

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.

SME Competitiveness: Internationalization Project for Tulea – Globulus
An In-depth Market Analysis of Spain

Beatriz Ribeiro Xavier Silva

Work project carried out under the supervision of:

Emanuel Gomes

Yueling Zhou

20-12-2023

1. Abstract

This thesis guides Globulus, a Portuguese forestry company within the Tulea group, in its international expansion. Globulus currently cultivates and sells *Eucalyptus globulus* for the pulp and paper industry in Portugal. International market selection through country ranking, clustering, and analysis of the five most promising markets, revealed Spain as the most attractive market for internationalization. This is supported by industry indicators, financial viability, and Globulus' preferences. The proposed entry mode is indirect exporting, backed by a detailed marketing plan and financial projections. Recommendations include monitoring wood prices and transport costs, establishing an international partner network, and diversifying the product portfolio.

Keywords: Internationalization Plan, International Market Selection, Entry Mode Strategy, Competitiveness Analysis, Forestry Industry, Cluster Analysis, Country Ranking.

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. Abstract.....	I
Table of Contents	II
Table of Figures	VI
List of Abbreviations	VII
2. Introduction.....	1
2.1. International Market Selection: Literature Review	2
3. Research Methods.....	5
4. Strategic Analysis of the Company's Situation	6
4.1. Firm Overview and Project Background	6
4.1.1 Profile and Management	6
4.1.2 Product/Business Portfolio of Globulus.....	8
4.1.3 Operations, Positioning, and Strategy (Generic and Growth)	9
4.1.4 End-User Product/Service to be Internationalized.....	10
4.1.5 Financial Overview	10
4.2. Market/Industry Analysis	13
4.2.1 PESTEL	13
4.2.2 5 Forces	17
4.2.3 Consumer Trends and Forecasts	21
4.2.4 Key Industry Success Factors	22
4.2.5 Country-Specific Advantages	24

4.3.	Firm-Specific Advantage.....	27
4.3.1	Resources and Competences.....	27
4.3.2	Firm Sustainable Competitive Advantage (VRIO).....	30
4.4.	Diagnosis for Internationalization	32
4.4.1	SWOT Matrix	33
4.4.2	FSA-CSA Matrix and Porter's Generic	35
4.4.3	Motives for Internationalization	37
4.4.4	Global Readiness	39
5.	<i>International Market Selection - Phase 1</i>	41
5.1.	Country Selection Criteria.....	41
5.2.	Country Ranking.....	42
5.3.	Country Clustering	44
5.4.	Selection of Highest Potential Markets	47
6.	<i>International Market Selection – Phase 2</i>	49
6.1.	In-Depth Market Analysis of Spain.....	49
6.1.1	Contacts.....	49
6.1.2	Competition.....	51
6.1.3	Overall Market Sales Potential and Company Sales Potential	52
6.1.4	Market Entry Conditions.....	54
7.	<i>International Entry Strategy</i>	56
7.1.	Selection Criteria	56
7.2.	Analysis of Alternative Entry Modes	58

7.3.	Entry Mode Selection	60
8.	<i>Marketing Plan</i>	61
8.1.	Marketing Objectives	62
8.2.	Segmentation	63
8.3.	Targeting.....	64
8.4.	Positioning	65
8.4.1	Positioning Statement & Value Proposition	65
8.4.2	Positioning Map	66
8.5.	Marketing Mix	66
9.	<i>Financial Forecast</i>	68
9.1.	Assumptions	68
9.2.	Market Size and Market Share Estimation	70
9.3.	Operational Plan	71
9.3.1	Revenue Estimation	71
9.3.2	Cost Estimation	72
9.3.3	P&L Statement	72
9.3.4	Operational Risk Analysis	73
9.4.	Investment Plan	75
9.5.	Financing Plan	75
9.6.	Financial Viability	76
9.6.1	Profitability Ratios	76

9.6.2 NPV.....	77
9.6.3 IRR.....	77
9.6.4 Payback Period.....	78
9.7. Sensitivity and Scenario Analysis	78
10. Overall Conclusions and Recommendations	81
Bibliography.....	IV
Appendices	XXIV

Table of Figures

Figure 1: VRIO Analysis, (own visualization, based on Barney and Clark 2007, p. 70)	30
Figure 2: FSA-CSA Matrix, (own visualization, based on Rugman 1981)	35
Figure 3: Final Country Ranking (own visualization)	44
Figure 4: Selected Countries (marked in green) and their Clusters (own visualization)	48
Figure 5: Spanish Competitors Strategic Group Analysis Map (own visualization)	51
Figure 10: Positioning of Globulus in the Spanish Market (own visualization, based on Porter 1985).....	66
Figure 11: Future Revenue Development when Exporting (own visualization).....	72
Figure 12: Severity/Likelihood Matrix (own visualization)	74
Figure 13: Sensitivity Analysis for Wood Price in Spain (own visualization)	79
Figure 14: Sensitivity Analysis for Wood Quantity in Spain (own visualization).....	79
Figure 15: Sensitivity Analysis for the Discount Rate (own visualization).....	80
Figure 16: Sensitivity Analysis for Transportation Cost 2025 (own visualization).....	80
Figure 17: Parameter Assumptions for Scenario Analysis (own visualization).....	80

List of Abbreviations

AI - Artificial Intelligence

APA - Associação Portuguesa do Ambiente (Portugal's Agency for the Environment)

Biond - Association of Forest Bioindustry in Portugal

B2B - Business-to-Business

B2C - Business-to-Consumer

CAPEX - Capital Expenditure

CEF - Forest Research Centre

COGS - Cost of Goods Sold

CSA - Country-Specific Advantages

EBIT - Earnings before Interest and Taxes

EBITDA - Earnings before Interest, Taxes, Depreciation and Amortization

EGF - Forest Management Entities

EIN - Employer Identification Number

EPRS - Parliamentary Research Service

EU - European Union

FSA - Firm-Specific Advantages

FSC – Forest Stewardship Council

FMP - Forest Management Plans

GDP - Gross Domestic Product

ha - Hectare

ICNF - Instituto da Conservação da Natureza e das Florestas

ID - Identification Number

IMS - International Market Selection

IRR - Internal Rate of Return

LSP – Local Strategic Partner

M&A - Mergers and Acquisitions

MNCs - Multinational Corporations

NPV - Net Present Value

NSF - National Strategy for Forests

PEFC - Programme for the Endorsement of Forest Certification

PESTEL - Political, Economic, Sociocultural, Technological, Environmental, and Legal factors
P&L - Profit and Loss Statement
PROF - Regional Forest Plans
R&D - Research and Development
RoA - Return on Assets
RoE - Return on Equity
RoS - Return on Sales
SAM - Serviceable Addressable Market
SOM - Serviceable Obtainable Market
SMEs - Small and Medium-sized Enterprises
TAM - Total Addressable Market
UGF - Forest Management Units
U.S. – United States
U.S.A – United States of America
USP – Unique Selling Proposition
VAA - Vista Alegre/Atlantis
VCW - Value Creation Wheel
VRIO - Value, Rarity, Imitability, Organization

2. Introduction

Internationalization is a major dimension within the ongoing strategy process of most business firms. This strategy process plays a decisive role in shaping the trajectory of international firms, surrounding features such as scope, business idea, action orientation, organizing principles, nature of managerial work, dominating values, and converging norms (Melin 1992). In this thesis, the intricate landscape of internationalization will be explored, with a particular focus on its implications for Globulus, a specialized player in the forestry sector working as a business unit of Tulea, a multifaceted company working in diverse sectors.

The fundamental purpose of this project is to thoroughly explore and analyze the prospects and challenges associated with the internationalization of Globulus. The company intends to internationalize to a market within proximity and with the focal strategy of separating the lumberjack work from the logistics, by having two outsourcing companies, to avoid replications of the business model (Tulea 2023). The comprehensive examination of internationalization strategies, market dynamics, and industry trends will provide valuable insights for Tulea and Globulus to cope with the complexities of global expansion effectively.

This project includes five distinct phases, each strategically designed to contribute to a comprehensive understanding and successful execution of the company's internationalization strategy. The **company's strategic analysis** encompasses the firm's internal analysis with its overview and financials, a market analysis, the firm's specific advantages, and a diagnosis for internationalization. The **international market selection** is divided into two phases, one where data from several countries is explored and country clustering and ranking are performed, leading to the selection of potential markets, and a second phase in which five potential markets are explored and the target market is chosen. The **international entry strategy** dives into the

selection criteria for the entry mode of the chosen market. Finally, a timeline from 2025 to 2030 was decided for the **marketing** and **financial plan**, where several assumptions were made, and strategies decided to identify the best options for Tulea and Globulus going forward.

2.1. International Market Selection: Literature Review

International Market Selection (IMS) stands as a critical strategic decision that companies must undertake when venturing into global business, representing the first and most important step in export strategy (Root 1994) and a critical success factor for the internationalization process. This literature review provides an exploration and analysis of the theoretical foundations of IMS, as it aims to determine the relative attractiveness of markets within a considered set (Reid 1981).

There are two well-known traditional approaches to IMS. The Systematic Approach refers to both the nature and content of the decision-making process in connection to the IMS (Andersen and Buvik 2002), this entails having a structured problem definition, identification of choice criteria, weighting the criteria, generating the alternatives, rating each alternative, and computing the optimal decision. While offering organizational advantages, this approach demonstrates some complexities, time constraints due to extensive data collection, limited adaptability to dynamic market conditions, and the assumption of complete information (ibid). In contrast, the Non-Systematic Approach adopts a descriptive stance, i.e. to describe how firms behave when selecting a foreign market (ibid). Acknowledging that decision-makers may have limited information-processing capabilities and that firms may seize international expansion opportunities, researchers, such as Johanson and Vahlne (1977), have explored the influence of psychic distance. This concept suggests that firms tend to start with nearby markets and gradually expand to more distant ones (ibid). It could often result in targeting a market limited to the firm's immediate neighbors since geographic proximity is likely to imply more

knowledge about the foreign market and greater ease in obtaining information (Papadopolous and Denis 1988). It is believed that smaller or less experienced firms may rely on rules of thumb when choosing markets, while larger firms may use a more systematic approach (Douglas et al. 1982; Johanson and Vahlne 1990). Some limitations were found for this approach, such as the information-processing capacity, lack of a formalized process that can make the replication and/or analysis difficult, potential biases, and a lack of a formalized decision-making process (Andersen and Buvik 2002). Overall, the non-systematic approach provides insights into the real-world behaviors of firms during international market selection, which may not always align with systematic strategies.

In contrast to the traditional IMS literature where the firm is selecting a country-market, the relationship approach focuses on the business relationship as the level of analysis (ibid). The shift from research addressing transaction-oriented marketing to research addressing relationship marketing has been explained by an increased recognition of the importance of customer satisfaction, retention strategies, and relationships to the performance of a firm (Sheth and Sharma 1997).

According to Dwyer, Schurr, and Oh (1987), relationships evolve through five general phases: (1) awareness, (2) exploration, (3) expansion, (4) commitment, and (5) dissolution. For this approach, it is recognizable that there's an emphasis on the quality of the relationship which leads to better quality interactions and outcomes, trust and performance when selecting exchange partners which can contribute to more successful and mutually beneficial partnerships, and planning and forecasting which helps firms navigate uncertainties. However, this approach is not without its limitations, including limited potential exchange partner awareness as it relies on selective search and exploration based on existing relationships, a time-consuming exploration phase that can delay the establishment of partnerships, and a risk of goal

divergence between partners impacting the success of the relationship (Andersen and Buvik 2002).

In contemplating these diverse approaches, the intricacy of IMS becomes apparent, resulting from intrinsic process features, the requisite a priori information, the chosen level of analysis, and the characteristics of the decision-making (Papadopoulos and Martin Martin 2011).

After the examination of the advantages and disadvantages associated with each approach, there's a clear need to combine insights from different areas to strengthen the approaches and make them more effective in achieving the main goal of the IMS. It also becomes evident that the Systematic Approach presents fewer challenges that can be more easily overcome. Consequently, there is an opportunity to explore the integration of both the Systematic and Relationship approaches. Firstly, firms can use a systematic approach to select potential countries or markets based on criteria and weights. Later, the relationship approach can be used to assess the compatibility, trust, and performance of potential exchange partners within the selected countries/markets. This choice of approach may depend on the type of customers and the level of international experience of the firm, as small firms and new firms might adopt the use of non-systematic approaches.

Overall, integrating systematic and relationship approaches can provide a comprehensive and balanced approach to international market selection. This integrated approach provides a comprehensive IMS strategy that caters to the diverse needs of firms, regardless of their size or international experience. As businesses embark on the global stage, embracing this integrated approach ensures a strategic foundation that is not only robust but also adaptable to the evolving landscape of international markets.

3. Research Methods

To effectively conduct the Internationalization Project within the SME competitiveness lab, a blend of both qualitative and quantitative research methods is employed. This approach ensures a comprehensive understanding of the subject matter, allowing for in-depth analysis and robust data-driven insights.

Firstly, during the entire project's duration, the team participated in numerous meetings with Tulea, primarily involving its CEO, Pedro Lisboa. Moreover, essential information about Tulea's operations and valuable insights concerning the company's business model were gathered in a field trip to Tulea's headquarters and *Eucalyptus globulus* forests in Águeda, Portugal. Furthermore, a constant exchange of information via e-mail held a vital impact in crafting a fact-based and well-founded work. The group was provided with relevant information on the company's financial statements as well as value chain insights and strategic business decisions that had been previously undertaken. Not limited to, but especially for the market selection and the financial forecasts, only this input enabled a decent quantitative outcome and decision-making. In the context of country selection, critical variables, and countries that the company itself wanted to avoid were also identified in a coordinated approach. Besides information provided by Tulea, data was obtained from various databanks with Statista, Orbis and The World Bank being some topnotch selections. Additionally, this project allowed to uncover and analyze numerous websites, journal articles as well as scientific literature aiming for a foremost outcome. Finally, regarding data analysis for the country ranking and clustering as well as the financial scenario and sensitivity analysis the chosen programs that were primarily used were SPSS and MS Excel. The country analysis was carried out by firstly addressing missing values through imputation to ensure completeness for accurate clustering. Subsequently, a Pearson correlation analysis was conducted on selected indicators using the

Ward's Linkage method. This led to the identification of variables for hierarchical clustering, which categorized countries into seven clusters based on similarities. Following this, a country-ranking analysis was performed to provide an initial assessment of market attractiveness, considering various factors and weights. The final step involved a hybrid approach, combining cluster and ranking results to shortlist the top five countries.

4. Strategic Analysis of the Company's Situation

To assess the readiness of Tulea's business unit Globulus for internationalization, a comprehensive understanding of both Globulus and its macro environment is necessary. This entails understanding Tulea's and Globulus' background, strategy, operations, and finances. It is equally imperative to analyze the forces influencing Globulus in the Portuguese forestry sector, and the macro environment of Portugal itself, including trends and success factors. Furthermore, conducting a comprehensive assessment of Globulus' operational advantages in comparison to those offered by competitors in the market is crucial. This creates a holistic perspective of the company in its macro environment, making it possible to understand the motives behind the aspiration to internationalize and evaluate Globulus' readiness for it.

4.1. Firm Overview and Project Background

4.1.1 Profile and Management

Tulea is a micro-company founded in 1990 by the Lisboa family. Since then, Tulea has evolved into a diversified organization operating across five key sectors: consultancy, tourism, forestry, vending machines, and porcelain, with a total of eight employees. Tulea's journey began in the early 1990s when it opened the first Portuguese boutique store of Vista Alegre porcelain in Águeda, the city where Tulea is still headquartered (Tulea 2023).

Following a Vista Alegre M&A (Merger and Acquisition) with the crystal seller Atlantis in 2001 (Vista Alegre 2023), Vista Alegre/Atlantis (VAA) independently opened several stores

throughout Portugal, creating a challenge for Tulea. Tulea's boutique store's sales stagnated, until in 2007, the company decided to gradually diversify into its current five business sectors (Tulea 2023). As the company is operating across diverse business areas, the revenue streams are also allocated amongst various segments, with primary contributions from "Grab&Go" and "Top – Amazing Stays". Tulea's Automatic Vending manages the Grab&Go network, acknowledged as the largest national chain of 24-hour automatic vending shops, offering convenient access to a diverse range of products in over 200 locations across Portugal (Grab&Go 2023). Tulea also rents apartments under the brand name Top – Amazing Stays, with 23 different units available in Porto, Coimbra, and soon Costa Nova (Top - Amazing Stays 2023). Together, these two brands accounted for the highest share of Tulea's turnover, totaling around 340,000 Euros in 2022, increasing from previous years (Tulea 2023). In the scope of VAA, Tulea has been selling the Portuguese porcelain brand for over two decades, resulting in substantial expertise in this sector (Tulea 2023). Under the umbrella of UpCompany Consultancy, Tulea offers an extensive array of services, spanning portfolio management, credit insurance, business restructuring, and advisory services related to special revitalization processes and/or insolvency (UpCompany 2023). Tulea engages in forestry services under the brand name Globulus, where it cultivates and harvests eucalyptus and pine trees in cooperation with a strategic partner, a Portuguese forestry association. For privacy concerns, this partner will be referred to as the "Local Strategic Partner" (LSP). After planting and cultivating the land, the LSP buys the wood from Globulus to sell it to the final customer, a Portuguese pulp and paper producer called The Navigator Company. In 2022, Globulus generated a turnover of 90,000 Euros, which is comparable to the combined revenues of the UpCompany and VAA business units (Tulea 2023). Tulea's mission is to excel across diverse business areas, reinforced by values of solidity, accuracy, and vision. It emphasizes sustained growth through strong

partnerships and continual investment, aiming to be a prominent player, and growing lasting relationships with customers and suppliers.

The focal point of potential internationalization lies within Globulus. As such, this project will focus on the forestry business unit.

4.1.2 Product/Business Portfolio of Globulus

The brand's strategic focus on forestry was significantly influenced by the growing demand for wood, particularly within the Baixo Vouga region. Economic fluctuations and the substantial investments required by forestry activities led some landowners to divest their forested properties, this provided Tulea with the opportunity for investment and diversification. As a result, the founders acquired forest land in this region during the financial crisis of 2009 (Tulea 2023). The name of the business unit, Globulus, is derived from a specific species of eucalyptus called the *Eucalyptus globulus*. According to the latest National Forest Inventory, *Eucalyptus globulus* represents 26.2% of the Portuguese forest area, covering 845 thousand hectares (ha) of which 73% (616.3 thousand ha) is in the north and center of the country (ICNF 2015). This species of eucalyptus has an important role not only in terms of forest area, but also in terms of the economy, providing the raw material for the pulp and paper industry, one of the most important industries in the country (Soares et al. 2007). Globulus owns 180 ha of land in and around Águeda, in the center region of Portugal, primarily dedicated to the cultivation of *Eucalyptus globulus*. However, a smaller portion of land of approximately 20 ha is allocated to the production of pine and other slow-growing species, due to government incentives for their plantation (Tulea 2023).

The eucalyptus trees are planted in rows, with a spacing of 1.5 to 3 meters between each tree. Unlike the industry standard of harvesting trees after 8-10 years of growth, Globulus opts to cut down the eucalyptus trees every 12 years (ibid). The *Eucalyptus globulus* species can be

replanted twice, resulting in a monoculture of eucalyptus growth for 36 years before needing to plant other species (ibid).

4.1.3 Operations, Positioning, and Strategy (Generic and Growth)

Operations: Globulus focuses on harnessing the expertise and know-how from its partners to be financially sustainable. Its primary operations revolve around wood sales and facilitating transparent, mutually beneficial transactions within the industry, particularly with the key stakeholders like The Navigator Company and the LSP. The LSP carries out comprehensive planning and execution of all forestry activities, in connection with 1,600 landowners and with 2,500 ha of forest investment per year (Tulea 2023). It plays a crucial role in Tulea's operation. LSP owns land, helps other landowners, and serves as an intermediary between landowners and final customers to create more leverage for the landowners and to negotiate higher prices. The Navigator Company, as an LSP final customer, uses the raw wood materials and utilizes their latest technology to produce a range of paper products (The Navigator Company 2023). The LSP handles all operational tasks for landowners like Globulus, from analyzing the soil and selecting what trees are suitable for the soil conditions, to planting, managing, controlling invasive species, fertilizing, logging, and transporting. Prices for these activities are pre-determined and contracted informally before the operation. At the end of the growth cycle, the LSP purchases the wood from all associated landowners at a fixed price and sells it in bulk to its customer, The Navigator Company (Tulea 2023).

Positioning: Brand positioning determines the future brand development as it is the basis for gaining competitive advantage, especially in the context of global changes. Concentrated positioning is effective for unique attraction(s) or feature(s), as it often focuses on a niche (Insch and Janiszewska 2012). In the case of Globulus, as it operates as one of many landowners

collaborating with the LSP and serves the final customer, its positioning aligns with that of other landowners associated with the LSP.

Strategy: Central to the operational framework is a commitment to secure investments that lay a solid foundation for Globulus' operations. The company allocates resources into planting and nurturing the forest, capitalizing on the rapid growth potential of the eucalyptus species. The approach includes cautious investment, careful forest management and the generation of profits through timber sales. Currently, both the land investments and the cooperation with the LSP are running according to plan, thus there is no immediate need to intervene. However, the company already has initial plans for future strategic directions (Tulea 2023). In the future, Globulus contemplates the possibility of directly acquiring wood from the LSP, as well as exploring options for exporting wood internationally, either directly or through partnerships with international associations, thereby entering global markets (Tulea 2023). These plans align with Tulea's approach to diversification and collaboration.

4.1.4 End-User Product/Service to be Internationalized

Globulus specializes in the production and sale of wood as its final product. While the specific type of wood is adaptable, the company's future endeavors indicate a continued focus on producing *Eucalyptus globulus*. The internationalization effort would center around this wood product. Globulus maintains a flexible business approach, allowing it to adapt to various internationalization opportunities as they arise (Tulea 2023).

4.1.5 Financial Overview

This subchapter evaluates Tulea's financial situation using data up until 2022, provided by Tulea, Orbis and from the report published by the Ministry of Economy about the financial position and trends of silviculture companies in Portugal. The financial overview will highlight profitability, liquidity, and solvency ratios to assess the current state of Tulea's finances. It is

important to note that the data analyzed pertains to the entire company Tulea, encompassing all five business units, and not only Globulus, as the data available only referred to Tulea.

Examining Tulea's Income Statement reveals a gradual increase in sales, culminating in the highest revenue of 531,125.00 Euros in 2022 (Orbis 2022a). Regarding Net Income, Tulea achieved a new peak in 2022 as well, totaling 51,421.00 Euros (ibid).

