507 €	416 311 €	600 326 €
DP Portugal	56 265 €	386 747 €	628 986 €	157 490 €	160 275 €	164 429 €	169 967 €
Australian Branch	- €	- €	- €	249 278 €	270 232 €	251 882 €	430 359 €
Income tax for the period	12 699 €	87 289 €	141 962 €	91 808 €	97 165 €	93 961 €	135 494 €
DP Portugal	12 699 €	87 289 €	141 962 €	35 546 €	36 174 €	37 112 €	38 362 €
Australian Branch	- €	- €	- €	56 262 €	60 991 €	56 850 €	97 132 €
Net result for the period	43 566 €	299 458 €	487 023 €	314 960 €	333 341 €	322 349 €	464 832 €
DP Portugal	43 566 €	299 458 €	487 023 €	121 945 €	124 101 €	127 317 €	131 605 €
Australian Branch	- €	- €	- €	193 016 €	209 240 €	195 032 €	333 227 €
Change in Net Result	51 387 €	105 203 €	122 835 €	135 514 €	139 568 €	144 655 €	147 517 €
Impact on Net Result (%)	657,04%	54,16%	33,73%	75,52%	72,03%	81,41%	46,49%
Average impact on Net Result	145,77%						
NPV	1 030 983 €						
Change in NPV	722 809 €						
Impact on NPV (%)	234,55%						

The fourth phase of the internationalization contemplates the acquisition of a Cutting, Shaping, and Finishing Stone Enterprise in Australia to increase the production in Portugal and facing the increase in demand in Australia while reducing transportation costs. Nonetheless, this phase is planned as a medium-long-term implementation plan that will only occur depending on how fast DP reaches the objectives defined for the performance of the project. According to the forecasts, phase 4 is planned to start in 2030. Thus, the financials of this phase are not present in the six-year forecast performed earlier. Given the importance of studying the viability of this acquisition for DP, it was fundamental to add a financial viability analysis specifically for phase 4. To do so, the price of the company to be acquired will be computed as well as the cash-flows of the company once acquired by DP.

It is important to notice that all the computations will be executed for the acquisition of 100% of the company to allow DP to choose how much it will invest in the future by multiplying the total value of the company by the stake DP will later define.

Acquisition Price

After an extensive analysis of the characteristics required in a Cutting, Shaping, and Finishing stone enterprise that complies with the necessities and resources of DP, the team decided that the best option would be to acquire a company which revenue size is approximately 20% of DP's total revenue in 2030.

Given that the expected revenues for DP in 2030 are €7 421 646 (Appendix 41) than DP's target should have a level of revenues of €2 000 000. To compute the Acquisition price of a company which revenue value equals the target, the enterprise value must be calculated. To do so, it was necessary to find the multiple for the valuation of the company. The average sales/EV

multiple for the industry is given by 1.11. (Damodaran, Price and Value to Sales Ratios and Margins by Industry Sector - Global s.d.). After all variables were deliberated, the acquisition price was reached, equalling the enterprise value of the target company of **€2 200 000** (Appendix 42).

Cash-Flows Forecast

To forecast the cash-flows related to the acquisition, operational, investment, and financing plans should be considered.

Regarding the **operation cash-flows**, one should consider both revenues and costs. As for the revenues, the target company will have already a sales level of €2 000 000 in 2030, as mentioned before, which will grow, according to the assumption, at the industry rate of 3.22% per year. In addition, DP will add its production from the Australian sales (Appendix 43) to the existing production of the acquired company since it would move from Portugal to Australia. In this way, both production and sales will increase such as shown in Appendix 44

The challenge of computing the rest of the cash-flows of the target company is the fact that it is not possible to know at this day which company we are going to target for the acquisition in 2030 neither how its operational model is designed. Thus, to solve this issue, the peer group approach was used. With this approach, the 10 closest Australian companies were used as a proxy for the operational cash-flows of the target company. The **EBIT** was computed using an average of the data from the last available year (2018) of the group (Appendix 45) and then the same proportion was applied to the target company given its level of sales.