The Return on Equity (RoE) shows how effectively the company uses the shareholders' investment to generate profits (Calamar 2016), in this case the two founders. Tulea's RoE amounted to 2.24% in 2022 (Orbis 2022a), the highest value since the start of data collection in 2013, with a total equity of 2.3 million Euros in 2022. Tulea registered negative RoE ratios from 2014 until 2017 but has been gradually improving since (ibid). This signals that the company is leveraging its equity more effectively to generate profits, marking a positive progress toward achieving its financial strength.

The Return on Assets (RoA) ratio measures how efficiently a company utilizes its assets to generate profits (Birken 2021). In 2022, Tulea registered a Return on Assets of 1.49% (Orbis 2022a), peaking like the RoE in that year, with total assets amounting to 3,457 million Euros. The RoA ratio reflects that Tulea is making a significant improvement to make a more efficient use of the assets possessed to generate profits, indicating a more solid financial position.

Regarding the EBITDA margin that measures which portion of the revenue of the company is translated into operating profit (Kazi 2020), Tulea registered 16.96% in 2022 (Orbis 2022a). This means that 16.96% of its revenues are transformed into operating profit. Translating into absolute numbers, from the 531,125.00 Euros of operating revenue, the company transformed 61,567.00 Euros into operating profit in 2022. Although the company had higher values of EBITDA margin in the past, especially in 2013 and 2019, this also represents a significant

increase from 2021 when Tulea only registered 10.78% (ibid). This suggests that the company is striving to optimize its profits derived from revenue.

Transitioning to liquidity ratios, the current ratio, which assesses a company's ability to meet short-term obligations or debts (Gallo 2015), Tulea registered a value of 2.18 in 2021 (Orbis 2022a). In comparison, the silviculture industry in Portugal averaged a value of 1.1 (Ministry of Economy and Sea 2023). A Current Ratio below 1 indicates that short-term liabilities or debts exceed current assets, while a value above 1, or even better, above 1.5, typically indicates complete liquidity to meet short-term obligations (Gallo 2015). In the case of Tulea, it demonstrates a current ratio significantly higher than the sector's average, indicating robust liquidity to address its short-term debts.

Additionally, considering the solvency ratio, which measures the ability that a company has to meet its long-term obligations, by dividing the debt over the assets. If the ratio is 100% or above, this means that the company may have difficulty in paying off its long-term debts, as the value of the company resides mainly in debt (Corporate Finance Institute 2023). The solvency ratio average among Portuguese silviculture companies stood at 97.7% in 2021, which shows a high degree of long-term debt (Ministry of Economy and Sea 2023). In contrast, Tulea showed a Solvency Ratio of 67.38% in 2021 (Orbis 2022a), suggesting a better asset to debt performance from the company, as it is not as dependent on long term debt as the average silviculture company in Portugal. The income statement and balance sheet of Tulea, covering 2013 to 2022, can be found in **Appendix 1** and **Appendix 2**, respectively.

In conclusion, the financial overview of the company, based on the analysis of financial ratios and the income statement, presents a robust financial situation. Tulea maintains lower levels of debt compared to the general sector and possesses a strong revenue base, solid sales, and net

income. Therefore, Tulea benefits from a stable financial situation, which may allow for diversification or internationalization of investments and provides security for its shareholders.

4.2. Market/Industry Analysis

Analyzing the market and the industry in which a company operates is of crucial importance in today's globalized corporate world. Such analysis provides companies with the ability to manage complex and dynamic environments, identify opportunities for profit and growth, and achieve sustainability over the long term. By comprehending market dynamics, competition, consumer preferences, and external factors, companies can be able to formulate strategies that are aligned with their profit objective and improve their competitiveness. In this regard, analyzing economic, political, sociocultural, technological, and legal factors through a macro-environmental analysis becomes a critical component of making educated decisions. By using several frameworks, companies can gain a complete understanding of their industry that may impact profitability. Furthermore, companies can identify opportunities by analyzing critical success factors, which allows them to formulate effective strategies to gain competitive advantages that contribute to financial success (Aithal 2017).

4.2.1 PESTEL

A PESTEL analysis is a strategic tool used by organizations and businesses to assess and analyze the macro-environmental factors that can influence their operations and decision-making. PESTEL is an acronym that stands for Political, Economic, Sociocultural, Technological, Environmental, and Legal factors. These factors represent the external forces that can have both positive and negative impacts on an organization or industry (Yüksel 2012). This analysis deals with the key factors for the Portuguese forestry and timber industry.

Political Factors:

Government Regulations: The Portuguese forestry and timber industry is subject to strict regulations concerning forest management, logging, and sustainability. Changes in government policies and regulations can greatly affect the industry's operations and profitability. In Portugal, the Institute for Conservation of Nature and Forestry (ICNF) acts as the forestry supervisor being the competent authority to enforce the application of the EU timber regulation (EUTR) and of national timber laws.

EU Policies: Portugal is part of the European Union, and EU policies on environmental protection, biodiversity, and sustainable forestry have a direct impact on the industry. Compliance with EU regulations is crucial for Globulus to maintain market access. The new EU forest strategy for 2030 is one of the flagship initiatives of the European Green Deal and builds on the EU biodiversity strategy for 2030 (Lier 2022).

International Trade Agreements: Trade agreements, such as those with the EU and other countries, influence export/import dynamics and competition within the industry (Moser and Rose 2014). Portugal being a member of the European Union portrays significant advantages for Tulea regarding international exporting.

Economic Factors:

Economic Stability: The overall economic health of Portugal and its trading partners affects consumer demand for timber products. Economic downturns can lead to reduced construction activity and a decreased demand for timber. The Portuguese economy has rebounded stronger than other from the COVID-19 crisis, though high inflation and weak global economic conditions have slowed growth in 2022. However, public debt relative to GDP has declined below its 2019 level (OEC 2023).

Exchange Rates: Fluctuations in currency exchange rates can impact the competitiveness of Portuguese timber products in international markets. This will only become relevant for

Globulus if the decision is made to export its products to countries that are not Eurozone members.

Raw Material Costs: The cost of acquiring and processing timber is a significant economic factor. Changes in timber prices can affect the profitability of the industry. Through its association with the LSP, Globulus achieves better prices, because of an increased bargaining power when negotiating with its customer.

Sociocultural Factors:

Consumer Preferences: The industry is influenced by consumer preferences for sustainable and eco-friendly paper and cardboard products. There is a growing demand for certified timber from responsibly managed forests like the FSC and PEFC (Malek 2022). A more detailed insight on this matter will be provided in 4.2.3.

Urbanization Trends: As Portugal urbanizes, there is a shift in land use patterns, affecting the availability of forested areas for timber production. When compared to 1990 built-up areas grew from 1.9% to 3.8% in 2012 (Bento-Gonçalves 2018). However, this trend mainly takes place in coastal areas and therefore might not be affecting Globulus significantly. Furthermore, the potential land suitability in Portugal for forest use is estimated to be about 59.4% (5.3 million ha), but according to the 6th National Forest Inventory of 2010, the effective area occupied by forests is only 35.4% (Bento-Gonçalves 2018). This shows that there might be many opportunities for Globulus to acquire more suitable land and grow its forestry business unit.

Technological Factors:

Innovation: Advancements in timber harvesting, processing, and treatment technologies can enhance efficiency, reduce waste, and improve product quality (Molinaro and Orzes 2022). However, since these works are carried out by the LSP and not Globulus itself, these factors might only be of limited relevance for Globulus in the way it's currently operating its business.

Digitalization: The adoption of digital tools and technologies can help in forest management, tracking timber sources, and supply chain optimization (Choudhry and O’Kelly 2018).

Automation and AI: Automation and AI can reduce labor costs and increase productivity in various fields of the timber industry. Many of them can be applied in a lot of fields along the whole value chain already. Further explanation on this will be provided in 4.2.3.

Environmental Factors:

Climate Change: Changes in climate patterns, including increased wildfires and droughts, can impact forest health and timber supply. To secure its assets and assure operational continuity Globulus has to implement measures accordingly. Further explanation can be found in 4.2.3.

Biodiversity Concerns: Preservation of biodiversity and protected species can lead to restrictions on timber harvesting in certain areas. If this becomes a regulatory requirement it could pose an issue to Globulus, since its forests are mainly eucalyptus monocultures with a relatively poor biodiversity score.

Legal Factors:

Environmental Regulations: Compliance with environmental laws and regulations is crucial. Violations can result in fines and damage the industry's reputation. The forestry landscape is becoming more and more regulated because governments are realizing the value of intact forests regarding the fight against climate change as well as loss of biodiversity (European Commission 2021). The European Legislation is especially important for Globulus in this regard.

Land Ownership and Use: Property rights, land use policies, and land tenure systems can influence access to timber resources. About 93% (3,129,000 ha) of the Portuguese forest is private and most of the forest holdings have a size of less than 0.5 ha. There are about 400,000 private forest owners (Feliciano et al. 2015), which could portray an issue for Globulus: when

acquiring new land to increase efficiency and reach scaling effects it is beneficial to have larger lots rather than small-scale, unconnected lots.

4.2.2 5 Forces

In the field of strategic management, Porter's Five Forces is vital for companies facing the complexities of the current business landscape in which they operate. The holistic framework provides a comprehensive perspective on competitive dynamics that enables companies to strengthen their decision-making and ensure sustained profitability. This framework goes further than the traditional view of competition to embrace a range of competitive elements: direct competitors, customers, suppliers, potential entrants, and substitutes (Porter 2008).

Rivalry among competitors is a fundamental aspect of industry analysis and can result in actions such as price competition, product innovativeness, marketing campaigns, and service enhancements. A high degree of rivalry constrains the profitability of an industry and depends on factors such as the number and size of competitors, the industry's growth rate, barriers to exit, price competition, product differentiation, and firms' commitment to the industry (Porter 2008).

Over 90% of Portuguese forests are privately owned (Feliciano et al. 2015), with most private owners being represented through associations. The LSP is one of the 135 organizations registered in the Instituto da Conservação da Natureza e das Florestas (ICNF). The purpose of these organizations is similar for all of them: to encourage the adoption of collaborative forest area management models, strengthen forestry practices, and boost revenue for forest owners and producers. Associations provide stable prices per ton of wood, which fixes profit margins for suppliers (Agência Portuguesa do Ambiente 2020).

A lack of product differentiation and limited fields of application for eucalyptus limits the ability of suppliers to gain competitive advantages, whereas the nature of wood production

limits the speed in which suppliers can harvest wood. Growth trajectories indicate increasing revenues in manufacturing pulp and paper within the next two years (Statista 2021a). However, it is important to recognize that growth rates in this sector can be subject to natural incidents. Forestry remains inherently vulnerable to several natural hazards, the mitigation of which poses a major challenge and calls into question the profitability of the industry (Agência Portuguesa do Ambiente 2020).

Many associations and landowners could, in theory, increase rivalry, but associations and agreements on prices, as well as next to no product innovation or marketing processes, keep the threat of rivalry at a medium level.

The threat of new entrants is characterized by the barriers that limit the ease with which new firms can enter an industry. An assessment of the entry barriers within an industry is essential to determining the attractiveness of that industry (Porter 2008).

New entrants acquiring land can participate in associations to benefit from the association's efforts just like current forest landowners (Tulea 2023). Given the industry's nature, there are no technical advantages that can be leveraged to harvest wood significantly more efficiently by individuals without the support of organizations like the LSP or The Navigator Company. Hence, incumbents can't create barriers that would hinder new companies to acquire land and produce wood (ibid).

In this industry, demand-side benefits of scale and customer switching costs are not applicable. Landowners can directly sell their goods to associations, eliminating the need to establish buyer trust. Since associations are the primary purchasers of wood from landowners, traditional customer switching costs do not come into play (Tulea 2023).

New entrants in the sector are required to make significant capital investments when acquiring land. As Tulea (2023) notes, land prices per square meter in forests around Águeda range from

0.3 Euros to 1.5 Euros per square meter. The variability can be attributed to factors like soil quality, vulnerability to wildfire hazards, elevation differences, the overall health and vitality of the forest ecosystem, and the size of the trees themselves. Long-growth trees have a higher economic value in this context. The long investment time of at least eight years until logging, and the risk of natural disturbances such as wildfires, pests, storms, or droughts are factors that can be mitigated only partly and thus create further barriers to enter the forestry sector (Agência Portuguesa do Ambiente 2020).

The harvesting of trees for trade or self-consumption, whether for industrial purposes or other uses, necessitates a mandatory declaration to the National Forest Authority, and the premature felling of *Eucalyptus* and *Pinus* species on areas larger than two hectares requires prior authorization. Forest Management Plans are mandatory for public and community forests. New entrants into the industry face compliance requirements, increasing operational costs and making it harder to invest into the market (Feliciano et al. 2015).

In conclusion, the absence of restrictive ownership regulations, significant barriers related to capital requirements, natural risks, and regulatory compliance contribute to a moderate threat rating.

The threat of suppliers describes the significant influence that suppliers can cause in an industry by shaping the terms of collaboration with industry participants, negatively impacting profitability and operational flexibility (Porter 2008).

As *Eucalyptus globulus* is mainly used to produce pulp (Agência Portuguesa do Ambiente 2020) and most forests are dominated by this species (Nunes et al. 2019a), there is a high supply of wood for few companies like The Navigator Company that manufacture the wood. Hence, the suppliers in the industry are highly dependent on the few buyers and therefore, have a lower

degree of negotiation power. Furthermore, The Navigator Company contributes to its own supply of *Eucalyptus globulus*, which further reduces the negative impact of switching costs.

As stated by Tulea (2023), associations provide relatively stable prices per ton of wood, and exceeding the required standards in wood quality does not exert a significant influence on prices, making the impact of quality negligible.

The power of buyers will be determined by the negotiation power of key buyers within an industry. Depending on their influence, this can have a significant impact on the profitability of industry participants, making it important to assess these dynamics (Porter 2008).

As The Navigator Company is the main customer for *Eucalyptus globulus* in Portugal (Tulea 2023), the bargaining power may be increased as suppliers are reliant on selling to the few buyers that manufacture *Eucalyptus globulus* in high volumes (Nunes et al. 2019a). Due to its nature, *Eucalyptus globulus* can be defined as a standard product to be sold. As a result, buyers may choose between different suppliers that comply with their requirements. The Navigator Company also applies backward integration as the company produces its own *Eucalyptus globulus* for manufacturing. This lowers the dependence on suppliers and consequently, restricts profit margins for suppliers (ibid).

The high degree of concentration of buying power, the uniform nature of the product, and the backward integration strategy of The Navigator Company leads to the conclusion that buyers like The Navigator Company have very high bargaining power.

The threat of substitutes in an industry occurs when products or services from outside the industry perform a comparable function and can constrain the profitability of the industry. These substitutes may be direct substitutes or indirect alternatives that accomplish the same utility (Porter 2008). Pulping is a complex and sophisticated process that involves mechanical, chemical, and semi-chemical pulping treatments. The complexity of pulp production

contributes to the low prospect of viable replacement materials to supplement the essential role of wood in this complicated process, resulting in a low threat of substitutes (Rullifank et al. 2020).

In conclusion, the Five Forces analysis reveals that the forestry sector in Portugal presents promising prospects for companies prepared to make substantial capital investments and comply with forest management regulations. Supplier power is weak, while buyer power is strong, underscoring the importance of partnerships. The low threat of substitutes and moderate rivalry underscore the need for efficient operations. In summary, success in this sector depends on a comprehensive understanding of these complex industry dynamics, high capital investments, efficient forest management practices, and minimizing risks of natural hazards (this can be visually explored in **Appendix 3**).

4.2.3 Consumer Trends and Forecasts

The Portuguese timber and pulp industries are subject to constant changes influenced by various factors, including economic conditions, environmental concerns, and technological advancements. From an economic perspective the future of the Portuguese pulp and therefore eucalyptus wood industry looks bright. The pulp industry showed a CAGR of approx. 5.5% from 2017 to 2021 and is forecasted to grow by approximately 4% annually from currently 2.1bn USD to 2.4bn USD in 2025 (Statista 2021a).

Furthermore, sustainability has become a paramount concern for consumers of paper products, which are increasingly seeking products made from sustainably sourced wood fiber. The demand for pulp and paper products derived from sustainably managed forests is expected to continue growing (Nummelin et al. 2021). Producers in Europe are likely to focus on labels from FSC and PEFC, which are forest certification systems that ensure forests are managed in an environmentally, socially, and economically sustainable manner, to meet this demand.

Portuguese wood suppliers often already adhere to such responsible forestry standards and certifications, with 350 thousand ha of FSC certified and 253 thousand ha of PEFC certified forest respectively (APCOR 2023). Moreover, environmental regulations are becoming more rigorous. Consumers and governments are pushing for reduced emissions and greater sustainability in the industry. Pulp producers are expected to invest in cleaner technologies and processes to meet regulatory requirements and reduce their carbon footprint. Especially with a growing significance of the European Union Emissions Trading System (EU ETS), a market-based mechanism designed to reduce greenhouse gas emissions within the European Union that sets a cap on emissions for certain sectors, allocates emission allowances, and allows companies to buy and sell these allowances, companies have a financial incentive to reducing emissions and complying with environmental targets (Zhang and Wei 2010).

From a technological perspective, as in most other industries, big trends in the timber industry are currently dominated by AI. Recent advances in machine learning and neural networks have enabled AI systems to match or even exceed human capabilities in many domains of this field, especially in Forest Planning and Management. AI can predict site soil fertility, predict plantation growth, and analyze satellite imagery to track tree growth. Furthermore, during timber harvesting, AI can help to improve efficiency and precision (De Lima Araújo et al. 2021).

4.2.4 Key Industry Success Factors

Key success factors outline the important elements required for a company to effectively compete in its target markets. In effect, they articulate what the company must do and excel at to achieve the goals outlined in its strategic plan (BDC 2023). Critical success factors are determined by factors such as the type of the industry, the business environment in which the SME operates, and customer requirements (Simpson, Padmore, and Newman 2012). External

success factors encompass the institutional framework (Government), market and societal requirements, customer demands, access to resources, and the business environment. Internal factors involve company characteristics, organizational structure, top management support, employee attributes, business processes, and products/services (Chuthamas et al. 2011). Success in the forestry industry, particularly for a small company in Portugal focused on growing *Eucalyptus globulus* for the pulp industry, relies on a combination of internal and external factors. Badini (2018), defined external factors like the macroeconomic environment, regulatory frameworks, forest law enforcement, tenure security and clarity, devolved management and land use planning rights, markets, natural capital as well as internal factors like financial capital, forest management capacities, business management capacities, organizational capacities, and clustering to be the most significant for success in this industry. Another crucial success factor for the Portuguese eucalyptus wood industry and therefore also the national pulp industry around risk management is the establishment of adequate anti-wildfire measures, like firebreaks. Especially in times where extreme weather events and wildfires occur more frequently (APCOR 2023) this portrays not only a significant ecological but also an economical threat. Globulus is realizing these measures by ensuring alignment with the Portuguese forestry law that requires forest owners to leave 15 meters of space unplanted at the border of a lot which act as fire-barriers. Moreover, controlled burns in low fire-risk periods can minimize excess vegetation, lessening the risk of intense wildfires. Maintaining firebreaks by removing potential fuel like dead vegetation is crucial. Choosing fire-resistant eucalyptus tree varieties can also enhance plantation resilience (Agência Portuguesa do Ambiente 2020). Continuous monitoring of weather conditions, particularly during dry and windy periods, is essential for adapting operations and fire prevention measures. Further internal key success factors are effective land management and cultivation expertise: Efficient land use, including

proper soil management as well as in-depth knowledge of *Eucalyptus globulus* growth, maintenance, and harvesting techniques are crucial for maximizing timber yield and quality (Aust and Blinn 2004). Globulus' approach of the uncommon 12-year cutting cycle showed good results in the past in terms of efficiency (Tulea 2023).

An external key success factor for Globulus is to leverage government incentives like grants and subsidies as one way to access financing because it can significantly support the growth and sustainability specially of a small forestry company like Globulus. Relevant examples are the European Agricultural Fund for Rural Development (EAFRD), which provides financial support for rural development projects, including those related to sustainable forestry and afforestation as well as the Portuguese Forest Fund (Fundo Florestal Permanente), which supports forest management, afforestation, and the prevention of forest fires (Instituto Da Conservação Da Natureza e Das Florestas 2023).

4.2.5 Country-Specific Advantages

The Portuguese forestry industry is based on several country-specific advantages that, combined, strengthen its global competitiveness and sustainability. To successfully assess these advantages, Porter's Diamond framework (**Appendix 4**) will be used to structurally identify them (Porter 1990). The framework, on a macro perspective, helps to explore why some countries or regions have a competitive advantage in certain industries. The four key determinants of the model consist of factor conditions, demand conditions, related and supporting industries, and firm strategy, structure, and rivalry. These determinants are connected to one another and hence affect the cumulative competitive advantage of a country (Porter 1990).

Factor Conditions: This dimension refers to the fundamentals of production within a nation or region and incorporates aspects such as labor, capital, natural resources, infrastructure, and technological expertise (Porter 1990).

Portugal has a significant forested area, covering approximately 35% of its land. This abundant resource base provides ample opportunities for timber production and related industries (Nunes et al. 2019b).

The historical development of Portuguese forests and its socioeconomic impact on the forest industry have led to the cultivation of a skilled workforce with expertise in forestry management, and related industries. This human capital is essential for ensuring the efficiency and sustainability of forestry operations (Nunes et al. 2019b).

The Portuguese government has implemented restrictive policies and incentives to promote sustainable forest management and investments in the sector. These supportive measures create a conducive environment for forestry-related businesses. Furthermore, the National Strategy for Forests (NSF) incorporates European Commitments (ICNF 2019).

Demand Conditions: Strong domestic demand fosters innovation and competitiveness by pressuring companies to improve their products and services. This is beneficial to both local and global markets, making demand requirements a determining factor in a country's or region's competitive advantage (Porter 1990).

Portugal's location in southwestern Europe, its proximity to Spain, and its port infrastructure with major ports in Lisbon and Porto provide convenient access to European markets for wood products. This proximity reduces transportation costs.

The Navigator Company is a leading European producer of uncoated printing and writing paper and one of the world's largest industry players in this field (Nunes et al. 2019a). Hence, the company is a main buyer of *Eucalyptus globulus* wood in Portugal and demand projections for

the future as highlighted in [4.2.3](#) reflect strong demand conditions. The robust demand projections are reflected in the substantial volumes of pulp production. Portugal's annual output of 2.7 million tons stands significantly higher when compared to leading European paper and pulp producers such as Germany, producing 2.4 million tons, and France, producing 1.7 million tons annually (United Nations Statistics Division 2022). Consequently, this demand drives innovation in wood processing, quality, and sustainability.

Related and Supporting Industries: When supporting and interrelated industries are properly cultivated and characterized by robust competitiveness and strong interconnections, they create an environment that encourages innovation, increased efficiency, and significant growth within the primary industry (Porter 1990). Portugal has research institutions dedicated to forestry i.e., CEF and ICNF which contribute to innovation and the development of best practices in the sector. This focus on research and technology adoption fosters competitiveness (ICNF 2019).

Firm Strategy, Structure, and Rivalry: A highly competitive domestic market acts as a catalyst, incentivizing companies to innovate and increase operational efficiency. This collective push increases the overall competitiveness of the sector, strengthening the country's or region's position on the global stage (Porter 1990).

Portugal has made efforts to promote sustainable forestry practices and has a significant area of certified forests (ICNF 2019). This commitment to sustainability enhances the marketability of Portuguese wood products globally.

Chapter [4.2.2](#) examined the competitive dynamics within the industry. Companies such as The Navigator Company have engaged in active backward integration strategies, putting pressure on their wood suppliers. Many landowners offer the same product, but the market is low differentiated in terms of product, resulting in similar strategies (Tulea 2023).

4.3. Firm-Specific Advantage

After conducting a macro-environment analysis to examine the external factors influencing Globulus' operations, the focus shifts inward to explore how Globulus conducts its business and whether it possesses firm-specific advantages.

Analyzing the company's value chain allows for an examination of internal operations to uncover strengths and areas for improvement. This analysis aids in understanding how Globulus' forest business unit conducts its operations to generate a profit margin (Porter 1985).

A company's advantage originates from its internal operations but must also be assessed in relation to the industry. Analyzing the company's value chain allows for an examination of internal operations to uncover strengths and areas for improvement. This analysis aids in understanding how Globulus' forest business unit conducts its operations to generate a profit margin (ibid). A company's advantage originates from its internal operations but must also be assessed in relation to the industry. To evaluate Globulus' position in the Portuguese forestry industry, advantages in terms of value, rarity, imitability, and organizational support need to be identified for achieving both domestic and international success. This process helps in understanding where a company can leverage its own resources and capabilities to unlock a sustained competitive advantage (Barney and Clark 2007). These analyses provide critical insights for strategic decision-making, particularly in internationalization projects where leveraging firm-specific advantages and optimizing operations are key to sustainable growth and competitiveness.

4.3.1 Resources and Competences

To gain a deeper understanding of how Globulus utilizes its resources to achieve an operational profit margin, Michael Porter's value chain model is used as a strategic management framework (Porter 1985) (**Appendix 5**). This model inspects a company's internal operations to determine

how value for customers, and thus a competitive advantage, can be achieved. It consists of primary activities directly related to production and delivery, along with supporting activities that enable the execution of the primary activities. The individual activities can be interlinked. The model offers the possibility to identify areas where a company can increase its margin, whether by reducing costs, differentiating, or producing higher-quality product (ibid). The value chain information is based on the company's website (Globulus 2023) and conversations with Tulea.

Primary Activities:

Inbound logistics, operations, and outbound logistics: Globulus' partnership with the LSP interlinks inbound logistics, operations, and outbound logistics, with the LSP managing all forest operations. The association analyzes the forest ground to determine which species to plant, plants the trees, manages their growth by fertilizing the land, and eventually cuts down the trees. As discussed in Chapter 4.1.2, the trees planted are mostly *Eucalyptus globulus* trees, planted in monoculture, that are cut down after 12 years, and the harvested wood is sold to the LSP as well. All operational details are discussed between Globulus and the LSP before planting to enable cost estimates for all operations.

Marketing and Sales: Since the LSP is the sole buyer, Globulus is currently not involved in marketing or additional sales activities. Examples of future activities could include negotiating contracts with wood processing companies and managing relationships with key buyers. The company does have a website for marketing their products.

Service: As the LSP manages and buys the forest, regular service is not often required. However, Globulus does offer assistance for any questions, concerns, or requests that the LSP might have and is open to discussing potential additional service models in the future.

Support Activities:

Firm infrastructure: Globulus acquired its initial land areas in 2009. The idea emerged in 2008, as investing money at the onset of the global economic crisis seemed like a sensible way for Globulus to diversify, viewing the land as a secure investment. Globulus' 200 ha of forest are divided into smaller land parcels accessible via forest roads. The company's headquarters are in Águeda.

Human Resource Management: The founder, Pedro Lisboa, and one financial manager are the only individuals actively overseeing Globulus' operations, primarily in collaboration with the LSP.

Technology Development: This part of the value chain includes research and development efforts to improve products or processes. However, no technology development processes are performed by Globulus themselves.

Procurement: In forestry, procurement this encompasses seeds, fertilizer, and logging machinery, all of which are supplied by the LSP and then paid for by Globulus.

The company's value chain primarily focuses on upstream activities related to forestry and land management. The primary objective is to cultivate and provide high-quality wood resources to the external wood processing company, The Navigator Company. The LSP aims to improve the quality and quantity of its wood products and is responsible for all operational activities. The profit margin is generated by selling the wood at the end of the 12-year growth cycle with a higher revenue than all the previous costs associated with planting and managing the forest.

4.3.2 Firm Sustainable Competitive Advantage (VRIO)

Strategic management professor Jay Barney established the business analysis framework VRIO in 1991, which is a component of a company's bigger strategic plan (Barney 1991). Regardless of the stage of the strategic company analysis, the VRIO framework belongs to the internal analysis and can serve as a framework to evaluate nearly all company resources and capabilities. After having analyzed Globulus' value chain and its activities, the VRIO framework assists in identifying activities that pose an advantage specific to the company. The acronym VRIO (value, rarity, imitability, organization) represents a company's competitive potential and seeks to identify its long-term competitive edge (ibid; **Appendix 6**).

Capability / Resource	Valuable?	Rare?	Costly to imitate?	Exploited by organization?	Competitive implications
Land ownership	☒				Competitive parity
Association with AFBV	☒				Competitive parity
Market knowledge	☒	☒	☒	☒	Sustained competitive advantage
Financial diversification	☒	☒	☒	☒	Sustained competitive advantage
Agile business making	☒	☒	☒	☒	Sustained competitive advantage

Figure 1: VRIO Analysis, (own visualization, based on Barney and Clark 2007, p. 70)

In Globulus' case, long-term land ownership itself is an example of a resource that's valuable for the company but not rare. In the highly privatized Portuguese forests, hundreds of landowners have access to land suitable for forestry practices (Agência Portuguesa do Ambiente 2020).

Since the product, wood, is sold to the LSP at the same price per ton by all landowners (Tulea 2023), a competitive advantage cannot result from the product itself, as there is no specialty in the trees or land itself. However, the existence of the LSP, discussed in previous chapters, leads to a competitive parity for landowners, creating an overall advantage for all of them. This extensive network of landowners creates leverage over buyers such as The Navigator Company, resulting in higher wood revenues for the landowners (Tulea 2023). Also, with the LSP managing the operational work of the forests, the land can be utilized more efficiently. More

wood can be produced from the LSP's effective forest management than from uncontrolled forest growth, resulting in higher revenues (ibid). The LSP as a resource is not rare for landowners and therefore does not adhere to the VRIO framework. Still, it is valuable, helps landowners financially, and is exploited by Globulus.

When asked about the Portuguese forestry landscape, Globulus demonstrated in-depth knowledge about the market's peculiarities. From the industry-typical informal contract-making to knowledge about the trees and soils, as well as an extensive network of landowners and forestry companies, the founder has created a large knowledge pool. This leads to a sustained competitive advantage, especially in relation to companies wanting to enter the Portuguese forestry market. Knowledge of the ways of operating and communicating is valuable and rare, only imitable through time or through hiring an employee with the knowledge, and Pedro Lisboa leverages this advantage for Globulus.

Stepping back from the Globulus business branch, Tulea itself possesses a sustained competitive advantage that many other landowners do not have. The company is financially diversified in many aspects and can shift funds from one area of business to the other. The diversification results in high assets, such as apartments rented out in Porto, the forest land, and vending machines, which can be converted into liquidity should an economic opportunity arise. With Pedro Lisboa as the owner and manager of Globulus, decisions can be made swiftly. The owner is open to expanding his business in various areas and has a track record of doing so by branching into five distinct business sectors. This capability to adapt to a dynamic market environment and to follow market trends is also a notable advantage of Globulus. Especially when compared to the many landowners who own hectares of forest land but do not engage with it, or engage passively, financial diversity, the existence of expensive assets, and the proactive approach to utilizing them, creates a sustained competitive advantage.

In summary, one could argue that in a business where all operational work is outsourced to an external association that also serves hundreds of other landowners, a competitive advantage cannot exist, especially if the final product is the same for all companies. However, the landowners have different backgrounds. Globulus' competitive advantage over the competition results from extensive market knowledge and a high degree of financial diversification with valuable assets, as well as the willingness to react to market forces to engage in upcoming business opportunities.

4.4. Diagnosis for Internationalization

Chapters 4.2 and 4.3 have provided an overarching view of the Portuguese forestry market environment and Globulus' role and position within it. This analysis establishes the foundation for determining Globulus' internationalization prospects.

Displaying the company's strengths and weaknesses together with the market's opportunities and threats creates a comprehensive representation of Globulus' strategic situation. This, in turn, enables the effective strategic assessment of the company's options. It can then be assessed whether Globulus leverages its advantages and those advantages presented to them by Portugal's macro environment.

After a thorough analysis of Globulus within the context of Portugal, Chapter 4.4.3 evaluates the motives driving Globulus to internationalize and explores the need and potential options for expansion outside of Portugal. Chapter 4 concludes with an assessment of Globulus' global readiness, addressing whether Globulus should internationalize its operations. This serves as the foundation for Chapter 5, in which markets of interest with the highest potential for successful internationalization by Globulus will be selected.

4.4.1 SWOT Matrix

The SWOT matrix is the most widely used strategic management tool, employed in both academia and in practice. The acronym SWOT represents the external opportunities and threats a company faces (discussed in Subchapter 4.2) and the internal strengths and weaknesses of a company (discussed in Subchapter 4.3), and shows both the internal and external perspective of the company at a glance. This analysis can be applied across various levels within an organization and facilitates informed strategic decision-making (King, Freyn and Morrison 2023).

Strengths: Globulus' key asset is its association with the LSP, which provides knowledge and resources while helping to maintain constant wood prices. This involvement with the LSP proceeds smoothly, with all occurring costs discussed in advance. Consequently, little operational and human resource costs emerge, with only the founder, Pedro Lisboa, and his financial manager working for Globulus. Globulus' small size facilitates fast and adjustable decision-making in response to market conditions.

Tulea possesses a diversified portfolio with multiple assets, reducing Globulus' risk of bankruptcy. The company has little debt and is in a stable financial situation.

The company owns 200 ha of forest land, which is considered an investment. This land would yield revenues from growing trees even in the absence of active forest management, making all active land usage an added benefit. The eucalyptus trees grown are in high demand, especially by The Navigator Company, ensuring a consistent and robust market.

Weaknesses: Globulus lacks a competitive advantage from a value chain perspective, as other landowners face a similar situation by letting operations be handled by the LSP. Consequently, Globulus relies heavily on the LSP's expertise. The LSP, in turn, depends on its single buyer, The Navigator Company, posing a vulnerability. Fluctuations in wood prices also make it

challenging to project future revenues. Additionally, the extended growth cycle of wood, taking 12 years to grow, results in irregular revenue streams. The company has not implemented any sustainability projects.

Opportunities: Wood is a global commodity, and Globulus is open to exploring export opportunities. Some previously mentioned opportunities for internationalization include the proximity to other European markets, Portugal's EU membership, a growing demand for wood, and the potential to obtaining grants and subsidies.

Globulus' ownership of forest land ensures operational flexibility, enabling the cultivation of different tree species or the utilization of planted eucalyptus for different purposes. The company's agile way of doing business facilitates exploiting opportunities and speeds up decision making. Opportunities that would diversify current operations include sustainability efforts, leveraging technological advancements in timber industry technological, and exploring related and supporting industries.

Threats: Threats include the backwards integration by The Navigator Company, which has the potential to adversely impact the demand and pricing of wood from private forest owners.

Fluctuating wood prices and economic downturns could, in theory, result in higher costs exceeding revenues, making the investment unprofitable.

Sustainability-related issues could pose challenges for Globulus, as biodiversity concerns can lead to stricter sustainability policies. The increased risk of forest fires is a threat to the forests themselves.

4.4.2 FSA-CSA Matrix and Porter's Generic

When companies internationalize, they need to compensate for their own liability of foreignness. This liability includes additional operational costs related to economic, institutional, and cultural differences between home and host countries (Hillemann and Gestrin 2016). To contradict liabilities, Globulus can use their firm-specific advantages (FSA's) and country-specific advantages (CSA's). The level of Globulus' FSA's is relatively low, whereas the level of the CSA's is relatively high:



Figure 2: FSA-CSA Matrix, (own visualization, based on Rugman 1981)

This matrix is the result of previous analysis done on Subchapters 4.2.5 and 4.3. In terms of country-specific advantages, Portugal possesses substantial potential in terms of forestry conditions and is complemented by all the proactive policy measures aimed at boosting forestry practices. It is also pertinent to acknowledge Portugal's efforts towards the implementation of sustainable forest management practices and major industry players pressure the market for innovation and high-quality standards. All of this contributes to an above-average placement in the matrix.

In the firm-specific advantages, the value chain model reveals that the firm does not appear to prioritize technological development, marketing, and sales, with operations being mainly outsourced. Notably, Globulus' distinctive competitive advantage lies in its market knowledge,

a resource that could expedite access to the market and benefit international expansion. All of this contributes to a lower placement in the matrix.

Even though the company doesn't seem to possess an extensive list of competitive advantages, the shift towards internationalization can enhance its current market position. Overall, the FSA-CSA matrix serves as a valuable tool for strategic decision-making, helping Globulus navigate the complexity of international expansion.

According to Porter (1985), there are three potentially successful generic strategic approaches to outperforming other firms in an industry: 1. Cost Leadership; 2. Differentiation; 3. Focus.

Each of these generic strategies represents a different path to the goal of achieving a competitive advantage, combining the type of competitive advantage pursued with the scope of the strategic goal. Cost leadership and differentiation strategies aim for a competitive advantage across a broad range of industry segments, whereas focus strategies target cost focus or differentiation focus within a narrow segment (Porter 1985).

Cost leadership is usually identifiable when a firm sets out to become *the* low-cost producer in its correspondent industry (Porter 1985). This doesn't apply to Globulus' strategy, as the company sells its wood to the LSP at the same price as other landowners.

Firms employing focus strategies concentrate on specific niche markets by selecting a segment or group of segments in their industry and tailoring their strategy to serve these, excluding the other segments. There are two variants within the focus strategy variants: cost focus, where a firm seeks a cost advantage in its target segment, and differentiation focus, where a firm seeks to differentiate itself in its target segment. Cost focus addresses differences in cost behavior within certain segments, while differentiation focus handles the special needs of buyers in certain segments (Porter 1985).

Globulus concentrates its efforts and expertise within a specific segment, the forestry sector. The differentiation focus strategy is evident in its core emphasis on management and operations related to forestry, by having the LSP manage the operational work of the forests and also selling it to The Navigator Company.

In a differentiation strategy, a firm seeks to be unique in its segment, especially in dimensions that are valued by buyers. It chooses attributes that several buyers will perceive as important, positioning themselves to meet those needs. The direct reward of its uniqueness is a premium price (Porter 1985). It also doesn't match Globulus' strategy, as the company offers the same product as other landowners associated with the LSP. However, Tulea has a differentiation strategy since it diversifies its business across several areas such as consulting, tourism, forestry, vending stores, porcelain, and more. It has also strategic partnerships with national brands such as VAA, as it was previously explored. This differentiation allows them to offer the uniqueness of products and services that can appeal to multiple customer segments.

While Tulea has diversified its business areas, it also exhibits a focus strategy by concentrating on specific niche segments within each area. For example, the focus on apartment rentals with the brand Top - Amazing Stays indicates the targeting of a specific customer segment.

Tulea's combination of differentiation and focus allows the company to gain a competitive advantage by offering specialized services while maintaining a market presence.

4.4.3 Motives for Internationalization

The motivations for internationalization can be categorized into different aspects. These include asset-seeking motives, which involve accessing materials and know-how from other markets. Additionally, there are efficiency-seeking motives, focused on reducing production and transportation costs or utilizing government subsidies. Finally, market-seeking motives drive

companies to enter new markets and seize commercial opportunities to establish their presence in international markets (Gomes 2021).

One of the main reasons why Globulus wants to internationalize is connected to the opportunity of fulfilling a gap that the company feels existing in the Portuguese silviculture market: a lack of commercial intermediaries that can directly sell the wood to foreign companies. Currently, there is a lack of commercial organization in the wood market, in terms of establishing bridges between foreign and Portuguese companies, depending on intermediaries to commercialize the wood produced (Tulea 2023). It is evident that this constitutes an opportunity for Globulus to enter in the commercial circle for the international market, which is almost unexplored by silviculture Portuguese companies, taking advantage of the contacts that Globulus already possesses in the industry and of the good relationship that the company has with the commercial sector and with the LSP.

The second reason has to do with the Spanish market, the closest foreign market to Portugal, because this market has an increasing demand for wood, with a compound annual growth rate of 3.49% (Statista 2021a). Also, this is combined with a lack of Spanish wood supply, which is not enough to meet the market demand, consequently there is no growth expected for the number of enterprises in the wood market in Spain, with a compound annual growth rate of -2.77% (ibid). Additionally, in 2021, Portugal was the second major exporter of wood to Spain, representing over 1.1 billion Euros, only surpassed by France (The World Bank 2021a). Therefore, this represents a major opportunity for Portuguese silviculture companies to enter the Spanish wood market. Spain as a possible option for internationalization will be analyzed closely in upcoming chapters.

Finally, the market for exports of wood for paper production in Portugal is experiencing increasing demand, attaining a record of 7.1 billion Euros in exports in 2022, as conveyed by

the President of Biond – the Association of Forest Bioindustry in Portugal – adding that the exporting of wood for paper pulp production was the higher contributor for the attaining of this record (Lusa 2023).

Hence, the growing Portuguese market for wood exports constitutes an opportunity for Globulus to increase its sales volume and to position itself in the international market, benefiting from the increasing demand felt in Portugal.

Concluding, the factors for internationalization described above are mainly connected to commercial and situational economic factors that make it appealing for Globulus to internationalize, therefore the motives are majorly related to market-seeking purposes, to take advantage of the commercial opportunities described.

4.4.4 Global Readiness

Global readiness is an important step to have in mind when a company wants to take the internationalization route. Globulus must be sure that global expansion aligns with its long-term strategic goals so that it can then form a consistent plan to achieve this objective.

Based on previous analysis we have learned that Portugal has a strategic geographic location that can play a crucial role and since it is in the European Union it can bring significant logistic advantages. Portugal has favorable soil and climate conditions for *Eucalyptus globulus* cultivation, and a fast-growing foundation of the forestry industry. Globulus, as a specialist in this area, benefits from the expertise and natural advantage of being able to grow it easily, whereas other countries need to import it. Since the demand for eucalyptus wood is high, Globulus could take advantage of it and target the different markets where it is less abundant and in demand.

A development towards sustainable forest management practices with the promotion of responsible forestry is taking place in Portugal. This can easily be aligned with the global trends

of conscious practices in international markets. Globulus needs to understand how to explore this trend and turn it into a selling point of the business.

It is important to acknowledge that the company faces competition. The forestry sector is highly competitive, involving several billion euros and massive companies like Stora Enso (Finland), UPM Kymmene (Finland), Svenska Cellulosa (Sweden), and Holmen (Sweden). Three Portuguese companies, The Navigator Company, Sempá, and Altri are part of one of the largest forestry and paper companies with the highest Net Income in Europe (Statista 2022). Globulus must distinguish itself through not only the quality of its products but also its marketing strategies, and ultimately focus on establishing strategic export partners, and buyers.

When considering internationalization, it is essential to regard it as an investment for Globulus, prompting several questions. These questions revolve around whether resources should be directed towards international expansion or if there might be more effective ways to achieve higher returns. It is crucial to align financial resources perfectly and have a well-defined plan that encompasses market entry costs, operating costs, exchange rate risks, political risks, economic risks, and financial risks, among others (FasterCapital 2023) to ensure the success of this investment. Regarding the decision-making process of Globulus, the company benefits from flexible and open managers who are ready to embrace the best opportunities of internationalization for the company.

Globulus also benefits from a high level of assets, 3.5 million Euros in 2022 (Orbis 2022a), and liquidity, which gives to the company the possibility of taking advantage of the opportunities mentioned in the SWOT analysis for Globulus, such as exploring new markets on a commercial level or diversify the products derived from the eucalyptus, which could be done either through directly exporting wood to foreign countries or through buying land abroad.

Therefore, in the context of the existing business model, an analysis of various markets will be conducted to assess the potential for establishing Globulus abroad while maximizing profits. Additionally, various land use models will be evaluated to determine whether a change in the business model would be advantageous and more efficient for the company's entry into foreign markets.

In sum, depending on the conclusions and options that this study will generate, the global readiness is medium-high, due to the high potential that Globulus presents, but not excluding the risk inherent to this business model and the efficacy needed to find an optimal option for internationalization.

5. International Market Selection - Phase 1

As the global readiness of Globulus was assessed to be medium-high, the next step is to find the specific market where the company can expand internationally in line with its own internationalization goals. Through the collection of data for micro and macro variables relevant to the business segment, a list of potential countries was drawn. A pre-selection of countries was performed, to obtain the most relevant countries for the final selection. Afterwards, a country ranking, and country clustering analysis was performed, where a final list of potential countries emerged and an analysis of market conditions and entrance methods for the most relevant five countries for Globulus to internationalize was performed.

5.1. Country Selection Criteria

To start the market analysis, 216 countries and states were analyzed to assess their overall viability as potential choices for internationalization. As some of the world's countries present an unstable political and economic situation, due to war, civil unrest, or terrorist insurgency, a pre-selection was performed to exclude them. A total of 26 countries were deemed unable to provide the desired level of stability and assurance that Globulus requires when entering the

international market (Wisevoter 2023). As a result, the analysis focuses on the remaining 190 countries and states.

Subsequently, a group of countries was identified where data was scarce or inadequately available. This limitation could cause problems for a comprehensive evaluation and for the clustering analysis, which are important for the international expansion plan. Based on these data limitations, 62 countries were excluded.

Another critical aspect in assessing this selection is the level of commercial interest associated with each country. This factor considers the attractiveness of certain markets for international business expansion. By not meeting this criterion, 24 countries were excluded.

Following the application of the three criteria, the analysis includes 105 countries (refer to **Appendix 7**). These countries will undergo further examination through a country ranking, and subsequently, a country clustering analysis. This approach is undertaken with the objective of identifying the five countries with the highest potential for internationalization.