After computing the EBIT, two scenarios were created for the cash-flows of the company. The first one is called Best-Case Scenario, which considers that the acquisition will bring **synergies** to DP representing a 15% increase in the EBIT (Appendix 46). The second one, called Worse-Case Scenario, assumes that no synergies will come from the acquisition (Appendix 47). It is

important to note that the tax rate used for the computation of the Net income is the Australian tax rate which is 27.5%.

The **investment cashflow** of the acquisition is the price of the target company, which was already computed, and it is equal to €2 200 000. To that value, a cost of €1240 that represents the fee charged to foreign applications to acquisitions in Australia was added.

Regarding the **financing plan** finding the optimal capital structure for DP is fundamental to maximize its results. Unlike the financing plan designed for the first three phases, the total amount to be financed is extremely high since the investment required is €2 200 000. Given this, raising only debt will not the solution since DP would face risk of financial distress. Indeed, the interest plus the capital payments incurred by the debt issued should not be higher than 50% of the net Income to avoid adding too much pressure on the enterprise. Since the net income was already computed, it is possible to calculate its average for both best case and worse case scenarios which are €283 154 and €246 221, respectively. Given the fact that DP is considered a risk-averse company, using the worst-case scenario is more suitable for the computations. Therefore, the highest amount of debt would be the one the allows DP to have a €123 110 payment (capital + interest) every year. To reach that annual payment and, considering that DP's debt will be issued for 10 years (period of the risk-free rate used), the ideal amount of debt would be €996 000 (Appendix 48). Given the total amount to be financed (€2 200 000), the total amount of equity needed to be raised is €1 204 000, leading to a debt-to-equity ratio of 0.827 (Appendix 49). The cost of debt (2.36%) and equity (9.20%) remain the same since the company's characteristics are not expected to vary significantly. Thus, the total amount paid (debt + interests) is €1 231 056.

Financial Viability Analysis

To understand if the fourth phase of the internationalization plan is financially viable, certain performance indicators must be performed, such as NPV, IRR, and payback period.

The **NPV** was computed (Appendix 50) using the discounted FCF from 2030 to 2036 and the terminal value of the acquisition starting in 2037. For the terminal value, an assumption was created according to which the growth of the cash-flows will follow a growth rate of 3.20%, which was computed using the linear regression of the yearly growth rates from 2030 to 2037 (Appendix 51). The NPV value is €6 499 950 for the worst-case scenario and €7 823 444 for the best-case scenario. Since both values are positive it means that the implementation of **phase four is expected to be profitable**.

The **IRR** was computed (Appendix 50) and its value is 32% for the worst-case scenario and 37% for the best-case scenario. Since both values are higher than the WACC, (5.84%), it is concluded that **phase four is expected to be a profitable investment**.

The last indicator to be computed is the **payback period** (Appendix 52). Given that the payback period is 2038 for the best-case scenario and 2039 for the worst-case scenario, this means that the investment will be paid, in the worst case, within the first **nine years** of implementation of phase four.

Conclusion

The acquisition of a CSF stone business in Australia is **financially viable,** with a positive NPV of €6 499 950 (WC scenario) and a payback period of 9 years (WC scenario). To take on the acquisition, DP will need to invest €2 200 000 in 2030, which should be financed with €1 204 000 in equity and €996 000 in debt, leading to an annual loan payment of €123 110.

Appendix 41. *Expected revenues for DP until 2030.*

Sales Forecast				
Years	Period	DP as it is	DP Autralia	DP TOTAL
2017	1	6 109 894,72 €	- €	6 109 894,72 €
2018	2	5 835 688,25 €	- €	5 835 688,25 €
2019	3	6 018 037,48 €	- €	6 018 037,48 €
2020	4	5 896 016,24 €	- €	5 896 016,24 €
2021	5	5 976 908,65 €	406 142,92 €	6 383 051,57 €
2022	6	5 922 525,30 €	814 844,71 €	6 737 370,00 €
2023	7	5 958 325,78 €	1 026 655,00 €	6 984 980,79 €
2024	8	5 934 003,71 €	1 068 435,34 €	7 002 439,05 €
2025	9	5 949 763,34 €	1 106 314,48 €	7 056 077,82 €
2026	10	5 938 801,84 €	1 153 098,91 €	7 091 900,75 €
2027	11	5 945 654,42 €	1 193 681,24 €	7 139 335,66 €
2028	12	5 940 630,95 €	1 412 565,06 €	7 353 196,01 €
2029	13	5 943 524,85 €	1 426 781,69 €	7 370 306,54 €
2030	**14**	**5 941 140,50 €**	**1 480 505,43 €**	**7 421 645,92 €**