5.2. Country Ranking

A country-ranking analysis compares the attractiveness of different countries to determine which of the 104 selected countries might be the most fruitful for Globulus' internationalization purpose. It is important to note that the highest-ranked countries may not necessarily be the best fit for Globulus. However, the analysis reduces the number of countries worth considering and, when combined with the cluster analysis, helps identify five countries for more in-depth investigation of internationalization strategies (Cavusgil, Kiyak and Yeniyurt 2004). Consequently, the ranking process provides an initial assessment of market attractiveness, serving as a guideline, but should not be used as the final decision-maker (Papadopoulos and Martin 2011).

At first, a total of ten overarching categories were established to avoid duplication of indicators and to ensure that necessary information was extracted. These categories include the market's size, growth rate, intensity, and receptivity, as well as commercial infrastructure, country risk, standard of living, economic freedom, geographical distance to Portugal, and ecological factors. Within these ten categories, 29 indicators were selected to offer a comprehensive overview of the 104 countries, considering various aspects such as their macroenvironment, relation to Portugal, timber industry, wealth, and future developments, among others. Data was extracted from the World Bank, Credendo, and The Heritage Foundation, among other sources, and a complete list, rationale, and source of all 29 indicators can be found in **Appendix 8**. Data for each of the 29 indicators was collected for all 104 countries. Portugal was analyzed as well to serve as comparison.

In the ranking process, each indicator was assigned a weight based on its importance for the analysis. Twenty-one macro indicators unspecific to the forestry industry including e.g., GDP, trade, country risk, and economic freedom indicators, were assigned a weight of 59% (refer to **Appendix 9**). Seven factors specific to the forestry sector, encompassing ecological factors, wood trade, forest growing stock and area, and pulp for paper production, were allocated a weight of 31%. Reflecting Globulus' founder's desire to internationalize in relative proximity to Portugal, the geographical distance from Tulea's home country was also included and weighted at 10%. An effort was made to strike a balance between the categories, with market size factors (18%), market receptivity factors (17%), country risk factors (15%), and ecological factors (14%) being the most important ones (detailed breakdown available in **Appendix 9**).

The collected raw data inputs are not inherently comparable as a variety of indices and measures is used. To establish a baseline, a standardization process from 1 to 100 is employed using z-scores: $X'_y = ((X_y - \min_i) / \text{Range}_i) * 99 + 1$.

The formula is inverted for factors where a lower value signifies a preferable outcome, such as political risk rating and ease of doing business rank: $X'_{ij} = ((\max_i - X_{ij}) / \text{Range}_i) * 99 + 1$.

Then, a measure of 100 represents a comparative maximum in this factor. The standardized values for each country are then multiplied by the designated percentage weightings per factor and summed up to yield an average score. The countries are afterwards ranked from highest to lowest average score. To minimize the effect of extreme data and normalize outliers, a logarithmic transformation of the standardized data was conducted (Lee 2020). This approach leads to countries demonstrating more consistent performance across all factors to achieve higher rankings, while others are relegated. **Figure 3** displays the results of the standardized and logarithmic rankings.

Country Ranking (best to worst)		
	Standardized Rank	Logarithmic Rank
United States of America	1	1
Germany	2	2
Finland	3	7
Sweden	4	5
Switzerland	5	15
Denmark	6	20
Spain	7	6
Canada	8	3
Luxembourg	9	26
France	10	4

Figure 3: Final Country Ranking (own visualization)

5.3. Country Clustering

Missing Values Imputation:

The first step in performing a clustering analysis was to ensure that there was no missing data for any country or indicator. Although only approximately 1.7% of the values of total data were missing (**Appendix 10**), value imputation was used to ensure the accuracy of the clustering analysis and to account for all necessary information for every indicator and country. Utilizing the multiple value imputation method on SPSS allowed to identify if there is any pattern in the

missing data and to substitute them with plausible values, based on the rest of the data available (IBM 2021). As no pattern was identified in the missing data (**Appendix 11**), the multiple value imputation method was applied. If a pattern had been identified, the seriousness of the missing data would be higher, potentially leading to a biased analysis. However, in this instance, the few missing values presented a random pattern, which makes it reasonable to generate data, as the value imputation is not expected to alter the results of the analysis significantly (Tabachnick and Fidell 1996). Therefore, by the end of this step, every indicator had values for each country.

Pearson's Correlations:

Once all the values were inserted, and there was no missing data, a Pearson correlation analysis was performed to infer the strength of the correlation between independent variables, in this case, the indicators. The seven indicators chosen, which were Wood Imports, Forest Area, Forest Growing Stock, GDP per Capita, Total Exports from Portugal to Destination Country, Logistics Performance Index and Proximity to the Home Country were chosen based on the highest weights attributed in the country ranking analysis, trying to keep one indicator of each category. Furthermore, these indicators provide valuable information about different aspects of the wood business and of the economic situation of each country, with importance for the choice of a destination country. Wood Imports, Forest Area and Forest Growing Stock show how each country is in need of wood and which capacity it has for the planting of wood; GDP per Capita and Total Exports to Portugal show the economic situation of each country and the state of the commercial relationships with Portugal; Logistics Performance gives information about the level of facilities, as companies need it to store the wood and finally, Proximity to the Home Country shows the geographical distance to Portugal, which relates to transport costs and is discussed to be important for Globulus (Tulea 2023).

The Pearson correlation assesses whether two variables have a high or low degree of linear association, a consideration that may be misleading when performing an analysis: a value close to zero indicates a low association between variables, whereas values close to -1 or 1 suggest that the variables are highly associated (Kirch 2008). When looking at the Pearson coefficients obtained (**Appendix 12**), it is possible to see that two of them (GDP per capita and Proximity to Home Country) display some negative values, indicating a negative correlation with other variables. However, these negative coefficients hover around approximately -0.15, which is considered a low level of linear association (Laerd Statistics 2020). Due to the importance of these two indicators for the internationalization goals of Globulus (Tulea 2023), the indicators were kept for analysis. All the other indicators showed positive coefficients, all below approximately 0.6, considered a medium level of association (Laerd Statistics 2020). Therefore, without evidence of strong levels of linear association between variables and given the high importance for the internationalization goals of Globulus, all seven indicators were kept for the clustering analysis (**Appendix 13**).

Hierarchical Clustering:

Understanding the differences and similarities among countries is fundamental in determining which markets are suitable for entry. These similarities not only help managers in comparing the countries but also provide information on possible synergies among markets (Cavusgil, Kiyak and Yeniyurt 2004).

In pursuit of continuing our selection of potential markets for expansion, a Hierarchical Clustering was conducted. Following the Pearson Correlation analysis, the seven variables previously explained were utilized to conduct the hierarchical clustering.

For this analysis, the Ward's Linkage method was employed as the preferred clustering technique, with Euclidean distances as the distance measure, whilst using the standardized Z score values in SPSS.

The outcome of this clustering generated a dendrogram divided into seven distinct clusters, providing an insightful categorization of the countries selected in Chapter [5.1](#). The clusters were formed based on the similarities within the chosen variables, as seen in the dendrogram presented in **Appendix 14**. Portugal, being the home country of the Globulus business operation, is situated within the third cluster. Proximity or distance in a cluster placement signifies the degree of similarity between the markets, prompting an exploration of various options. In Chapter [5.2](#), the top 10 countries for the country ranking predominantly belong to clusters 4, 6, and 7. This observation provides a broader perspective on how the similarities and distinctions relative to the home country may influence the ultimate market selection and completely change the final choice.

5.4. Selection of Highest Potential Markets

A hybrid approach between analyzing the cluster and ranking results was used to shortlist the five countries with the highest potential for successful internationalization. The ranking analysis identified the **United States** and **Germany** as the two countries with the highest aggregate scores in both linear standardized ranking and logarithmic ranking. The USA's large pulp industry (FAO 2022), ease of doing business, and total market size make it compelling to analyze in more detail (The World Bank 2019a; 2021b) Germany is the highest-ranked European country and the biggest importer of wood globally apart from China (World Integrated Trade Solution 2021) and will be examined as well.

Spain was discussed as a possible option of internationalization in Chapter 4, and its high ranking confirms that it would be captivating to analyze Portugal's only neighboring country in detail.

France and **Sweden** were selected as the fourth and fifth countries for analysis, primarily due to their geographical proximity and substantial pulp production for paper manufacturing, respectively (DistanceFromTo 2023; FAO 2022). Notably, France is also clustered with the highest-ranking countries, Germany, and the USA. Conclusions drawn from the relationship between the need for a robust pulp and paper industry and the significance of geographical proximity will offer valuable insights.

Countries in Cluster 4 and their respective Country ranking			
Denmark	6	Singapore	17
Switzerland	5	Belgium	16
Norway	15	Spain	7
United Arab Emirates	28	Finland	3
Luxembourg	9	Sweden	4
Poland	25	Italy	22
Netherlands	13	Austria	14
Countries in Cluster 7 and their respective Country ranking			
France			10
Germany			2
United States of America			1

Figure 4: Selected Countries (marked in green) and their Clusters (own visualization)

It is important to consider that for SMEs, a distinct selection of a target group in the international market is more important than a broad country selection. Smaller firms often leverage their competitive advantages in domestic markets and therefore require a well-defined target strategy to mitigate the inherent risks associated with internationalization (Westhead, Wright and Ucbasaran 2002). Consequently, establishing effective contact points within the discussed markets will be of paramount importance.

6. International Market Selection – Phase 2

6.1. In-Depth Market Analysis of Spain

In Spain, the forest sector is recognized as having significant potential and substantial room for improvement. The sector contributes approximately 1.4% to the country's Gross Domestic Product (GDP) and demonstrates an annual growth. However, it is notable that the logging rate in Spain remains relatively low, standing at only 36.9% in comparison to the EU-27 average of 62.2%. The Spanish forestry sector includes forest owners, forestry companies, pulp and paper production industry, and wood processing and furniture industries, collectively generating an overall turnover of 16,717 million Euros (Forest-based Sector 2020). The Spanish forestry sector includes forest owners, forestry companies, pulp and paper production industry, and wood processing and furniture industries, collectively generating an overall turnover of 16,717 million Euros (Forest-based Sector 2020).

In 2021, the total forest area within Spain was equivalent to around 185,765 km² (The World Bank 2021c). Over the span from 2001 to 2022, Spain witnessed a substantial reduction in tree cover, with a net loss of 1.56 million ha (15600 km²), corresponding to a 14% decrease (Global Forest Watch 2023).

6.1.1 Contacts

Contacts can be a rich treasure for business development. By developing and leveraging a strong network of contacts it can increase a company's chances of success and gain an advantage over the competition (Singh 2023).

According to Ministerio de Industria, Comercio y Turismo (Invest In Spain 2023), the most common ways for a foreigner to operate a company in Spain are: (i) Sociedad Anónima (S.A) (Public Limited Company) or Sociedad de Responsabilidad Limitada (S.R.L.) (Limited Liability Company) which are Spanish companies with its own legal personality; (ii) A natural

person engages in business or professional activity performed directly as an individual, entailing personal involvement without the intermediary structure of a legal entity; (iii) A branch office lacks independent legal personality, meaning its business operations and legal liability are intrinsically linked to the foreign investor's parent company; (iv) Business cooperation involves forming associations with other company owners already established in Spain, such as Unión Temporal de Empresas (U.T.E.) (Temporary Joint Venture) and Agrupación de Interés Económico (A.I.E.) (Economic Interest Grouping).

For Globulus, a Limited Liability Company (Sociedad de Responsabilidad Limitada) could be a good option since it carries several benefits like owning 100% of the shares as a foreigner and the minimum share capital to start this company is 3,000 Euros (Lexidy 2023). The steps are quite simple: (i) obtain a tax ID code (NIF), (ii) open a bank account in the company's name at a credit institution that operates legally in Spain, (iii) go to a notary, and (iv) deliver a declaration of foreign investment (Invest In Spain 2023). As for the opening a bank account part, the best option would be to choose a bank that operates both in Portugal and in Spain, like BBVA (*Banco Bilbao Vizcaya Argentaria*), CaixaBank, ABANCA, Banco Santander Totta, among others (Banco de Espana 2023; Banco de Portugal 2023).

Engaging in a business cooperation with established Spanish companies is also an advantageous choice for market entry in Spain. These collaboration models allow leveraging the expertise, resources, and market knowledge of local businesses, reducing entry barriers, and facilitating a smoother market penetration process (Verbeck 2023).

In Spain, two ministries create laws and policies related to the forestry sector, the *Ministerio de Agricultura, Pesca y Alimentación* (Ministry of Agriculture, Fisheries and Food) and the *Ministerio para la Transición Ecológica y el reto Demográfico* (Ministry of Ecological Transition and Demographic Challenge). When entering this market Globulus, and Tulea, need

to be sure of every law related to their sector (MAPA 2023) and forest policies taking place (MTERD 2023), never forgetting that some of these laws and policies follow the United Nations agreement so they should already be implemented in their current business.

6.1.2 Competition

Entering foreign markets exposes companies to new competitors. Managing international competition is one of the keys to successful internationalization (Kompass International 2023). In Spain, there are several competitors in the forestry sector, however, there are some that can be noted because of their area of expertise and revenue, like Garnica Sociedad Anonima and Maderas Mancebo SL (Proveedores 2023a).

Since Globulus has such a specific business model that involves the sale of wood, there was a need to find competitors that closely matched this business model. Garnica Sociedad Anonima has several business areas within the company, but it mostly plants and manages Poplar trees (Garnica Sociedad Anonima 2023). Maderas Mancebo plant and distribute all types of wood (Proveedores 2023b).

In order to understand and map competition a strategic group analysis map was developed with two variables, **revenues** (in **Appendix 15**) and **product type**, which can be divided into specific, a company that only commercializes one type of wood, or unspecific, a company that commercializes several types of wood.

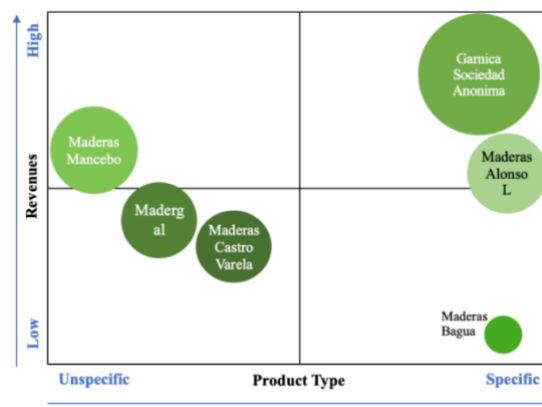


Figure 5: Spanish Competitors Strategic Group Analysis Map (own visualization)

To provide a comprehensive assessment of the advantages and disadvantages of Globulus compared to its main competitors, it's essential to delve into specific factors influencing its competitive position. The strategic group analysis map in **Figure 5** offers insights into the industry's dynamics, revealing the dominant players and several less dominant ones, whilst identifying the current and potential strategic moves of the competitors in the market (Athuraliya 2022).

Advantages of Globulus may include agility and flexibility, common traits in smaller companies, allowing quicker adaptation to market changes. Additionally, being a smaller player can foster innovation and a more personalized approach to clients. On the other hand, disadvantages may involve resource limitations, potentially restricting the scale of operations compared to larger competitors. Limited market presence and bargaining power might also be challenges for Globulus in negotiations with suppliers or clients. Globulus as a small company can derive knowledge from both big and smaller competitors so that the strategy assembles the best of both.

6.1.3 Overall Market Sales Potential and Company Sales Potential

The Spanish wood product market exhibits promising indicators for potential investment. Forecasts expect that by 2026, the sales of wood products in Spain reach 6.2 billion Euros. While there has been a slight decrease in market value, with an average annual decline of 0.2% since 2013, the market remains substantial, currently estimated to be worth 6.1 billion Euros (ReportLinker 2023).

Moreover, this sector in Spain displays a positive growth outlook, with projected value added expected to amount to 2.16 billion Euros in 2023. This projection is supported by a compound annual growth rate of 3.49% (Statista 2023b), indicating a dynamic and expanding industry.

The expected increase in the number of enterprises participating in the wood market in Spain, set at 8.33 thousand for the current year, reinforces the perception of a competitive sector (ibid). Spain's imports related to wood products and paper goods amount to a total of 8.51 billion Euros, with an exchange rate of 1 Euro to 1.09 USD (European Central Bank 2023), in a total of 375.23 billion Euros, with an exchange rate of 1 Euro to 1.09 USD (European Central Bank 2023), approximately 3% of the whole imports in the country (OEC 2023). This underscores the substantial demand for wood-related products in the Spanish market and presents a valuable opportunity for entry into the market.

Moreover, the cost of agricultural land in Spain is, as of 2022, around 10,263 Euros per ha (Eurostat 2022). To measure the cost of forestry land in Spain several sources were used and prices around the country were studied, the range is from 5,363 Euros per ha to a maximum of 13,500 Euros per ha (Liedo 2022). Numerous sources and corporate entities provide comprehensive details regarding the pricing structure for *Eucalyptus globulus*. This information serves as a quantitative measure for assessing the country's potential, encompassing *Eucalyptus globulus* prices that vary between 35 Euros per ton to 68 Euros per ton, contingent upon considerations of length and end-product, and extra 2 Euros per ton for each certification (PEFC or FSC) (Asociación de Propietarios Forestales de Asturias 2023).

Considering the market potential, as outlined in **Appendix 16**, and the revenue figures of key competitors, detailed in **Appendix 15**, it becomes evident that Spain's wood product market offers substantial business opportunities. Globulus, with its diverse services and strong market knowledge, has the potential to establish a significant presence in Spain. The insights provided in **Appendix 16** offer a comprehensive view of the current market dynamics and its future potential, facilitating an analysis of industry revenue trends and their potential implications for Globulus. The information available indicates a projected growth for the industry to

approximately 17.30 billion Euros in 2025, reflecting a substantial increase of approximately 33% from the figures recorded in 2021 (Statista 2021b).

In conclusion, the Spanish wood product market reveals potential growth prospects over the years. The positive trajectory in terms of sales, value-added, market participation, company sales potential, and industry revenues indicate a robust business environment.

6.1.4 Market Entry Conditions

Portugal and Spain signed in 2021 eight "equally important" agreements and expressed the common willingness to carry out joint work "for an increasingly closer, friendly and productive bilateral relation, for joint presence in the European Union and NATO" (República Portuguesa 2021). It can be concluded that in terms of barriers to trade, Spain and Portugal have close to none since they have a close relationship, and both are part of the European Union.

Spain's economic complexity trade index is 0.78, ranking 35 out of 131 countries (OEC 2021), which is a good placement since the index estimates a country's ability to produce and export complex products that require a high level of knowledge and skills (OEC 2023).

PEFC is an international non-profit, non-governmental organization dedicated to promoting sustainable forest management through independent third-party certification. PEFC Spain (*Asociación Española Para La Sostenibilidad Forestal*) is formed by forest owners and industries associations, public governments, technology centers, universities, and other social groups (Forest in EU 2019). In Spain at the end of 2022 the PEFC forest certification system had registered a total of 2,689,271 ha of certified area and 56,114 foresters and forestry managers are participants in the PEFC System, representing a net growth of 8.44% and 14.28% respectively (MedForest 2023).

Despite being the European Union country with the second largest wooded area and the fourth in terms of forest occupation with respect to its territory, only 9.47% of the forest area in Spain

is certified by one of the two most important forest certification systems (PEFC and FSC) (Zubizarreta, Arana-Ladin and Cuadrado 2021). With this lack of certification, there's a need to either import certified wood or be a certified forest owner, as this is a gap in the market that can turn into an opportunity for Globulus.

To gain a comprehensive understanding of forest ownership in Spain, an analysis of historical and current trends is essential. Approximately 66% of the forest area in Spain is under private ownership (18.1 million ha), and the remaining portion (just over 9.5 million ha or 34%) is publicly owned (Živojinović et al. 2015). Two noteworthy trends in forest ownership should be under careful consideration: (1) the emergence of involuntary forest owners, due to certain regional laws that prohibit the sale of rural properties without the attached land, and (2) the banks and foundations with ties to financial institutions have acquired forests as part of their social responsibility initiatives. An important transformation in the property structure arises from the conversion of former agricultural or pasture lands into forested areas. These lands, once abandoned, are now classified as forest lands under Spanish forest law, preventing their deforestation (ibid).

The Spanish forest ownership landscape exhibits dynamic changes, and these new developments create unique opportunities for market entry and collaboration. As the forest sector continues to evolve, businesses like Globulus need to carefully evaluate the implications of these trends to formulate effective strategies for entering the Spanish market. Understanding the nuances of forest ownership in Spain is pivotal for informed decision-making and successful market penetration.

7. International Entry Strategy

7.1. Selection Criteria

In this chapter, the focus will be on choosing the entry mode that will be most attractive for the internationalization of Globulus to enter Spain, the chosen market. It is important to note that Globulus' strategy for internationalization is based on the separation between the cutting of the wood, done by an outsourcing company, keeping the wood in a storage center, and afterwards, the transportation of the wood to Spain, performed by another transportation outsourcing company. This separation between the collection of wood and transportation was decided to safeguard that the intermediary company in charge of the wood treatment and cutting won't copy the business model and internationalization strategy followed by Globulus (Tulea 2023). Four types of factors were considered for the choice of the international entry mode: internal factors, external factors, transaction-specific, and desired mode characteristics (Van der Tas 2010). These factors will be further analyzed and will point out the path to follow for internationalization.

Starting with the internal factors, the company size of Globulus is considered a SME that attained a turnover of 531,125.00 Euros in 2022, presenting a positive tendency of increasing revenues and therefore a solid financial position, with low levels of debt and assets in the value of over 3 million Euros. Hence, Globulus presents stability to pursue an internationalization investment, with adequate levels of resources (Orbis 2022a). Moreover, Globulus possesses the strategic competitive advantage of selling a very specific type of eucalyptus' wood, which is ideal for paper production and particularly appealing for its uniqueness due to land and growing conditions that exist in Águeda. Regarding international experience, Globulus never internationalized the business to any country, however Tulea through the steel business unit

already has international experience in exporting to Spain, which is beneficial in terms of contacts for logistics, transportation, and wholesalers in Spain (Tulea 2023).