Appendix 42. *Acquisition Price Computation*

EV/Sales	**1,11**
Sales for Target Company	**2 000 000,00 €**
EV	**2 220 000,00 €**

Appendix 43. *DP Australia expected sales from 2030 to 2038*

Sales Forecast				
year	**period**	**DP Portugal**	**DP Australia**	**DP Total**
2030	**14**	**5 941 140,50 €**	**1 480 505,43 €**	**7 421 645,92 €**
2031	15	5 942 274,98 €	1 568 284,71 €	7 510 559,69 €
2032	16	5 941 063,58 €	1 659 293,67 €	7 600 357,25 €
2033	17	5 941 416,10 €	1 747 134,62 €	7 688 550,71 €
2034	18	5 940 726,00 €	1 826 223,83 €	7 766 949,83 €
2035	19	5 940 730,98 €	1 883 037,06 €	7 823 768,04 €
2036	20	5 940 272,58 €	1 975 759,11 €	7 916 031,69 €
2037	21	5 940 123,10 €	2 060 347,76 €	8 000 470,86 €
2038	22	5 939 767,67 €	2 137 871,89 €	8 077 639,56 €

Appendix 44. *Sales projection for Phase 4*

Sales projection									
	2030	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**
Sales increase from DP Australia	1 480 505,43 €	1 568 284,71 €	1 659 293,67 €	1 747 134,62 €	1 826 223,83 €	1 883 037,06 €	1 975 759,11 €	2 060 347,76 €	2 137 871,89 €
Current Sales	2 000 000,00 €	2 064 400,00 €	2 130 873,68 €	2 199 487,81 €	2 270 311,32 €	2 343 415,34 €	2 418 873,32 €	2 496 761,04 €	2 577 156,74 €
Total Sales	3 480 505,43 €	3 632 684,71 €	3 790 167,35 €	3 946 622,43 €	4 096 535,15 €	4 226 452,40 €	4 394 632,43 €	4 557 108,80 €	4 715 028,64 €

Appendix 45. *Peer group method for EBIT calculation*

Accounting year: Peer group year	Year	Operating revenue (Turnover) EUR		Number of employees		P/L before tax EUR		P/L for period [=Net income] EUR		Profit margin %		Solvency ratio (Asset based) %	
Median		34 343 646		96		2 075 168		1 269 297		5,96		35,03	
Standard deviation		865 826		62		1 995 528		1 195 525		5,72		13,77	
Average		34 131 017		112		2 831 803		1 360 043		8,26		38,50	
			Rank		Rank		Rank		Rank		Rank		Rank
INTEGRATED INDUSTRIAL PTY LTD	2018	34 718 226	3	224	1	2 068 034	7	288 134	9	5,96	6	35,03	6
METQUIP PTY. LIMITED	2018	32 615 365	11	50	10	2 116 242	5	1 441 048	5	6,49	5	24,49	10
FISHER & PAYKEL HEALTHCARE PTY. LIMITED	2018	34 700 774	4	81	7	1 669 089	8	-360 185	11	4,81	9	30,22	8
SPRINTQUIP PTY LTD	2018	34 343 646	6	128	4	3 635 106	3	1 269 297	6	10,59	3	38,70	5
CDK STONE PTY LTD (*)	2018	34 035 266	7	96	6	797 722	11	208 127	10	2,34	11	40,34	4
TOTAL TOOLS HOLDINGS PTY LTD	2018	34 519 856	5	80	8	4 413 170	2	2 503 607	2	12,78	2	34,89	7
POLYMERS INTERNATIONAL AUSTRALIA PTY LIMITED	2018	33 670 386	8	20	11	1 254 951	10	423 950	8	3,73	10	26,27	9
HS COMPANY PTY LIMITED	2018	33 485 750	9	117	5	3 291 462	4	2 304 023	3	9,83	4	58,70	2
LOGAN ARMS PTY LTD	2018	34 815 220	2	67	9	8 240 674	1	3 965 418	1	23,67	1	69,48	1
KOMATSU FORKLIFT AUSTRALIA PTY LTD	2018	35 671 842	1	146	3	2 075 168	6	1 899 957	4	5,82	7	22,48	11
WADSWORTH CONTRACTING PTY LTD	2018	32 864 854	10	221	2	1 588 210	9	1 017 095	7	4,83	8	42,94	3

Appendix 46. *Best-Case Scenario Net Income*

Best Case Scenario (BC)									
	2030	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**
Total Sales	3 480 505,43 €	3 632 684,71 €	3 790 167,35 €	3 946 622,43 €	4 096 535,15 €	4 226 452,40 €	4 394 632,43 €	4 557 108,80 €	4 715 028,64 €
EBIT	288 772,65 €	301 398,76 €	314 464,87 €	327 445,73 €	339 883,78 €	350 662,83 €	364 616,49 €	378 096,93 €	391 199,31 €
EBIT with Synergies	332 088,55 €	346 608,57 €	361 634,60 €	376 562,59 €	390 866,34 €	403 262,25 €	419 308,96 €	434 811,47 €	449 879,21 €
Taxes	91 324,35 €	95 317,36 €	99 449,52 €	103 554,71 €	107 488,24 €	110 897,12 €	115 309,96 €	119 573,15 €	123 716,78 €
Net Income	240 764,20 €	251 291,21 €	262 185,09 €	273 007,88 €	283 378,10 €	292 365,13 €	303 999,00 €	315 238,31 €	326 162,43 €

Appendix 47. *Worst-Case Scenario Net Income*

Worst Case Scenario (WC)									
	2030	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**
Total Sales	3 480 505,43 €	3 632 684,71 €	3 790 167,35 €	3 946 622,43 €	4 096 535,15 €	4 226 452,40 €	4 394 632,43 €	4 557 108,80 €	4 715 028,64 €
EBIT	288 772,65 €	301 398,76 €	314 464,87 €	327 445,73 €	339 883,78 €	350 662,83 €	364 616,49 €	378 096,93 €	391 199,31 €
Taxes	79 412,48 €	82 884,66 €	86 477,84 €	90 047,58 €	93 468,04 €	96 432,28 €	100 269,53 €	103 976,65 €	107 579,81 €
Net Income	209 360,17 €	218 514,10 €	227 987,03 €	237 398,15 €	246 415,74 €	254 230,55 €	264 346,96 €	274 120,27 €	283 619,50 €

Appendix 48. *Optimal Amount of debt raised for phase 4*

Amount borrowed	**100 000,00 €**	**250 000,00 €**	**500 000,00 €**	**996 000,00 €**	**1 150 000,00 €**	**1 300 000,00 €**	**1 350 000,00 €**
Yearly payment at 10 years	12 360,00 €	30 900,00 €	61 800,00 €	**123 105,60 €**	142 140,00 €	160 680,00 €	166 860,00 €
Total cost (debt + interest)	123 600,00 €	309 000,00 €	618 000,00 €	**1 231 056,00 €**	1 421 400,00 €	1 606 800,00 €	1 668 600,00 €

Appendix 49. *Optimal Capital Structure*

Best Financing option	
D	996 000 €
E	1 204 000 €
Rd	2,36%
Re	9,20%
E/(E+D)	55%
D/(E+D)	45%
t	22,57%
D/E	0,827242525
WACC	**5,86%**