In terms of external factors, the demand uncertainty is low, as the demand for wood in Spain has steadily registered an increasing trend, and the sales of wood in Spain are expected to reach the peak of 5.72 billion Euros in 2026 (ReportLinker 2023). Moreover, trade barriers are set to be low or nonexistent, as Spain is part of the European Union and benefits from strong commercial relations with Portugal, namely through the signing of several commercial agreements that reinforce the strong relations between these two countries. Spain is currently the first customer of Portuguese exports (Portuguese Foreign Affairs 2022). Looking at the competition, it is possible to conclude that the market in Spain is intensively explored and has a high number of competitors, however the level of internal supply for wood in Spain does not cover the internal demand, which forces this market to import high levels of wood, and being Portugal the closest market to Spain, companies in the Portuguese wood sector are able to export wood to Spain at much more competitive prices than other European countries, due to lower transportation costs. Regarding the transaction specific factor, in terms of know-how, Globulus benefits from the uniqueness of its species of eucalyptus and from the special soil conditions in Águeda, to produce a type of wood that is best suited for paper production, furthermore, instead of harvesting each 8 years, the average period in the sector, Globulus developed its own method, harvesting the wood each 12 years, such that the trees achieve a higher diameter and a better wood quality (Tulea 2023). However, in terms of knowledge in international business, Globulus does not have the experience and know-how of selling wood internationally, which suggests an entry mode with low resource commitment, for Globulus to gain experience, adjust and learn how to perform in international markets. Furthermore, there is also a medium propensity for opportunistic behavior from transportation companies and competitors, such as deviating the

wood to other suppliers or duplicating the internationalization strategy of Globulus, as Tulea already partners with transportation companies, but not in the wood sector, which constitutes an uncertainty regarding shirking and deviation of wood from trucks to other companies (ibid). Finally, regarding desired mode characteristics, Globulus has a medium level of risk aversion, with financial solidity to pursue investment in internationalization (Orbis 2022a). However, it is inserted in a group with other business units, Tulea, and functions as a diluter of risk for the group, representing a safe investment in land and wood selling. Therefore, a riskier investment in the internationalization of Globulus may compromise the financial solidity of all the other business branches, which is not desirable. As such, Globulus aims to start international business with a high level of flexibility over the operations, to learn and make contacts with international partners, not needing a high level of control, which means that the company, in a first phasis, will not establish a wholly owned subsidiary in Spain.

Concluding, the nature of the factors described point towards an externalization entry mode, rather than an internationalization one, as Globulus must still gain experience, learn and adjust its strategy to the international market, which can only be achieved through experience (Elia, Larsen and Piscitello 2019).

7.2. Analysis of Alternative Entry Modes

Companies may opt for different entry modes, depending on the level of resources, the type of product and the level of control that companies aim for their internationalization. Entry modes can be hierarchically divided into equity modes, which encompass joint ventures and wholly owned subsidiaries, and non-equity modes, which include exporting (directly or indirectly) and contractual agreements such as licensing, strategic alliances, or R&D agreements (Pan and Tse 2000). As discussed before, equity modes won't be the primary choice of Globulus, as for now, the company aims for a low resource commitment entry mode, which will allow Globulus to

get market knowledge and experience in international business before stepping into a high resource commitment internationalization (Tulea 2023). Therefore, either a joint venture or a wholly owned subsidiary in Spain won't be attractive for Globulus, as the exposure of this kind of investment is high, requires a high level of overhead investment, and leaves small space for flexibility, implying high switching costs if the choice of internationalization is proved to be inefficient (Anderson and Gatignon 1986). Consequently, the focus will be on non-equity entry modes. A strategic alliance, which is a partnership between two or more parties to achieve a common strategic result, would be a good option, as it would give the opportunity for Globulus to split the strategic and financial risks of internationalization between the cooperants and higher competitive advantage, through the joining of efforts. A strategic alliance, conducted similarly to the current association with the LSP, would be possible. The investment would work similarly to the current business model but would hardly be advantageous compared to the current model and additionally, the company aims to consider new modes of doing business. This option would be considered as an intermediate option between internalization and externalization. However, this entry mode carries out threats, being the first the fact that partners must trust each other and be aligned with respect to the objectives and scope of the strategic alliance, there is also the relational and cultural risk that may constitute an important gap between partners and above all, the risk of helping a partner to become a significant player in another market, threatening Globulus' future positioning in that market (Elmuti and Kathawala 2001). Furthermore, buying land would be too high of a cost for Tulea, making a wholly owned subsidiary and a strategic alliance not feasible in practice (Tulea 2023). Moreover, the size of the company would dictate the company to buy a rather small piece of land that could also be bought in the vicinity of current forests. This would have lower opportunity costs than buying land in Spain and engaging in another alliance with a local

association. Hence, the options are narrowed down to an externalized entry mode, which in practice results in an exporting approach.

7.3. Entry Mode Selection

Exporting is of advantage, as Spain is geographically close, resulting in low transport times and costs, and trade barriers are low. The demand for pulp is high, as Spain imports over one million ton of pulp for paper as well, over 60% of their total pulp production (FAOSTAT 2021). Tulea lacks international experience, which points towards an externalization market entry mode. Chapter 2.4 highlights the Uppsala model by Johanson and Vahlne (2009), which describes internationalization often originating from physically close markets in a gradual process, starting with exporting and minimal market commitment. Globulus would, when exporting, follow this model, and could accelerate internationalization endeavors by building knowledge from the Spanish market and establishing a network. Exporting allows Globulus to minimize its liability of foreignness in Spain, while keeping the degree of control and commitment at a minimum. Liability of foreignness includes aspects that add to the complexity when internationalizing, like institutional, psychological, and cultural distance to the new market, in this case Spain. It also includes aspects like the volatilities and new competitive environments in the new market (Gorostidi-Martinez and Zhao 2017). Looking at exporting, companies may opt for direct or indirect exporting, either exporting directly to customers abroad or selling the wood to an intermediary company that will then resell the wood in the foreign market (Peng and York 2001). Direct exporting has the advantage of establishing a company under its own name in a foreign market while creating direct linkages between foreign customers and acquiring knowledge directly about that market. However, it is also a riskier approach than indirect exporting, especially in the case of a company like Globulus, which has little market knowledge: not knowing who the right customers are or where to find them, and how to process

the commercial and logistical implications of the foreign market. Therefore, considering the positioning of Globulus, indirect exporting would be more suitable for acquiring market knowledge through intermediaries, who would help to identify possible customers and distribution infrastructure providers, while protecting itself from the risks that direct exporting presents when having small market knowledge and information (Hessels and Terjesen 2007). Exporting intermediaries perform a range of activities for the supplier company, in this case Globulus, which encompass international market research, the searching for customers in the Spanish market to buy Globulus' wood; development of marketing strategy and advertising, through the experience of the intermediary in the foreign market, a marketing strategy can be easily defined and adjusted to the specific foreign market; selection of foreign distributors and sales services, among others (Balabanis 2000). Hence, due to the factors described and activities performed by the exporting intermediaries, indirect exporting would be an option that would allow Globulus to overcome Spanish paper market knowledge gap and reduce the inherent risks associated with entering an international market without prior experience in internationalization in this business area (Hessels and Terjesen 2007). As discussed in Chapter 7.1, Globulus already has contacts in the Spanish logistics sector. Possible buyers for Globulus' exports could be Spain's largest private forest manager Ence, or local associations similar to the LSP like the Asociación de Propietarios Forestales de Asturias (Profoas), Confederación de Organizaciones de Selvicultores de España (COSE), Asociación de Propietarios Forestal de la Región de Murcia (PROFOMUR), and Federación de Asociaciones Forestales de Castilla León (FAFCYLE) (COSE 2023).

8. Marketing Plan

As stated by Tulea (2023), Globulus aims to follow a prudent financial approach towards its expansion into the Spanish market, particularly concerning the current marketing budget. In

line with this strategy, Globulus plans to initially focus on selling its products to intermediary companies within the pulp and paper industry to establish a strong foothold in the new market. Consequently, Globulus wants to focus on B2B (Business-to-Business) marketing, which features extended sales cycles, emphasizes relationship building, and centers on demonstrating the value and return on investment. The primary goal is to address business needs through effective product offerings, distribution, pricing, and promotion (LaPlaca and Hadjikhani 2013; Kleinaltenkamp 2015). In the forestry sector, B2B marketing is predominant and takes on unique characteristics due to the industry's nature (Hansen and Juslin 2002). The market is primarily composed of bulk purchasers, such as paper and pulp manufacturers, construction companies, and furniture makers, who require large quantities of wood products.

8.1. Marketing Objectives

In the short-term, approximately the first twelve months, Globulus' primary marketing objective would be to establish a foothold in the Spanish market. Given the budget constraints, the focus is on creating brand awareness among the intermediary companies in the pulp and paper industry. This could involve developing a Spanish version of the current website, with an additional section exclusively aimed at potential Spanish business partners, detailing Globulus' product, value proposition, and sustainability efforts. Moreover, prioritizing relationship-building with key industry players in Spain is crucial. This includes identifying and attending essential industry trade shows, even if only as attendees initially, to network with potential clients and partners. Becoming an active member of the forestry community in Spain will be crucial for a successful market entry because it provides access to industry insights like trends and regulatory changes. Leveraging professional online networking platforms like LinkedIn to connect with industry stakeholders in Spain would also be a cost-effective strategy. Furthermore, Globulus could potentially leverage existing contacts in Spain through other

business activities in which Tulea is involved. In the long-term, spanning approximately 5-6 years as Globulus becomes more established in Spain, the objective would shift toward solidifying its brand positioning as a preferred supplier for the pulp and paper industry in the forestry sector. This includes gaining recognition for quality, reliability, and sustainability—attributes that are increasingly valued in the European market (Panwar et al. 2006). While the estimated size of Globulus' presence in Spain in the long-term is provided in Chapter 9.2, it is worth noting that, besides being recognized for the above-mentioned attributes, Globulus could also consider diversifying its entry modes into the Spanish market in the long run. Growing by exporting wood from Portugal would require Globulus to also grow its business there, and considering acquiring land and growing *Eucalyptus globulus* directly in Spain could also be an option after Globulus has successfully established contacts in the Spanish market. These entry modes would then also require changes in the marketing strategy.

8.2. Segmentation

Segmentation plays a crucial role in guiding a firm's marketing strategy and resource allocation. The value of market segmentation lies in aiding companies to adopt a position somewhere between being overly generalized and excessively customized (Mitchell and Wilson 1998).

Several segmentation variables are relevant to Globulus' business, such as industry, company size, geographic location, and purchasing behavior. For industry segmentation, the company serves the forestry sector, more specifically within the wood, and pulp and paper production industries. To enhance its marketing strategies for instance, within the pulp and paper industry, the emphasis is placed on the material's strength and high quality. Customer segmentation in Globulus extends into SMEs and MNCs. SMEs can offer flexible pricing options and smaller order quantities. Larger corporations might emphasize the availability of bulk orders and tailored logistics solutions. Geographically, Globulus targets Portugal, with plans for expansion

into the Spanish market, customizing its approach based on the distinct characteristics of each region. This could include considerations for climate differences, cultural preferences for wood products, and adherence to specific environmental regulations in each region. Purchasing behavior can be divided into two different categories: behavioral and needs-based segmentation. Behavioral segmentation takes into consideration the frequency and regularity of customer orders (Indeed 2023). Globulus seeks clients who require wood as regularly as the harvest produces, avoiding clients who frequently change wood suppliers. In the needs-based segmentation, some customers prioritize cost-efficiency, while others prioritize sustainability and eco-friendly materials (Kyne 2023). Globulus must ensure that its clients are aware of the premium quality and certifications of their products. This segmentation strategy aids in optimizing market penetration and customer satisfaction, positioning Globulus for success in the forestry industry.

8.3. Targeting

In the dynamic and specialized B2B landscape of the Spanish pulp and paper industry, Globulus' targeting approach is connected to its segmentation strategy, especially focusing on intermediary companies within the forestry sector. As previously emphasized, Pedro Lisboa outlined Globulus' goal to engage with intermediary companies in this sector, aligning with the unique characteristics of the industry. Globulus would direct its resources towards establishing robust connections with key players in the industry. This focus allows for a deeper understanding of each client's specific needs and preferences and enables the company to tailor its offerings more precisely, ensuring that the quality and specifications of its products meet the exact requirements. Globulus must prioritize industry segmentation and purchasing behavior, as discussed in Chapter 8.2. By paying attention to the specific needs of the forestry industry and understanding how its clients buy wood, Globulus can match the right products to the right

companies and align its strategies with the specific demands of the forestry sector. This targeted approach enhances the company's market penetration but also positions it as a responsive and adaptive player within the industry.

8.4. Positioning

Positioning, in accordance with established marketing theory, involves the strategic process of shaping how a brand or product would be perceived by its target audience in relation to competitors (Ries and Trout 1981). In the context of potential entry into the Spanish market, where the customer base would often consist of buying groups rather than individual consumers, crafting effective positioning strategies would be a multifaceted endeavor. It would require a deep understanding of group dynamics, decision-making processes, and the unique conditions that govern B2B markets (Agyei, Manu and Coffie 2022). As Globulus contemplates the application of these principles for potential entry into the Spanish market, this section will examine how Globulus could seek to carve a distinct niche and succeed within the Spanish market.

8.4.1 Positioning Statement & Value Proposition

One of the foundational elements of Globulus' envisioned positioning strategy would be its commitment to high-quality products – a key aspect of contemporary positioning theory (Kotler 1986). Globulus would ensure that its product quality is consistent and focus on sustainability aspects. Globulus forests are certified by the PEFC, reflecting not only environmental responsibility but also resonating with the anticipated growing demand for eco-conscious practices within the Spanish market. Additionally, as an SME, Globulus would harness the benefits of enhanced flexibility and agility, allowing it to adapt quickly to market needs and customer feedback, a significant advantage in a market that values responsive and personalized service. According to Porter's generic competitive strategies, a framework that offers

businesses distinct approaches to position themselves in the marketplace and gain a competitive edge, this describes a differentiation focus strategy (Porter 1985). Globulus is focused on differentiating itself by offering high-quality wood products, emphasizing sustainability, and demonstrating flexibility and reliability. These key attributes set it apart from competitors. Importantly, Globulus directs this strategy toward a specific market segment – intermediary companies in the pulp industry. By targeting this niche market instead of the forestry sector as a whole and concentrating its efforts on meeting the unique needs and preferences of these intermediary companies, Globulus aims to establish itself as a distinctive and preferred partner. Altogether this sets the foundation to build strong, long-term relationships with customers and local partners, which is an important aspect particularly important in the Spanish market, where business relationships are often built on trust and personal connections (Piricz 2016).

Value Proposition: For Spanish pulp and paper businesses looking for a flexible and reliable wood supply, Globulus is the forestry partner that provides high-quality wood products that are sustainably sourced and PEFC certified.

8.4.2 Positioning Map



Figure 6: Positioning of Globulus in the Spanish Market (own visualization, based on Porter 1985)

8.5. Marketing Mix

The marketing mix, also known as the 4P's, is a strategic tool enabling marketers to better understand what a product can offer and how to plan for a successful product offering (Lim

2023). Each "P" represents a crucial aspect that marketers address to effectively meet the needs and preferences of their target audience (Donlan 2023).

As for **product**, Globulus offers certified eucalyptus wood in two variants: stripped wood and wood with bark. The supply chain is traceable, and the PEFC certification ensures legality in operations within Spain.

In terms of **price**, the LSP subcontracts a lumberjack for tree cutting, bark removal (or not, depending on the wood type), and transportation, at a cost of 20 Euros per ton. Wood with bark, being heavier, is priced at 40 Euros per ton (including 4 Euros for the PEFC certification, designating it as a premium product). Globulus primarily sells stripped wood for 50 Euros per ton (including the same 4 Euros for PEFC certification), as it is requested more frequently (Tulea 2023). The pricing structure follows a pre-arranged price from the LSP and all the sellers in the Baixo Vouga region. As explored in Chapter 6.1, *Eucalyptus globulus* wood prices in Spain range from 35 Euros per ton to 68 Euros per ton, plus 2 Euros per ton for the Spanish PEFC certification (G.B. 2023). Therefore, the optimal strategy for Globulus is to initiate pricing with a competitive strategy that focuses on cooperation, to match what competitors are doing and prevent losing potential clients, whilst maintaining flexibility to align with industry trends.

The emphasis for **place** lies on leveraging established distribution channels, partnerships, and an efficient supply chain to ensure the seamless availability of products to customers (Memon 2023). Globulus will collaborate with local distributors, wholesalers, and potentially explore partnerships with existing businesses to ensure a widespread and efficient reach to customers across Spain. The focus on logistics and supply chain efficiency needs to be both timely and reliable. Globulus' current transportation company can be a suitable option for logistics.

To **promote** its products effectively, Globulus should utilize a mix of traditional and digital marketing channels, with greater emphasis on the traditional methods. This includes participating in industry events, collaborating with local businesses, and starting to leverage online platforms like LinkedIn to attract partnerships and potential clients.

9. Financial Forecast

Financial forecasting is an important management task for companies. Effective planning and monitoring are essential for operational decisions ranging from production and inventory management to hiring (Jordan and Messner 2020). Forecasting assumes that historical and current information can be used to allow predictions to be drawn about the future. This concept is particularly relevant in the context of time series data, where the objective is to identify patterns in historical data that allow predictions to be made about future outcomes. However, it is important to note that forecasts do not aim to make exact predictions about the future but offer a range of possibilities (Koehler 2022). For SMEs and in the case of Globulus, effective financial management practices are crucial for financial success. Practices involve the efficient allocation of financial resources to support current and future opportunities, leading to cost-effective decision-making and optimizing capital structure (Vohra and Dhillon 2014). This chapter will outline the key elements required to develop a valuable financial forecast for Globulus international's expansion endeavors into the Spanish forestry market.

9.1. Assumptions

Several assumptions need to be made when analyzing the possible market entry through exporting to Spain. The initial year of market entry is projected to be 2025, giving the company enough time to prepare and establish partnerships with transportation companies and buyers. Transportation costs are particularly relevant to the business model, as it represents the biggest change in cost drivers. Globulus estimates transportation costs to Spain to amount to ten Euros

per ton, based on past transportation costs from the steel industry (Tulea 2023). Costs for processing and logging amount to approximately 15 Euros in Tulea's normal operations, and this number does not change as exporting does not affect these operations. Therefore, the assumed total costs of logging, processing, and transportation are expected to increase from 20 to 25 Euros per ton. The determining factor for the viability of exporting is the average price per ton for wood in Spain. As discussed in Chapter 6, the price for wood in Spain ranges from 35 to 65 Euros per ton, which can be higher than the 50 Euros obtained from the LSP. Since Globulus can decide whether to export or not, favorable prices can be accepted and unfavorable prices negated, as there is no pressure in exporting with The Navigator Company otherwise willing to buy the wood. Therefore, an optimistic but realistic selling price of 60 Euros was assumed. Inflation-adjusted values were considered, with an escalation of variable costs of 3% annually, and wood prices for both Portugal and Spain escalating by 2% annually.

Discounting cash flows is standard in forestry, as the time between planting and harvesting is quite long, and therefore the time value of money plays an important part. Thus, patience and risk acceptance are required in forestry, with discount rates based on the forester's risk acceptance ranging from almost 0% to 18% (Sauter and Mußhoff 2018). Sauter and Mußhoff (2018) calculated an average time preference rate for forestry owners of 4.1%, serving as the basis for this analysis. The discount rate will be analyzed more closely in the sensitivity and scenario analyses. In the context of a payback period, the assumption is made that new forest land in Portugal could be acquired at the average historical price for land in Águeda, standing at 90 cents per square meter (Tulea 2023). For Globulus, accurately estimating future revenues is challenging, as the forests are not cut down regularly, but in different sized land portions over the course of the 12-year growing cycle. An analysis of the situation in 2023 would just be a snapshot of future developments and could not clearly show the direct contrast between

exporting and continuing the regular business operations. Thus, we assume a twelfth of the total forest area, equaling 16.67 ha of forest, to be cut down yearly. The fixed costs of planting and maintenance are divided over the course of the 12 years. Globulus assesses the wood harvested at 20 to 22 tons per ha per year on average. Assuming the more conservative 20 tons, one harvest yields 240 tons per ha after twelve years. The export volume is assumed to expand yearly, with less than a third of total wood harvested (5 out of 16.67 ha) being exported in the first year, gradually increasing, until all wood can be exported to Spain by the sixth years. This timeline allows Globulus to build a network in the market and to clarify future business relations with the LSP. A detailed list of all assumptions can be found in **Appendix 17**.

9.2. Market Size and Market Share Estimation

When discussing the market size relevant to a business, several definitions apply that can help identify the scope within which a business operates. The Serviceable Obtainable Market (SOM) can be derived through a top-down approach, initially analyzing the Total Addressable Market (TAM). The TAM is then reduced to determine the Serviceable Addressable Market (SAM), including only the percentage of the TAM attainable with the current business model. Subsequently, the SOM is derived from the SAM by estimating the realistic share of the SAM that can be obtained (York 2018).

For Globulus in Spain, The TAM constitutes the entire wood production in the country, encompassing all wood types produced, as Globulus could theoretically enter all wood markets. In 2021, Spain's TAM amounted to 13.54 million tons of wood (FAOSTAT 2021). The SAM, tailored to the current business model focusing on wood for pulp for paper production, was 1.74 million tons in 2021. Identifying the SOM is challenging for Globulus, as the amount of wood sold highly depends on the level of investment taken. Globulus' small size in the large wood industry makes market share estimations redundant.

Considering that Spain imports over one million tons of pulpwood, the obtainable market surpasses Globulus' current size several times. Even if Globulus were to export all wood to Spain, assuming productivity levels per ha of 240 tons when cutting after 12 years (Tulea 2023), the company could export a total of almost 48,000 tons of wood, securing almost 5% of the total imports alone for one year before having to regrow for 12 years with 0% market share.

9.3. Operational Plan

The operational plan provides an overview of the current cost structure of Globulus' business operations, which will be used to perform NPV computations, sensitivity, and scenario analyses. The assumptions made in Chapter 9.1 are used to compute revenue and cost estimations for the years from 2025 to 2030. This operational plan serves as a central tool for deriving the profit and loss account and calculating the amortization periods for investments. In addition, it thoroughly considers the different revenue and cost dynamics that occur in both domestic and international activities in the Spanish market. The comprehensive framework enables the company to forecast financial developments, assess the feasibility of investments and develop strategies aimed at increasing operational efficiency in different market areas.

9.3.1 Revenue Estimation

Estimating the businesses revenues is highly dependent on how much Globulus wants to export. Since the operations of the business do not change, and thus the total timber output does not change, the revenues depend solely on the price of the timber, which has to be assumed to a certain degree. The LSP currently buys the wood from Globulus for 50 Euros per ton, which is predetermined and paid by all forest owners working with the LSP. Therefore, any exporting business must reach a higher selling price than those 50 Euros, and the success of the endeavor depends on this. A realistic export price of 60 Euros, increasing inflation-adjusted by 2% yearly, was assumed, the reasoning being discussed in Chapters 6.1 and 9.1. As discussed in Chapter

9.1, the export volume increases yearly in our assumption, until in year 6, all wood is exported to Spain. **Figure 7** shows an increase in yearly revenues and shows that from 2027, exported wood could bring in more revenue than wood sold to The Navigator Company. These revenues show a systematic picture and cannot necessarily be transferred to real business, as in contrast to this assumption, the wood is not cut down as regularly as depicted.

P&L	2024 - without exporting	2025 - starting to export	2026	2027	2028	2029	2030
Hectares used yearly for usual business	17	12	10	8	6	4	0
Hectares used yearly for exporting	0	5	7	9	11	13	17
Revenues from usual business (Sales, Actual Sales)	200,000.00 €	142,800.00 €	120,686.40 €	97,631.14 €	73,605.39 €	48,579.56 €	0.00 €
Revenue from exporting (Sales, Actual Sales)	- €	72,000.00 €	102,816.00 €	134,835.84 €	168,095.35 €	202,631.30 €	264,979.39 €
Total Revenues (Sales, Actual Sales)	200,000.00 €	214,800.00 €	223,502.40 €	232,466.98 €	241,700.73 €	251,210.86 €	264,979.39 €

Figure 7: Future Revenue Development when Exporting (own visualization)

9.3.2 Cost Estimation

By exporting the final product, the operational cost drivers remain unchanged. In the existing business model, the most significant cost drivers are the process costs associated with logging, processing, and transporting the wood, averaging 80,000 Euros at 20 Euros per ton annually. The second-largest cost driver is the land's preparation and the planting costs, totaling an average of 43,750 Euros. The only other costs include fertilizing expenses (around 2,300 Euros yearly) and land maintenance costs (around 6,080 Euros yearly).

With exporting, only the largest cost driver is altered. The total cost of logging and processing remains at 15 Euros per ton, unchanged from the existing business. However, the transportation costs double to 10 Euros per ton, increasing the total variable costs per ton by 5 Euros (see Chapter 9.1). Consequently, the total costs only depend on the volume of wood exported. Additional personnel costs do not arise, as Globulus' owner would continue outsourcing all business activity. At an estimation of five ha in the first year of exporting, the costs of goods sold from exporting amount to 30,000 Euros (**Appendix 18**).

9.3.3 P&L Statement

The profit and loss statement for Globulus in 2025 computes revenues of 142,800 Euros from the regular business, selling wood from 12 ha of forest land to the LSP, and an additional 72,000

Euros from exporting to customers in Spain, resulting in total revenues of 214,800 Euros. Costs of Goods Sold (COGS) include the costs of cutting down and processing the trees of 15 Euros per ton, and transportation costs of 5 Euros per ton if not exported and 10 Euros per ton when exporting the timber. The total COGS amount to 86,000 Euros. Fixed costs, encompassing land preparation, fertilizing, and land maintenance, sum up to 52,170 Euros. Since this is the first year of exporting and Globulus plans to initiate some marketing efforts (see Chapter 8), 485 Euros of marketing costs are added for the initial year of exporting, increasing in the years 2026 to 2030. The forest maintenance processes undertaken by Globulus involve no depreciations since the logging, processing, and transportation of wood don't rely on machinery. Over time, the land's value might even increase, offering potential for a higher resale value. Thus, the EBIT stands at 76,150 Euros in the first year of exporting.

Tulea paid 1,570 Euros in interest in 2022. Given that Globulus contributes approximately 18% to Tulea's total revenue, 18% of those interest payments are allocated to Globulus' income statement. Applying a 21% income tax rate, the company then achieves a net income of about 59,950 Euros in the first year of exporting. The net income is expected to increase to 78,970 Euros in the sixth year, the reason being mainly a higher focus on exporting than selling to the LSP. The complete P&L statement can be found in **Appendix 18**.

9.3.4 Operational Risk Analysis

To understand the operational risk associated with Globulus exporting to Spain, it is essential to characterize all existing risks. These risks can then be categorized based on their likelihood and severity, ranging from an acceptable risk to an undesirable one (**Appendix 19**). The greater the severity and likelihood of a particular risk, the higher the overall risk level. In **Figure 8**, the overall risk level is depicted, ranging from low risk (green), indicating that the company can proceed with operations as usual, to medium risk (yellow), necessitating mitigation efforts, to

high risk (orange), where seeking support is advisable, to finally extreme risk (red), where the entire event should be halted.

		SEVERITY			
		ACCEPTABLE	TOLERABLE	UNDESIRABLE	INTOLERABLE
		Little to no effect on event	Effects are felt, but not critical to outcome	Serious effect on the outcome	Effect results in disaster
LIKELIHOOD	IMPROBABLE Risk is unlikely to occur	Political and legal changes	Problems with transport Loss of buyers	Issues with AFBV	
	POSSIBLE Risk can occur			No demand No financial viability	
	PROBABLE Risk is likely to occur				

Figure 8: Severity/Likelihood Matrix (own visualization)

As can be seen in **Figure 8**, the operational risks associated with exporting are mostly improbable and never reach the extreme risk sector. Globulus can always resort back to not exporting but continue their business as usual when starting off exporting with only a fraction of their total wood. The most significant risk concerning exporting is the potential mismatch between the expected demand and actual buyers, who might not want to purchase the wood. Additionally, wood prices in Spain could be or become lower than in Portugal, negating the financial viability of the endeavor. Medium operational risks include possible issues arising with the LSP, as it might not be possible to export to another seller than the designated The Navigator Company. Possible problems with the transportation to Spain, and the risk of losing buyers again after building an export network are also medium risks. Low operational risks include the political and legal landscape of Spain, which could impose new forestry laws and practices or import taxes on forestry products, which is highly unlikely. The entire risk overview chart can be found in **Appendix 19**.

9.4. Investment Plan

Globulus is not dependent on additional land acquisition in Portugal in its pursuit of internationalization through timber exports. Some of the existing land resources are used for regular business operations in cooperation with LSP and other segments can be reserved for exports. As discussed, timber harvesting and processing tasks would remain subcontracted (Tulea 2023). However, in this financial forecast analysis, the possibility of investing in new forest land in the Águeda region is considered. Following the land price assumptions outlined in **Appendix 17**, which are discussed in Chapter 9.1, the acquisition of 20 ha of land would amount to 180,000 Euros for Globulus. This acquisition may occur gradually or in the form of a block purchase and presents a potential investment opportunity but would not be imperative for the purpose exporting itself. Considerations regarding net working capital do not apply to Globulus, as no additional inventory would need to be purchased. Similarly, the concept of salvage value is inapplicable in this context; the acquired land is not projected for resale post the forecasted period, thereby registering a valuation of zero.

9.5. Financing Plan

Tulea's (2023) strategy emphasizes the use of retained earnings for capital investment and precludes the consideration of external financing. As shown in **Appendix 22**, the export initiative is expected to yield a total of around 524,439 Euros by 2030. The investment costs for the prospective acquisition of 20 ha of land could be fully financed from Globulus' accumulated retained earnings from exporting up until this point. With no significant increase in fixed costs and the current land regarded as an investment that requires no financing, there is no requirement for a financing plan.

9.6. Financial Viability

The assessment of the financial feasibility of the export project to Spain involves the use of various financial ratios and comprehensive analytical assessments. These assessments carefully examine the economic viability of the export and explore various scenarios, considering key parameters and contextual factors.

9.6.1 Profitability Ratios

The analyzed profitability ratios include the Return on Sales (RoS), Return on Assets (RoA), Return on Equity (RoE), and the corresponding DuPont Identity. In the first year of exporting, 2025, the RoS stands at 35.45%, only slightly above the RoS without exporting. This indicates that the company generates 35 cents per Euro of wood sold. The RoA stands at 2.20% when exporting, having to consider that the assets refer to all Tulea's assets, and the EBIT only to Globulus' part of the business. The RoE is of similar proportion at 2.61%. The RoE depicts how much profit is returned to shareholders, seeming to be low at 2.61%, albeit recognizing that the Equity again refers to Tulea and not Globulus. The DuPont Identity breaks down the RoE, notably revealing the small impact of interest on the RoE at an EBT/EBIT ratio of 99.65%. The profitability ratios exhibit consistency with slight increases until 2030. The entire profitability ratio analysis for Globulus can be found in **Appendix 20**.

However, to contextualize profitability ratios, it is essential to benchmark them against competitors (Karlsen 2020). Therefore, Globulus' profitability ratios were compared to all Spanish competitors analyzed in Chapter 6.1.2, to be found in **Appendix 21**. This analysis indicates that Globulus' RoA and RoE are at an industry-typical level. The RoS is notably higher than the competitors', which is assumed to result from Globulus only investing into the forest land with little operational cost, compared to competitors with diverse forestry businesses

incurring higher operating costs like personnel (refer to Chapter 6.1.2). Overall, Globulus seems to be well-positioned in terms of profitability when exporting.

9.6.2 NPV

The Net Present Value (NPV) calculates the present value of future cash flows, discounting both inflows and outflows at a specified rate. It evaluates whether a project's returns surpass the initial investment, indicating its feasibility by considering all cash flows and incorporating risk through the discount rate.

$$NPV = -CF_0 + \frac{CF_1}{(1+i)^1} + \frac{CF_2}{(1+i)^2} + \dots + \frac{CF_n}{(1+i)^n} \text{ (Shou 2022)}$$

Incremental cash flows were carefully considered when conducting the NPV analysis for the potential export business. This consideration was crucial due to the multifunctional use of the land, as it can be used for both export and domestic sales to the LSP. In particular, the increased transportation costs associated with export were included in the NPV calculation. It should be noted that investment costs were intentionally excluded from the NPV calculation to reflect the fact that investing in new land is an optional rather than mandatory decision. The comprehensive assessment includes additional sales adjustments, cannibalization effects and changes to the cost parameters, in particular the consideration of increased transportation costs and increased marketing efforts. Resultingly, the NPV for the period from 2025 to 2030 was found to be 58,693.79 Euros (**Appendix 23**). This solid NPV forecast underscores the attractiveness of exporting, assuming the underlying assumptions and forecasts are accurate. The return of exporting is higher than the opportunity cost of capital (Shou 2022).

9.6.3 IRR

The Internal Rate of Return (IRR) serves as a decision-making indicator for the implementation of a project. It indicates the rate at which the future cash flows correspond to an NPV of zero. A higher IRR, which exceeds the cost of capital, means that the project will generate a higher

net cash flow, indicating that it is profitable and worth considering. On the other hand, if the IRR falls below the cost of capital, the project is not recommended (Magni 2010). Hence, the IRR relies on an initial investment and as mentioned in Chapter [9.4](#) the investment in land is not mandatory and was not considered in the incremental cash flow analysis. Hence, an IRR can only be calculated when considering a capital expenditure. Based on **Appendix 24** and assuming a progressive acquisition of land with an initial investment of 45,000.00 Euros relating to 5 ha and no further investment within the next five years, the NPV would be 13,865.39 Euros and the resulting IRR would be 8.76%. Considering a discount rate of 4.1%, the project will generate a higher net cash flow than the sale of timber on the domestic market.

9.6.4 Payback Period

As per the operational planning analysis outlined in **Appendix 22**, considering a capital expenditure projection of 180,000 Euros, the anticipated duration for full reimbursement through profits generated from exporting wood to Spain stands at approximately 4.10 years. However, when considering a gradual acquisition of land and as mentioned in [9.6.3](#) the payback period would be 3.31 years. This suggests a promising potential for the profitability and viability of the venture when an investment is considered.

9.7. Sensitivity and Scenario Analysis

A sensitivity analysis is focused on understanding how a model depends on its input factors, especially in numerical simulations of sophisticated problems. It helps to determine the characteristics of the model, its correspondence with reality and the interaction between its various parameters (Saltelli et al. 1999). For the sensitivity analysis for exporting, the four parameters price, quantity, discount rate, and transportation cost were considered.

Figure 9 showcases the sensitivity of the NPV to price changes, highlighting their significant impact. A mere one-euro deviation from the estimated price of 60 Euros results in a deviation

of 22.74% from the NPV baseline scenario. At a price of 55 Euros per ton, exporting would not be viable anymore. The wood prices in Spain need to be monitored closely, and exporting should only be considered when the price in Spain surpasses a certain threshold, otherwise Globulus should continue selling their wood to the LSP in Portugal.

€ of baseline scenario		
Δ Wood price	NPV	Var %
60.00 €	58,693.79 €	0.00%
59.00 €	45,349.39 €	-22.74%
58.00 €	32,004.98 €	-45.47%
57.00 €	18,660.58 €	-68.21%
56.00 €	5,316.17 €	-90.94%
55.00 €	8,028.24 €	-113.68%
54.00 €	21,372.64 €	-136.41%
53.00 €	34,717.05 €	-159.15%

Figure 9: Sensitivity Analysis for Wood Price in Spain (own visualization)

Figure 10 shows the changes in the NPV when considering different quantities that are considered for export. Given stable selling prices and transportation cost, the analysis shows how severely the NPV is affected by changes in quantities. Exporting more wood yields higher returns, and under the given assumptions, a faster market entry into Spain can be recommended.

# of baseline scenario			# of baseline scenario			# of baseline scenario		
Δ Quantity 2025	NPV	Var %	Δ Quantity 2026	NPV	Var %	Δ Quantity 2027	NPV	Var %
1200.00	58,693.79 €	0.00%	1680.00	58,693.79 €	0.00%	2160.00	58,693.79 €	0.00%
800.00	45,245.18 €	-22.91%	1400.00	49,469.68 €	-15.72%	1600.00	40,617.71 €	-30.80%
400.00	31,796.58 €	-45.83%	1100.00	39,586.69 €	-32.55%	1300.00	30,934.10 €	-47.30%
200.00	25,072.27 €	-57.28%	800.00	29,703.71 €	-49.39%	1100.00	24,478.36 €	-58.29%
100.00	21,710.12 €	-63.01%	600.00	23,115.06 €	-60.62%	1050.00	22,864.42 €	-61.04%

# of baseline scenario			# of baseline scenario			# of baseline scenario		
Δ Quantity 2028	NPV	Var %	Δ Quantity 2029	NPV	Var %	Δ Quantity 2030	NPV	Var %
2640.00	58,693.79 €	0.00%	3120.00	58,693.79 €	0.00%	4000.00	58,693.79 €	0.00%
2200.00	44,777.67 €	-23.71%	2600.00	42,579.23 €	-27.46%	3700.00	49,584.48 €	-15.52%
1900.00	35,289.40 €	-39.88%	2300.00	33,282.37 €	-43.29%	3300.00	37,438.72 €	-36.21%
1700.00	28,963.89 €	-50.65%	2200.00	30,183.42 €	-48.57%	3000.00	28,329.40 €	-51.73%
1500.00	22,638.38 €	-61.43%	2000.00	23,985.51 €	-59.13%	2850.00	23,774.75 €	-59.49%

Figure 10: Sensitivity Analysis for Wood Quantity in Spain (own visualization)

Analyzing the discount rate is highly relevant, as the risk acceptance of foresters can vary significantly (Sauter and Mußhoff 2018). Some forest owners might want to invest their money as efficiently as possible, while others do not actively engage with their forest land. A sensitivity analysis of the discount rate reveals that an increase from 4% to 12% results in a notable NPV decrease, dropping by approximately 26.57% at 12% from the initial NPV at 4%. As the discount rate needs to be estimated, this sensitivity analysis proves that the success of exporting is not depended on being NPV positive solely due to the chosen discount rate but NPV positive regardless.

% of baseline scenario		
Δ Discount Rate	NPV	Var %
4%	58,693.79 €	0.00%
6%	54,309.41 €	-7.47%
8%	50,165.84 €	-14.53%
12%	43,099.64 €	-26.57%

Figure 11: Sensitivity Analysis for the Discount Rate (own visualization)

The NPV initially decreases significantly by 45.47% when the assumed transportation costs rise from 10 Euros to 12 Euros. A further increase to 14 Euros results in a substantial NPV decline of 90.94%. Beyond 14 Euros, the NPV turns negative, indicating a loss, and as transportation costs reach 14.50 Euros, the NPV decreases even further to approximately -102.31%. These findings underscore the high sensitivity of NPV to transportation cost variations, indicating a critical threshold at which the project's financial viability becomes severely impacted. Contract making from Globulus with efficient and cheap transport companies at fixed prices is paramount.

€ of baseline scenario		
Δ Transportation Cost 2025	NPV	Var %
10.00 €	58,693.79 €	0.00%
12.00 €	32,004.98 €	-45.47%
14.00 €	5,316.17 €	-90.94%
14.50 €	-1,356.03 €	-102.31%

Figure 12: Sensitivity Analysis for Transportation Cost 2025 (own visualization)

The scenario analysis involves the previously analyzed parameters while computing diverse scenarios to assess their impact on the project's NPV. Each parameter was linked to optimistic, conservative, and pessimistic assumptions for the projected period (refer to **Figure 17**). Consequently, 18 scenarios were generated, outlining the varied outcomes concerning NPV, detailed in **Appendix 25**.

Parameters		2025	2026	2027	2028	2029	2030
Price	Optimistic	63.00 €	64.26 €	65.55 €	66.86 €	68.19 €	69.56 €
	Conservative	57.00 €	58.14 €	59.30 €	60.49 €	61.70 €	62.93 €
	Pessimistic	56.00 €	56.00 €	56.00 €	56.00 €	56.00 €	56.00 €
Quantity	Optimistic	1680	2400	3120	4000	4000	4000
	Conservative	1200	1440	1680	1920	2160	2400
	Pessimistic	1200	1200	1200	1200	1200	1200
Discount Rate	Optimistic	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
	Conservative	6.00%	7.00%	8.00%	9.00%	10.00%	11.00%
	Pessimistic	12.00%	13.00%	14.00%	15.00%	16.00%	16.00%
Transportation Cost	Optimistic	8.00 €	8.16 €	8.49 €	9.01 €	9.75 €	10.77 €
	Conservative	12.00 €	12.24 €	12.73 €	13.51 €	14.63 €	16.15 €
	Pessimistic	15.00 €	15.30 €	15.92 €	16.89 €	18.28 €	20.19 €

Figure 13: Parameter Assumptions for Scenario Analysis (own visualization)

The analysis reveals that any combination of conservative and pessimistic assumptions results in a negative NPV even if all parameters are in conformity with conservative estimates (scenario 8), the net present value stays negative. The price factor has an enormous influence, which becomes clear in scenario 14. In cases where all parameters are optimistic, except for a pessimistic price forecast, the net present value reaches -30,132.19 Euros. A comparison between this scenario and scenario 18 shows that optimistic or pessimistic price assumptions have a far greater influence on the NPV than optimistic or pessimistic transportation cost assumptions. Of the 18 scenarios, 8 revealed a positive NPV, indicating that exporting is sensible, but only under the right circumstances. Globulus should analyze these circumstances by analyzing transportation costs and assessing purchase price offers to determine whether, and in what quantity, exporting is advisable.

10. Overall Conclusions and Recommendations

Internationalization is a sensible decision for Globulus when conducted under the right circumstances. Sensitivity and scenario analyses in Chapter 9 have outlined that exporting to Spain is a reasonable decision, albeit one that requires to be handled delicately. Especially fluctuations in price and transport costs can significantly impact the advantage of exporting. Therefore, Globulus must track the differences in wood prices and transport costs in detail to determine whether exporting remains advantageous to the company.

Globulus possesses the advantage of being ready for internationalization, as discussed in the global readiness rating in Chapter 4.4.4, yet it does not have an absolute need to internationalize. The entire potential production volume of Globulus would be purchased by the LSP and The Navigator Company should the company decide against exporting in the future, ensuring that all wood supply is demanded regardless of the endeavor. While the company could enhance profitability through different wood-selling approaches, the demand itself is already

established. With the rise in backward integration of The Navigator Company, this matter might become more urgent in the upcoming years (Chapter 4.2). The selected entry mode of indirect exporting involves a low initial investment, facilitating the possibility of going back to the existing business model should internationalizing prove unsuccessful. Given enough demand from The Navigator Company in the next years, this reduces the risks associated with internationalizing. Even with established demand in Portugal, internationalizing holds importance for Globulus. An international network, obtainable through fairs, events, and exporting itself (as discussed in Chapter 8), can create several opportunities. Having an international distribution network and more than one potential buyer reduces the business risk, diversifies the income stream, and gives Globulus the potential to engage with the most lucrative option in any given year. Globulus can make year-on-year decisions on selling to the highest bidder and the best offer available. This would lead to more flexible and agile decision-making, while reducing dependencies on The Navigator Company's demand. The international contacts do not necessarily need to be specific to Spain, as only a transport network and a buyer are needed for successful exporting. Therefore, we recommend generating a distribution network without being too specific on Spain as a country but seeing Spain as a starting point for most easy and possibly lucrative entry. Furthermore, maintaining flexibility and agile decision-making is crucial, and Globulus would remain most flexible by avoiding long-term contracts for wood sales. Instead, it is recommended to monitor both Portugal and Spain, and adapting to changes in terms of price, transport costs, and legal aspects, and then selling to the best offer, as soon as a distribution network and customers in Spain have been established. In a scenario where exporting becomes significantly more suitable for Globulus than its current business model, with significantly higher prices for wood in Spain over longer periods, Globulus could still consider changing its entry mode by acquiring land in Spain and creating

a wholly owned subsidiary. Although this approach was not viewed as sensible for a first market entry, circumstances might change over time as Globulus accumulates knowledge and establishes a network in the Spanish market. The agile decision-making process of Globulus allows for adjustments in these strategic decisions over time. It might also be sensible to view internationalization as only one of Globulus' diversification options. Tulea could diversify its income streams and reduce risk beyond just exporting *Eucalyptus globulus* wood to Spain for pulp and paper production. Exploring the growing market for carbon credits, implementing regenerative agroforestry practices, and tapping into other industries like the beauty sector, where eucalyptus is valued for its essential oils, are promising avenues for expanding the company's business portfolio. The voluntary carbon credit market operates as a mechanism for entities to offset their carbon emissions by investing in projects that reduce or remove an equivalent amount of carbon dioxide from the atmosphere. In this market, carbon credits represent a certain amount of greenhouse gas emissions reductions. These credits can be purchased by companies or individuals looking to compensate for their own carbon footprints. Tulea could leverage this market by engaging in carbon credit-certified afforestation or forest conservation projects. *Eucalyptus globulus*, known for its rapid growth and significant carbon sequestration capabilities, can be an effective means of capturing carbon dioxide. Moreover, regenerative agroforestry, which integrates tree cultivation with crops and/or livestock in a way that mimics natural ecosystems, aiming to regenerate the soil, increase biodiversity, and improve land health portrays an opportunity for Tulea. Transitioning to regenerative agroforestry offers notable benefits, including economic ones. Monocultures, especially of eucalyptus, can deplete soil by extracting specific minerals, creating soil stress (Mallen-Cooper et al. 2022). In contrast, regenerative agroforestry improves soil fertility through species diversity, where different plants contribute various nutrients, enhancing each other's growth and

increasing overall land output. Economically, this approach could also be beneficial for Tulea. It diversifies income streams, reduces risks associated with monocultures, enhances resilience, and leads to higher productivity and profitability. Another way of diversifying income streams for Tulea could be selling eucalyptus for different needs to other industries, especially the beauty industry. Eucalyptus is highly valued in the beauty sector for its essential oils, which are sought after for their therapeutic and aromatic properties. These oils are used in a range of products, including skincare, haircare, aromatherapy products, and fragrances. In skincare, eucalyptus oil is known for its antimicrobial, anti-inflammatory, and antiseptic qualities, making it a popular ingredient in products targeting acne, skin irritation, and redness. In haircare, it's used for its refreshing scent and scalp health benefits, often found in shampoos and conditioners. Tulea, currently focused on selling only the wood of its Eucalyptus trees, has a significant opportunity to increase revenue by also selling the leaves, from which eucalyptus oil is extracted. The company could either sell the leaves to producers who extract the oil or venture into extracting the oil themselves and selling it directly. This approach not only adds a valuable product to their portfolio but also makes efficient use of the entire eucalyptus tree, potentially increasing profits.