Appendix 50. *Calculation of FCF, NPV and IRR*

Net Present Value of the Acquisition									
Years	2030	2031	2032	2033	2034	2035	2036	2037	2038
Period	0	1	2	3	4	5	6	7	8
Operational Cash Flows (WC Scenario)	209 360,17 €	218 514,10 €	227 987,03 €	237 398,15 €	246 415,74 €	254 230,55 €	264 346,96 €	274 120,27 €	283 619,50 €
Operational Cash Flows (BC Scenario)	240 764,20 €	251 291,21 €	262 185,09 €	273 007,88 €	283 378,10 €	292 365,13 €	303 999,00 €	315 238,31 €	326 162,43 €
Financial Cash Flows (interests from loan)	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €
Investment Cash Flows (acquisition value)	- 2 201 240,00 €								
FCF (WC)	- 2 012 440,83 €	197 953,10 €	207 426,03 €	216 837,15 €	225 854,74 €	233 669,55 €	243 785,96 €	253 559,27 €	263 058,50 €
FCF (BC)	- 1 981 036,80 €	230 730,21 €	241 624,09 €	252 446,88 €	262 817,10 €	271 804,13 €	283 438,00 €	294 677,31 €	305 601,43 €
Discounted CF (WC)	- 2 012 440,83 €	186 991,30 €	185 089,35 €	182 772,54 €	179 831,41 €	175 750,90 €	173 206,11 €	170 173,96 €	166 772,73 €
Discounted CF (BC)	- 1 981 036,80 €	217 953,35 €	215 604,79 €	212 788,06 €	209 261,80 €	204 433,23 €	201 378,27 €	197 769,95 €	193 743,92 €
Discounted Perpetuity (WC)	7 428 749,27 €						Perpetuity starting in 2037 (WC)	11 068 839,45 €	
Discounted Perpetuity (BC)	8 543 061,66 €						Perpetuity starting in 2037 (BC)	12 729 165,37 €	
NPV (WC)	**6 499 950,06 €**								
NPV (BC)	**7 823 444,36 €**								
IRR (WC)	**32%**								
IRR (BC)	**37%**								

Appendix 51. *Growth Rate of Future FCF*

Growth Rate for Terminal Value										
Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Growth Rate computed with linear regression
Period	0	1	2	3	4	5	6	7	8	
Growth rate (WCS)		0,04372	0,04335	0,04128	0,03799	0,03171	0,03979	0,03697	0,03465	**0,032998756**
Growth rate (Synergies)		0,04372	0,04335	0,04128	0,03799	0,03171	0,03979	0,03697	0,03465	**0,032998756**

Appendix 52. *Payback Period Calculations*

Payback Period Calculations										
Years	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Period	0	1	2	3	4	5	6	7	8	9
Operational Cash Flows (Worst Case Scenario)	209 360,17 €	218 514,10 €	227 987,03 €	237 398,15 €	246 415,74 €	254 230,55 €	264 346,96 €	274 120,27 €	283 619,50 €	253 510,48 €
Operational Cash Flows (Best Case Scenario)	240 764,20 €	251 291,21 €	262 185,09 €	273 007,88 €	283 378,10 €	292 365,13 €	303 999,00 €	315 238,31 €	326 162,43 €	291 537,05 €
Financial Cash Flows (interests from loan)	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	- 20 561,00 €	-20 561,00 €	- 20 561,00 €	- 20 561,00 €
Investment Cash Flows (acquisition value)	- 2 201 240,00 €									
FCF (WC)	- 2 012 440,83 €	197 953,10 €	207 426,03 €	216 837,15 €	225 854,74 €	233 669,55 €	243 785,96 €	253 559,27 €	263 058,50 €	232 949,48 €
FCF (BC)	- 1 981 036,80 €	230 730,21 €	241 624,09 €	252 446,88 €	262 817,10 €	271 804,13 €	283 438,00 €	294 677,31 €	305 601,43 €	270 976,05 €
Discounted CF (WC)	- 2 012 440,83 €	186 991,30 €	185 089,35 €	182 772,54 €	179 831,41 €	175 750,90 €	173 206,11 €	170 173,96 €	166 772,73 €	139 506,21 €
Discounted CF (BC)	- 1 981 036,80 €	217 953,35 €	215 604,79 €	212 788,06 €	209 261,80 €	204 433,23 €	201 378,27 €	197 769,95 €	193 743,92 €	162 279,14 €
Payback Period (WC)	- 2 012 440,83 €	- 1 814 487,73 €	- 1 607 061,70 €	- 1 390 224,54 €	- 1 164 369,81 €	- 930 700,26 €	- 686 914,30 €	- 433 355,03 €	- 170 296,53 €	62 652,95 €
Payback Period (BC)	- 1 981 036,80 €	- 1 750 306,59 €	- 1 508 682,50 €	- 1 256 235,63 €	- 993 418,53 €	- 721 614,39 €	- 438 176,39 €	- 143 499,08 €	162 102,35 €	