Many opportunities arise for Globulus' business model and the land usage of the forest land in Águeda. When choosing to internationalize, we recommend an indirect exporting approach to Spain. This approach makes Globulus less reliant on its sole customer, leaves room to sell to the highest bidder, and is, under the right circumstances, more profitable than the current business model.

Bibliography

- Agência Portuguesa do Ambiente. *National Forestry Accounting Plan 2021-2025*. Government of Portugal.
- Agyei, Paul Mensah, Franklyn Manu, and Stanley Coffie. 2022. "Positioning strategies for B2B service markets." *Industrial Marketing Management* 106: 405-419.
- Aithal, P. Sreeramana 2017. "A critical study on Various Frameworks used to analyse International Business and its Environment." *International Journal of Applied Engineering and Management* 1 (2): 78-97.
- Anderson, Erin, and Hubert Gatignon. 1986. "Modes of foreign entry: A transaction cost analysis and propositions." *Journal of international business studies* 17: 1-26.
- Andersen, Otto, and Arnt Buvik. 2002. "Firms' Internationalization and Alternative Approaches to the International Customer/Market Selection." *International Business Review* 11 (3): 347-363.
- APCOR. 2023. *Notícias Associação Portuguesa da Cortiça 107*. Accessed October 2023. <https://www.apcor.pt/2023/https://www.apcor.pt/2023/>.
- Asociación de Propietarios Forestales de Asturias. 2023. *Mercado de la Madera*. Accessed October 2023. <https://www.profoas.com/mercado-de-la-madera-en-asturias/>.
- Athuraliya, Amanda. 2022. *The Complete Guide to Strategic Group Analysis*. Accessed October 2023. <https://creatly.com/blog/business/strategic-group-analysis/>.
- Badini, Olivia Sanchez, Reem Hajjar, and Robert Kozak. 2018. "Critical success factors for small and medium forest enterprises: A review." *Yale School of Forestry & Environmental Studies* 94: 35-45.

- Balabanis, George I. 2000. "Factors affecting export intermediaries' service offerings: the british examples." *Journal of international business studies* 31: 83-99.
- Banco de Espana. 2023. *List of monetary financial institutions in Spain*. Accessed November 2023. <https://www.bde.es/webbe/en/estadisticas/otras-clasificaciones/clasificacion-entidades/listas-instituciones-financieras/listas-instituciones-financieras-monetarias-pais/lista-mfi-es.html>.
- Banco de Portugal. 2023. *Authorised institutions in Portugal*. Accessed November 2023. <https://www.bportugal.pt/en/entidades-autorizadas>.
- Barney, Jay. 1991. "Firm Resources and Sustained Competitive Advantage." *Journal of Management* 17 (1): 99-120.
- Barney, Jay, and Delwyn Clark. 2007. "Resource-Based Theory: Creating and Sustaining Competitive Advantage." *OUP Oxford* 57-75.
- BDC. 2023. Bank for Canadian Entrepreneurs: *Key success factors*. Accessed October 2023. <https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/key-success-factors>.
- Bento-Gonçalves, Antonio, Antonio Vieira, Luís Da Vinha, and Safa'Hamada. 2018. "Changes in mainland Portuguese forest areas since the last decade of the XXth century." *Méditerranée* 130.
- Birken, Emily Guy, and Benjamin Curry. 2021. *Forbes Advisor*. Accessed October 2023. <https://www.forbes.com/advisor/investing/roa-return-on-assets/>.
- Calamar, Adam. 2016. "Return On Equity: A Compelling Case for Investors." *Jensen Investment Management* 1-15.

- Callen, Tim. 2023. *International Monetary Fund*. Accessed October 2023. <https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/gross-domestic-product-GDP>.
- Cavusgil, S. Tamer, Tunga Kiyak, and Sengun Yenyurt. 2004. "Complementary approaches to preliminary foreign market opportunity assessment: Country clustering and country ranking." *Industrial Marketing Management* 33 (7): 607 – 617.
- Choudhry, Harsh, and Glen O’Kelly. 2018. “Precision Forestry: A Revolution in the Woods.” McKinsey & Company. Accessed October 2023. <https://www.mckinsey.com/industries/packaging-and-paper/our-insights/precision-forestry-a-revolution-in-the-woods>.
- Chuthamas, Chittithaworn, Md. Aminul Islam, Thiyada Keawchana, and Dayang Hasliza Muhd Yusuf. 2011. “Factors Affecting Business Success of Small & Medium Enterprises (SMEs) in Thailand.” *Asian Social Science* 7 (5): 180-190.
- Corporate Finance Institute. 2023. *Solvency Ratio*. Accessed October 2023. <https://corporatefinanceinstitute.com/resources/commercial-lending/solvency-ratio/>.
- COSE. 2023. *Confederación de Organizaciones de Selvicultores de España*. Accessed November 2023. <https://www.selvicultor.net/nuestras-asociaciones/>.
- De Lima Araújo, Henrique César, Fellipe Silva Martins, Tatiana Tucunduva Philippi Cortese, and Giuliano Maselli Locosselli. 2021. “Artificial Intelligence in Urban Forestry—A Systematic Review.” *Urban Forestry & Urban Greening* 66 (December): 127410.
- DistanceFromTo. 2023. *Distance From Portugal To Other Countries*. Accessed October 2023. <https://www.distancefromto.net/distance-from-portugal-country>.

- Donlan, Kirk. 2023. *Understanding the 4 Ps of Marketing Through Digital Transformation*. Accessed November 2023. <https://emarsys.com/learn/blog/4-ps-of-marketing-importance/>.
- Douglas, Susan. P., C. Samuel Craig, and Warren. J. Keegan. 1982. "Approaches for assessing international marketing opportunities for small and medium-sized companies." *Columbia Journal of World Business* 17 (3): 26-32.
- Dwyer, F. Robert, Paul H. Schurr, and Sejo. Oh. 1987. "Developing buyer–seller relationships." *Journal of Marketing* 51: 11-27.
- Elia, Stefano, Marcus M. Larsen, and Lucia Piscitello. 2019. "Entry mode deviation: A behavioral approach to internalization theory." *Journal of International Business Studies* 50: 1359–1371.
- Elmuti, Dean, and Yunus Kathawala. 2001. "An overview of strategic alliances." *Management Decision* 39 (3): 205-218.
- European Commission. 2021. *European Green Deal: Commission proposes new strategy to protect and restore EU forests*. Accessed October 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3723#:~:text=The%20Strategy%20commits%20to%20strictly,and%20on%20which%20society%20depends.
- Eurostat. 2022. *Spain Agricultural Land Prices*. Accessed October 2023. <https://ec.europa.eu/eurostat/databrowser/bookmark/65fc6a81-37be-4019-909b-35c5205b1ee3?lang=en>.
- FAO. 2022. *Statista: Leading pulp for paper producing countries worldwide in 2021 (in million metric tons)"*. Accessed October 2023. <https://www.statista.com/statistics/1333386/pulp-for-paper-production-by-country/>.

- FAOSTAT. 2021. *Food and Agriculture Organization of the United Nations*. Accessed October 2023. <https://www.fao.org/faostat/en/#data/FO/visualize>.
- FasterCapital. 2023. *Set significant financial goals for international expansion*. October. Accessed October 2023. <https://fastercapital.com/content/Set-significant-financial-goals-for-international-expansion.html>.
- Feliciano, Diana , Rosario Alves, Americo Mendes, Marta Ribeiro, and Miguel Sottomayor. 2015. *Forest Land Ownership Change in Portugal*. Vienna: FACESMAP Country Report.
- Forest-based Sector. 2020. *Forest-based Sector: The forest-based sector in Spain*. Accessed October 2023. <https://www.forestplatform.org/the-forest-based-sector-in-spain/>.
- Forest in EU. 2019. *Forest in EU: PEFC Spain*. Accessed October 2023. <http://www.forest-in.eu/partner/pefc-spain>.
- Galembert, Bernard de. 2003. "Wood supply for the growing European pulp and paper industry." *European Forestry Commission*.
- Gallo, Amy. 2015. *A Refresher on Current Ratio*. September 2015. Accessed September 2023. <https://hbr.org/2015/09/a-refresher-on-current-ratio>.
- Garnica Sociedad Anonima. 2023. *Gestion Florestal*. Accessed October 2023. <https://www.garnica.one/gestion-forestal.html>.
- Gaston-Breton, Charlotte, and Oscar Martin Martin. 2011. "International market selection and segmentation: a two-stage model." *International Market Selection* 28 (3): 267-290.
- G.B. 2023. *El precio del eucalipto baja por la caída del mercado de pasta de papel*. Accessed November 2023. <https://www.campogalego.es/el-precio-del-eucalipto-baja-por-la-caida-del-mercado-de-pasta-de-papel/>.

- Gielens, Katrijn, and Jan-Benedict E.M. Steenkamp. 2004. "What drives new product success? An investigation across products and countries." *Marketing Science Institute Report* (04-108): 25-50.
- Global Forest Watch. 2023. *Spain Deforestation Rates and Statistics*. Accessed October 2023. <https://www.globalforestwatch.org/dashboards/country/ESP/?map=eyJjYW5Cb3VuZCI6dHJ1ZX0%3D>.
- Globulus. 2023. *Globulus*. Accessed September 2023. <https://globulus.pt>.
- Gomes, Emanuel. 2021. "Reasons for Internationalization." *International Strategy Slides of Nova SBE International Business Master's Course*. Lisbon: NovaSBE.
- Gorostidi-Martinez, Haritz, and Xiaokang Zhao. 2017. "Strategies to avoid liability of foreignness when entering a new market." *Journal of Advances in Management Research* 14 (1): 46-68.
- Grab&Go. 2023. *Grab&Go - Home*. Accessed September 2023. <http://www.grabandgo.pt>.
- Hansen, Eric, and Heikki Juslin. 2002. "Strategic marketing in the global forest industries." *Oregon State University*.
- Hessels, Jolanda, and Siri Terjesen. 2007. "SME Choice of Direct and Indirect Export Modes: Resource Dependency and Institutional Theory Perspectives." *SMEs and Entrepreneurship programme - Netherlands Ministry of Economic Affairs*.
- Hillemann, Jenny, and Michael Gestrin. 2016. "The limits of firm-level globalization: Revisiting the FSA/CSA matrix." *International Business Review* 25 (3): 767-775.
- Holmlund, Maria, and Sören Kock. 1995. "Buyer Perceived Service Quality in Industrial Networks." *Industrial Marketing Management* 109-121.
- IBM. 2021. "International Business Machines Corporation: IBM SPSS Missing Values." *IBM Data and AI*.

- ICNF. 2015. *6º Inventário Florestal Nacional*. Lisbon: Instituto da Conservação da Natureza e das Florestas.
- ICNF. 2019. *Portugal Market Report 2019*. Instituto da Conservação da Natureza e das Florestas.
- ICNF. 2023. *Instituto Da Conservação Da Natureza E Das Florestas*. 2023. Accessed October 2023. <https://www.icnf.pt/apoios/fundoflorestalpermanente>.
- Indeed. 2023. *What Is Behavioral Segmentation in Marketing? (And Examples)*. Accessed November 2023. <https://www.indeed.com/career-advice/career-development/behavioral-segmentation>.
- Invest In Spain. 2023. *Setting up a business*. Accessed October 2023. <https://www.investinspain.org/en/doing-business/setting-up-a-business>.
- International Monetary Fund. 2022. *Inflation: Prices on the rise*. Accessed October 2023. <https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Inflation>.
- Insch, Andrea, and Karolina Janiszewska. 2012. "“The Strategic Importance of Brand Positioning in the Place Brand Concept – Elements, Structure and Application of the Positioning Statement.” *Journal of International Studies* 5 (1): 9-19.
- Johanson, Jan, and Jan-Erik Vahlne. 1977. "The Internationalization Process of the Firm: A Model of Knowledge Development and Increasing Foreign Market Commitments". *Journal of International Business Studies* 8 (1): 23-32.
- Johanson, Jan, and Jan-Erik Vahlne. 1990. "The mechanism of internationalization." *International Marketing Review* 7 (4): 11-24.
- Johanson, Jan, and Jan-Erik Vahlne. 2009. "The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership." *Journal of International Business Studies* 40: 1411-1431.

- Jordan, Silvia, and Martin Messner. 2020. "The Use of Forecast Accuracy Indicators to Improve Planning Quality: Insights from a Case Study." *European Accounting Review* 29 (2): 337–359.
- Karlsen, Casey D. 2020. "Using Industry Benchmarks to Establish Defendable Business Valuations." *American Journal of Family Law* 34 (2): 53–60.
- Kazi, Majid. 2020. *EBITDA Margin*. Accessed October 2023. <https://www.fe.training/free-resources/accounting/ebitda-margin/>.
- King, Thomas, Shelly Freyn, and Jason Morrison. 2023. "SWOT Analysis Problems and Solutions: Practitioners' Feedback into the Ongoing Academic Debate." *Journal of Intelligence Studies in Business* 13 (1): 30-42.
- Kirch, Wilhelm. 2008. "Pearson's Correlation Coefficient." *Encyclopedia of Public Health*.
- Kleinaltenkamp, Michael. 2015. "Introduction to Business-to-Business Marketing." *Springer texts in business and economics* 127-170.
- Koch, Adam J. 2001. "Factors influencing market and entry mode selection: developing the MEMS model." *MBC University Press* 19 (5): 351-361.
- Koehler, Anne B. 2022. "Forecasting: theory and practice." *International Journal of Forecasting* 38: 705-871.
- Kolman, Ludek, Niels Noorderhaven, Geert Hofstede, and Elisabeth Dienes. 2003. "Cross-cultural differences in Central Europe." *Journal of Managerial Psychology* 18 (1/2): 76-88.
- Kompass International. 2023. *How to deal with international competition?* Accessed October 2023. <https://www.solutions.kompass.com/blog/how-to-deal-with-international-competition/>.

- Kyne, Daniel. 2023. *Needs-Based Segmentation: A Step-by-Step Guide For Startups*. Accessed October 2023. <https://www.opinionx.co/blog/needs-based-segmentation#:~:text=Needs%2Dbased%20segmentation%20is%20the,be%20described%20and%20targeted%20separately>.
- Laerd Statistics. 2020. "Pearson's Product Moment Correlation." *Statistical tutorials and software guides*. Accessed October 2023. <https://statistics.laerd.com/statistical-guides/pearson-correlation-coefficient-statistical-guide-2.php>.
- Landsearch. 2023. *Price of land per acre*. Accessed October 2023. <https://www.landsearch.com/price>.
- LaPlaca, Peter, and Amjad Hadjikhani. 2013. "Development of B2B marketing theory." *Industrial Marketing Management* 42 (3): 294-305.
- Lee, Dong Kyu. 2020. "Data transformation: a focus on the interpretation." *Korean Journal of Anesthesiology* 73 (6): 503-508.
- Lexidy. 2023. *7 Steps to Start a Company in Spain*. Accessed October 2023. <https://www.lexidy.com/blog/steps-to-start-an-llc-company-business-in-spain/#h-7-steps-to-start-an-llc-company-in-spain>.
- Liedo, Carmen. 2022. *La compra de montes forestales en Asturias, un negocio en alza*. Accessed October 2023. <https://www.lavozdeasturias.es/noticia/asturias/2022/04/22/comprar-monte-forestal-asturias-negocio-alza-inversores/00031650646144999977690.htm>.
- Lier, Markus, Michael Köhl, Kari T. Korhonen, Stefanie Linser, Kit Prins, and Talarczyk, A. 2022. "The New EU Forest Strategy for 2030: A new understanding of sustainable forest management?" *Forests*. 13(2): 245.

- Lim, Weng Marc. 2023. "Transformative marketing in the new normal: A novel practice-scholarly integrative review of business-to-business marketing mix challenges, opportunities, and solutions." *Journal of Business Research* 160: 1-13.
- Lusa. 2023. "Exportações florestais atingem recorde de 7.100 milhões em 2022." *Sapo*. Accessed October 2023. <https://eco.sapo.pt/2023/09/04/exportacoes-florestais-atingem-recorde-de-7-100-milhoes-em-2022/>.
- MAPA. 2023. *Legislacion Florestal*. Accessed October 2023. https://www.mapa.gob.es/es/desarrollo-rural/legislacion/default_normativa_forestal.aspx.
- Maderas Alonso Llorente. 2023. *About Us*. Accessed October 2023. <https://maderasalonso.com/about-us/>.
- Maderas Bagua. 2023. *Presentacion*. Accessed October 2023. <http://www.maderasbagua.com/presentacion.htm>.
- Maderas Castro Varela. 2023. *Quienes Somos*. Accessed October 2023. <https://maderascastro.cl/quienes-somos/>.
- Madergal SL. 2023. *About Us*. Accessed October 2023. <http://www.madergal.com/en>.
- Magni, Carlo Alberto. 2010. "Average internal rate of return and investment decisions: a new perspective." *The Engineering Economist* 55 (2): 150-180.
- Malek, Eleine Juliana, and Abd Rahman Abdul Rahim. 2022. "A thematic review of forest certification publications from 2017 to 2021: Analysis of pattern and trends for future studies." *Trees, Forests and People*.
- MedForest. 2023. *PEFC continues to lead forestry certification in Spain with growth in 2022*. Accessed October 2023. <https://medforest.net/2023/02/20/pefc-continues-to-lead-forestry-certification-in-spain-with-growth-in-2022/>.

- Melin, Leif. 1992. "Internationalization as a Strategy Process." *Strategic Management Journal* 13: 99-118.
- Memon, Masooma. 2023. *Distribution Strategy: Strategizing Your "Place" In The Marketing Mix*. Accessed November 2023. <https://coschedule.com/marketing/marketing-mix/distribution-strategy>.
- MindTools Content Team. 2023. *Porters Generic Strategies*. Accessed September 2023. <https://www.mindtools.com/azb8kpl/porters-generic-strategies>.
- Ministry of Economy and Sea. 2023. *Sector Statistic Profile - Forestry and Logging*. Lisbon: Portuguese Republic.
- Mitchell, Vincent-Wayne, and Dominic F. Wilson. 1998. "Balancing Theory and Practice: A Reappraisal of Business-to-Business Segmentation." *Industrial Marketing Management* 27 (5): 429-445.
- Molinaro, Margherita, and Guido Orzes. 2022. "From Forest to Finished Products: The Contribution of Industry 4.0 Technologies to the Wood Sector." *Computers in Industry* 138 (June): 103637.
- Moser, Christoph, and Andrew K. Rose. 2014. "Who Benefits from Regional Trade Agreements? The View from the Stock Market." *European Economic Review* 68 (May): 31–47.
- MTERD. 2023. *Politica Florestal en Espana*. Accessed October 2023. <https://www.miteco.gob.es/es/biodiversidad/temas/politica-forestal/planificacion-forestal/politica-forestal-en-espana/index.html>.
- ND-GAIN. 2021. *Rank countries by ND-GAIN Country Index, Vulnerability and Readiness*. Accessed October 2023. <https://gain-new.crc.nd.edu/ranking/vulnerability>.

- Nordea. 2023. *Risks related to foreign operations*. Accessed October 2023. <https://www.nordea.fi/en/business/our-services/foreign-trade/risks-related-to-foreign-operations.html>.
- Nummelin, Tuomas, Riitta Hänninen, and Matleena Kniivilä. 2021. "Exploring Forest Sector Research Subjects and Trends from 2000 to 2019 Using Topic Modeling." *Current Forestry Reports* 7 (4): 267–81.
- Nunes, Leonel Jorge Ribeiro, Catarina Isabel Ribeiro Meireles, Carlos José Pinto Gomes, and Nuno Manuel Cabral de Almeida Ribeiro. 2019a. "Historical Development of the Portuguese Forest: The Introduction of Invasive Species." *Forests* 1-24.
- Nunes, Leonel Jorge Ribeiro, Catarina Isabel Rodrigues Meireles, Carlos José Pinto Gomes, and Nuno Manuel Cabral de Almeida Ribeiro. 2019b. "Socioeconomic Aspects of the Forests in Portugal: Recent Evolution and Perspectives of Sustainability of the Resource." *Forests* 1-11.
- OECD. 2021. *The Observatory of Economic Complexity: Spain Exports, Imports and Trade Partners*. Accessed October 2023. <https://oec.world/en/profile/country/esp>.
- Orbis. 2021a. *Madergal SL*. Accessed October 2023. <https://orbis-r1.bvdinfo.com/version-20230919-2-2/Orbis/1/Companies/Report/InternalId/6014735>.
- Orbis. 2022a. *Tulea*. Accessed November 2023. <https://orbis-r1.bvdinfo.com/version-20230919-5-0/Orbis/1/Companies/Report>.
- Orbis. 2022b. *Garnica Sociedad Anonima*. Accessed October 2023. <https://orbis-r1.bvdinfo.com/version-20230919-2-2/Orbis/1/Companies/Report/InternalId/942930>.
- Orbis. 2022c. *Maderas Mancebo SL*. Accessed October 2023. <https://orbis-r1.bvdinfo.com/version-20230919-2-2/Orbis/1/Companies/Report/InternalId/5667007>.

- Orbis. 2022d. *Maderas Alonso Llorente SL*. Accessed October 2023. <https://orbis-r1.bvdinfo.com/version-20230919-2-2/Orbis/1/Companies/Report/InternalId/5952134>.
- Orbis. 2022e. *Maderas Castro Varela SL*. Accessed October 2023. <https://orbis-r1.bvdinfo.com/version-20230919-2-2/Orbis/1/Companies/Report/InternalId/11382905>.
- Orbis. 2022f. *Maderas Bagua SL*. Accessed October 2023. <https://orbis-r1.bvdinfo.com/version-20230919-2-2/Orbis/1/Companies/Report>.
- Oxford Reference. 2023. *Freedom House Index*. Accessed October 2023. <https://www.oxfordreference.com/display/10.1093/oi/authority.20110803095833997>.
- Pan, Yigang, and David K. Tse. 2000. "The hierarchical model of market entry modes." *Journal of international business studies* 31: 535-554.
- Panwar, Rajat, Rinne Tomi, Hansen Eric, and Juslin Heikki. 2006. "Corporate responsibility: Balancing economic, environmental, and social issues in the forest products industry." *Forest Products Journal* 56 (2): 4-13.
- Papadopolous, Nicolas, and Jean-Emile Denis. 1988. "Inventory, Taxonomy and Assessment of Methods for International Market Selection." *International Marketing Review* 5: 38-51.
- Papadopoulos, Nicolas, and Oscar Martin Martin. 2011. "International market selection and segmentation: perspectives and challenges." *International Marketing Review* 28 (2): 132-149.
- Peng, Mike W., and Delios Andrew. 2006. "What determines the scope of the firm over time and around the world? An Asia Pacific perspective." *Asia Pacific J Manage* 23: 385–405.

- Peng, Mike W., and Anne S. York. 2001. "Behind intermediary performance in export trade: Transactions, agents and resources." *Journal of International Business Studies* 327-346.
- Piricz, Noemi. 2016. "Cultural Aspects of Trust in Business Relationships." *International Journal of Business Insights and Transformation*. 9: 4-9.
- Porter, Michael E. 1985. "Competitive Advantage." In *The Free Press*, 11-15. New York.
- Porter, Michael E. 1990. "The Competitive Advantage of Nations." *Harvard Business Review* 74-91.
- Porter, Michael E. 1998. "Clusters and the New Economics of Competition." *Harvard Business Review* 77-90.
- Porter, Michael E. 2008. "The Five Competitive Forces That Shape Strategy." *Harvard Business Review* 86 (1): 24-41.
- Portuguese Foreign Affairs. 2022. "Diplomatic Portal." *Kingdom of Spain*. Accessed November 2023. <https://portaldiplomatico.mne.gov.pt/en/bilateral-relations/general-countries/spain>.
- Provedores. 2023a. *Provedores de Madera*. Accessed October 2023. <https://www.provedores.com/madera/>.
- Provedores. 2023b. *Maderas Mancebo SL*. Accessed October 2023. <https://www.provedores.com/provedores/maderas-mancebo/>.
- Reid, Stan D. 1981. "The decision-maker and export entry and expansion." *Journal of International Business Studies* 12: 101-112.
- ReportLinker. 2023. *Spain Wood Industry Outlook*. Accessed October 2023. <https://www.reportlinker.com/clp/country/6326/726363>.
- Républica Portuguesa. 2021. *Government of Portugal: Portugal and Spain sign eight new agreements at the Portuguese-Spanish conference*. Accessed October 2023.

<https://www.portugal.gov.pt/en/gc22/communication/news-item?i=portugal-and-spain-sign-eight-new-agreements-at-the-portuguese-spanish-conference>.

Root, Franklin R. 1994. *Entry Strategies for International Markets*. Lexington Books.

Rugman, Alan M. 1981. *Inside the Multinationals: The Economics of Internal Markets*. Columbia University Press.

Rullifank, K. F., M. E. Roefinal, M. Kostanti, and L. Sartika. 2020. *Pulp and paper industry: An overview on pulping technologies, factors, and challenges*. IOP Conference Series: Materials Science and Engineering.

Saltelli, Andrea, S. Tarantola, and K. P. S. Chan. 1999. "A Quantitative Model-Independent Method for Global Sensitivity Analysis of Model Output." *Technometrics* 41 (1): 39-56.

Sauter, Phillipp, and Oliver Mußhoff. 2018. "What is your discount rate? Experimental evidence of foresters' risk and time preferences." *Annals of Forest Science* 75 (10): 1-14.

Schwartz, Shalom H., and Wolfgang Bilsky. 1990. "Toward a theory of the universal content and structure of values: extensions and cross-cultural replications." *Journal of Personality and Social Psychology* 58 (5): 878-891.

Sheth, Jagdish N., and Arun Sharma. 1997. "Supplier relationships. Emerging issues and challenges." *Industrial Marketing Management* 26: 9-31.

Shou, Tianle. 2022. "A Literature Review on the Net Present Value (NPV) Valuation Method." *2nd International Conference on Enterprise Management and Economic Development*. Atlantis Press. 826-830.

- Simpson, Mike, Joanne Padmore, and Nicki Newman. 2012. "Towards a new model of success and performance in SMEs." *International Journal of Entrepreneurial Behaviour & Research* 18 (3): 264-285.
- Singh, U. 2023. *Treasure of personal contacts in Business*. Accessed October 2023. https://www.linkedin.com/pulse/treasure-personal-contacts-business-u-singh/?trk=article-ssr-frontend-pulse_more-articles_related-content-card.
- Soares, João, Luís Leal, P.aulo Canaveira, Francisco Goes, and Armando Fialho. 2007. *Árvores e florestas de Portugal: pinhais e eucaliptais, a floresta cultivada*. Edited by JS Silva. Lisbon: Fundação Luso-Americana para o Desenvolvimento.
- Statista. 2021a. *Industry revenue of “manufacture of pulp, paper and paperboard” in Portugal from 2012 to 2025*. Accessed October 2023. <https://www.statista.com/forecasts/905343/manufacture-of-pulp-paper-and-paperboard-revenue-in-portugal>.
- Statista. 2021b. *Industry revenue of “wholesale of wood and construction materials” in Spain from 2012 to 2025*. Accessed October 2023. <https://www.statista.com/forecasts/396747/wholesale-of-wood-and-construction-materials-revenue-in-spain>.
- Statista. 2022. *Net income of leading forestry and paper companies in Europe in 2022*. Accessed September 2023. <https://www.statista.com/statistics/1131777/leading-forestry-and-paper-companies-in-europe-by-net-income/>.
- Tabachnick, Barbara G., and Linda S. Fidell. 1996. *Using Multivariate Statistics*. New York: Herper Collins College Publishers.
- The Fraser Institute. 2023. *Economic Freedom*. Accessed October 2023. <https://www.fraserinstitute.org/economic-freedom/economic-freedom-basics>.

The Navigator Company. 2023. *Mission, Vision and Values*. Accessed October 2023.
<http://en.thenavigatorcompany.com/Institutional/Mission-Vision-and-Values>.

The World Bank. 2019a. *Ease of Doing Business rankings*. Accessed November 2023.
<https://archive.doingbusiness.org/en/rankings#:~:text=Ease%20of%20Doing%20Business%20rankings&text=A%20high%20ease%20of%20doing,equal%20weight%20to%20each%20topic>.

The World Bank. 2019b. *Doing Business Archive: Trading Across Borders Score*. Accessed October 2023. <https://archive.doingbusiness.org/en/data/exploretopics/trading-across-borders>.

The World Bank. 2021a. *Logistics Performance Index (LPI)*. Accessed October 2023.
<https://lpi.worldbank.org/about#:~:text=The%20LPI%20is%20an%20interactive,do%20to%20improve%20their%20performance>.

The World Bank. 2021b. *World Development Indicators*. Accessed October 2023.
<https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.CD&country>.

The World Bank. 2021c. *Forest Area*. Accessed October 2023.
<https://data.worldbank.org/indicator/AG.LND.FRST.K2?view=map>.

The World Bank. 2022a. *Adjusted net national income per capita*. Accessed October 2023.
<https://databank.worldbank.org/metadataglossary/world-development-indicators/series/NY.ADJ.NNTY.PC.KD>.

The World Bank. 2022b. *Net trade in goods*. Accessed October 2023.
<https://databank.worldbank.org/metadataglossary/world-development-indicators/series/BN.GSR.MRCH.CD>.

The World Bank. 2022c. *Imports of goods and services (% of GDP)*. Accessed October 2023.

<https://data.worldbank.org/indicator/NE.IMP.GNFS.ZS>.

The World Bank. 2023 *Trade (% of GDP)*. Accessed October 2023.

<https://databank.worldbank.org/metadataglossary/world-development-indicators/series/NE.TRD.GNFS.ZS>.

Top - Amazing Stays. 2023. *Top - Amazing Stays Home*. Accessed September 2023.

<https://stayinntop.com>.

Transparency International. 2022. *Transparency International*. Accessed October 2023.

https://www.transparency.org/en/cpi/2022?gclid=Cj0KCQjwmvSoBhDOARIsAK6aV7gO-FE1Si2dFFwjnc-VBN_QDqZMOINSRelExZ9p_CoTWx8pTcUX7noaAkQ5EALw_wcB.

Tulea. 2023. *In-depth Interview*. Several interviews, e-mail exchanges, phone calls, and visits to the company headquarter and the Águeda region were carried out. Information marked as coming from Tulea and in-depth interviews arise from the knowledge from the founder of the company, and of internal documents that he provided to this research team, as well as the company's website. Accessed December 2023. <https://tulea.pt>.

UNECE. 2020. *Forest growing stock in the UNECE region*. Accessed October 2023.

<https://forest-data.unece.org/Indicators/4>.

United Nations Development Programme. 2021. *Human Development Index (HDI)*. Accessed

October 2023. <https://hdr.undp.org/data-center/human-development-index#/indicies/HDI>.

United Nations Statistics Divison. 2022. *Department of Economic and Social Affairs Statistics*.

Accessed October 2023. <https://unstats.un.org/UNSDWebsite/>.

- UpCompany. 2023. *UpCompany Home*. Accessed September 2023.
<http://upcompany.pt/home-eng/>.
- Van der Tas, Robbert. 2010. "Entry modes and cultural distance." *Bachelor Thesis*.
- Verbeck, Tiffany. 2023. *The Power of Local Partnerships*. Accessed October 2023.
<https://www.nav.com/blog/local-partnerships-2416223/>.
- Vista Alegre. 2023. *História*. Accessed September 2023.
https://vistaalegre.com/pt/t/vaa_AMarca_Historia-1.
- Vohra, P. S., and J. S. Dhillon. 2022. "Best Financial Practices Lead Financial Performance of SMEs." *The Journal of Finance and Data Science* 4 (3): 145-161.
- Wisevoter. 2023. *Countries Currently at War*. Accessed October 2023.
<https://wisevoter.com/country-rankings/countries-currently-at-war/>.
- WITS. 2023. *Portugal trade balance, exports and imports by country and region*. Accessed October 2023.
<https://wits.worldbank.org/CountryProfile/en/Country/PRT/Year/2021/TradeFlow/EXPORT/IMP>.
- World Health Organization. 2021. *Annual GDP growth rate*. Accessed October 2023.
<https://www.who.int/data/gho/indicator-metadata-registry/imr-details/1146>.
- World Health Organization. 2022. *Annual population growth rate*. Accessed October 2023.
<https://www.who.int/data/gho/indicator-metadata-registry/imr-details/1120>.
- World Integrated Trade Solution. 2021a. *Wood Exports by country in US\$ Thousand*. Accessed October 2023.
https://wits.worldbank.org/CountryProfile/en/Country/WLD/Year/LTST/TradeFlow/Import/Partner/by-country/Product/44-49_Wood.

- World Integrated Trade Solution. 2021b. *Wood Imports by country in US\$ Thousand* . Accessed October 2023. https://wits.worldbank.org/CountryProfile/en/Country/WLD/Year/LTST/TradeFlow/Import/Partner/by-country/Product/44-49_Wood.
- Yale. 2022. *Environmental Performance Index*. Accessed October 2023. <https://epi.yale.edu>.
- York, John M. 2018. "Putting Lean Startup into Perspective: A Novel Approach for Discovering and Developing a Successful Business Model." *Business Administration and Management* 2018 (1).
- Yüksel, İhsan. 2012. "Developing a Multi-Criteria Decision-Making Model for PESTEL Analysis." *International Journal of Business and Management* 7 (24): 52.
- Zhang, Yue-Jun, and Yi-Ming Wei. 2010. "An Overview of Current Research on EU ETS: Evidence from Its Operating Mechanism and Economic Effect." *Applied Energy* 87 (6): 1804–14.
- Živojinović, Ivana, Gerhard Weiss, Anna Lawrence, Teppo Hujala, Gun Lidestav, Liviu Nichiforel, Erlend Nybakk, Sonia Quiroga, Zuzana Sarvašová, and Cristina Suarez. 2015. *Forest Land Ownership Change in Europe*. Accessed October 2023. <https://facesmap.boku.ac.at/index.php/activities-and-outputs/country-reports>.
- Zubizarreta, Mikel, German Arana-Ladin, and Jesus Cuadrado. 2021. "Forest certification in Spain: Analysis of certification drivers." *Journal of Cleaner Production* 294: 126267

Appendices

Appendix 1 - Tulea's Income Statement (in Euros)

Profit & loss account	31/12/2022	31/12/2021	31/12/2020	31/12/2019	31/12/2018	31/12/2017	31/12/2016	31/12/2015	31/12/2014	31/12/2013
L Operating revenue (Turnover)	531 125	297 336	307 486	204 884	378 075	279 116	162 963	120 147	95 169	80 351
L Sales	518 096	247 113	233 349	185 280	351 765	268 147	147 946	110 201	56 426	36 460
L Costs of goods sold	188 852	69 524	125 318	82 334	235 303	153 332	57 547	45 302	18 266	n.a.
L Gross profit	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
L Other operating expense (income)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
L Operating profit (loss) [EBIT]	61 567	5 801	19 293	24 140	28 350	-35 506	-61 485	-35 273	-54 111	37 969
L Financial profit (loss)	-1 474	-680	-459	-378	227	-638	-611	-683	-1 133	0
L Financial revenue	n.a.	n.a.	n.a.	n.a.	636	30	n.a.	n.a.	n.a.	n.a.
L Financial expenses	1 474	680	459	378	409	667	611	683	1 133	n.a.
L Profit (loss) before tax [PBT]	60 093	5 121	18 834	23 762	28 577	-36 144	-62 096	-35 956	-55 244	37 969
L Income tax expenses (benefit)	8 671	3 541	9 212	22 182	4 511	9 685	11 153	5 812	12 310	9 200
L Profit (loss) after tax [PAT]	51 421	1 580	9 622	1 580	24 066	-45 829	-73 250	-41 768	-67 554	28 770
L Net extraordinary revenues (expenses)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
L Extraordinary revenues	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
L Extraordinary expenses	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
L Profit (loss) for the period [Net income]	51 421	1 580	9 622	1 580	24 066	-45 829	-73 250	-41 768	-67 554	28 770

Income Statement of Tulea (Orbis 2022)

Back to Chapter: 4.1.5.Financial Overview

Appendix 2 - Tulea's Balance Sheet (in Euros)

Assets	31/12/2022	31/12/2021	31/12/2020	31/12/2019	31/12/2018	31/12/2017	31/12/2016	31/12/2015	31/12/2014	31/12/2013
Non-current assets	2 759 277	2 639 039	2 531 025	2 513 446	2 190 318	2 163 164	2 145 710	2 144 400	1 211 728	781 844
L Intangible assets	252	337	392	173	211	374	285	422	968	485
L Tangible fixed assets	2 071 783	1 949 518	1 839 254	1 819 905	1 333 264	1 301 323	1 284 307	1 278 221	363 045	76 245
L Other non-current assets	687 243	689 183	691 379	693 368	856 844	861 468	861 117	865 756	847 715	705 115
Current assets	697 811	698 539	731 008	701 179	763 182	922 216	701 497	754 963	1 413 437	1 701 451
L Stock	106 319	105 116	101 258	105 310	106 334	213 126	208 200	205 518	1 299 584	1 383 958
L Debtors	410 18	10 15	1 116	3 176	38 860	49 515	8 342	1574	20 681	36 551
L Other current assets	550 473	592 407	628 634	592 694	617 989	659 575	484 955	547 870	93 172	280 942
L Of which cash and cash equivalent	26 456	75 840	29 699	47 078	30 672	63 751	22 905	26 846	21 931	101 640
Total assets	3 457 089	3 337 578	3 262 034	3 214 626	2 953 500	3 085 381	2 847 207	2 899 362	2 625 165	2 483 296

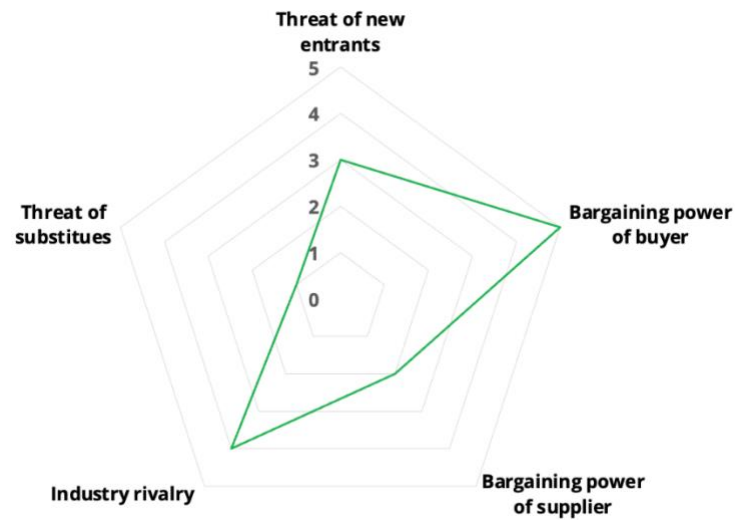
Liabilities & equity

Shareholders funds	2 300 107	2 248 686	1 247 105	1 329 100	1 327 555	1 303 489	1 349 318	1 371 760	1 337 923	1 405 477
L Capital	1 400 000	1 400 000	1 400 000	1 400 000	1 400 000	1 400 000	1 400 000	1 400 000	1 400 000	1 400 000
L Other shareholders funds	900 107	848 686	-152 895	-70 900	-72 445	-96 511	-50 682	-28 240	-62 077	5 477
Non-current liabilities	709 418	767 792	1 787 179	1 753 301	1 506 805	1 617 637	1 378 803	1 410 934	9 865	18 889
L Long term debt	357 019	418 208	436 513	386 513	130 153	111 206	16 978	395	9 865	18 889
L Other non-current liabilities	352 399	349 583	1 350 666	1 366 788	1 376 652	1 506 430	1 361 826	1 410 539	0	0
L Of which provisions	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0
Current liabilities	447 564	321 100	227 749	132 225	119 139	164 255	119 085	116 669	1 277 377	1 058 930
L Loans & short-term debt	61 290	27 184	0	7 377	35 205	5 770	6 028	9 462	9 026	8 596
L Creditors	124 498	68 630	47 197	53 817	18 610	29 511	31 156	27 142	16 152	5 198
L Other current liabilities	261 776	225 287	180 552	71 031	65 324	128 974	81 902	80 065	1 252 199	1 045 135
Total shareholders' funds and liabilities	3 457 089	3 337 578	3 262 034	3 214 626	2 953 500	3 085 381	2 847 207	2 899 362	2 625 165	2 483 296

Balance Sheet of Tulea (Orbis 2022)

Back to Chapter: 4.1.5.Financial Overview

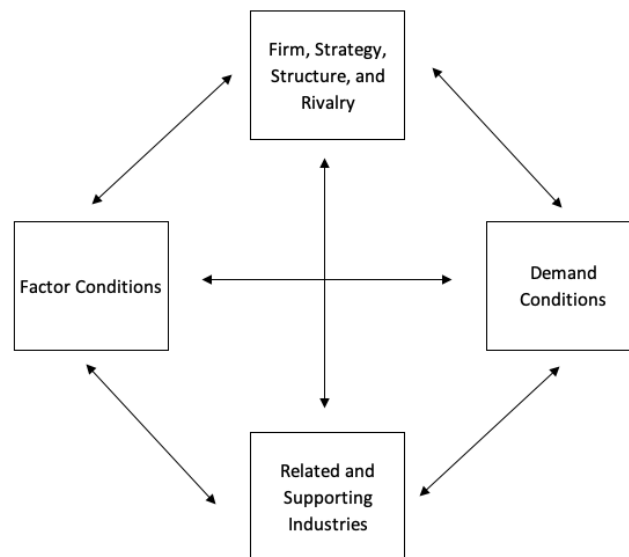
Appendix 3 – Porter's Five Forces for the Portuguese Forestry Industry



Porter's five forces (own visualization based on Porter1979)

Back to Chapter: 4.2.2. 5 Forces

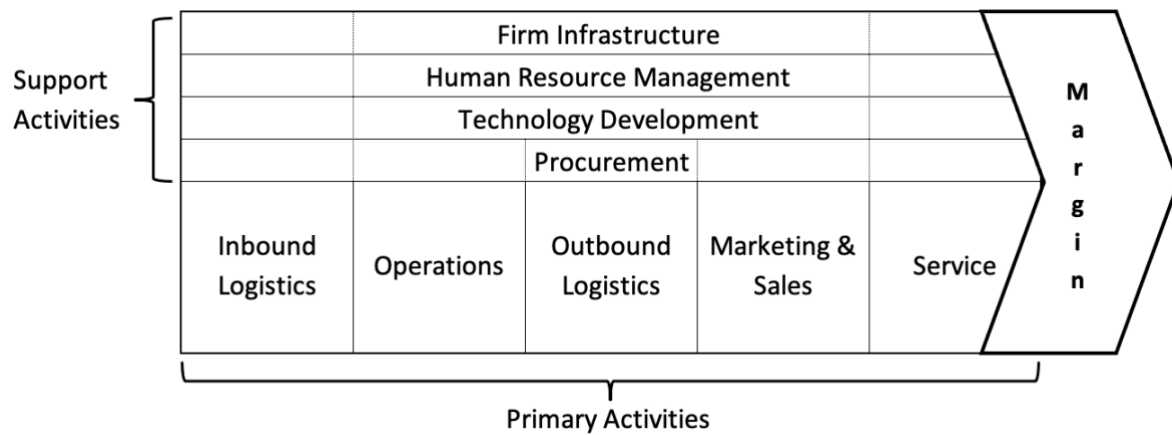
Appendix 4 - Porter's Diamond Framework



Determinants of National Competitive Advantage (own visualization based on Porter 1990)

Back to Chapter: 4.2.5. Country-Specific Advantages

Appendix 5 - Value Chain Analysis



Value Chain Model (own visualization based on Porter 1985)

Back to Chapter: 4.3.1.Resources and Competences

Appendix 6 - VRIO Analysis

Is a resource or capability...					
Valuable?	Rare?	Costly to imitate?	Exploited by organization?	Competitive implications	Economic performance
No	---	---	No	Competitive disadvantage	Below normal
Yes	No	---	↑ ↓	Competitive parity	Normal
Yes	Yes	No		Temporary competitive advantage	Above normal
Yes	Yes	Yes		Sustained competitive advantage	Above normal

VRIO analysis (own visualization based on Barney and Clark 2007, p. 70)

Back to Chapter: 4.3.2.Firm Sustainable Competitive Advantage (VRIO)

Appendix 7 - Country Selection Process

Initially considered: 216 countries and states.

Excluded due to unstable political and economic conditions:

26 countries: Afghanistan, Ukraine, Israel, Russian Federation, West Bank and Gaza, Algeria, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Democratic Republic of Congo, Ethiopia, Ghana, Libya, Mauritania, Myanmar, Nigeria, Niger, Somalia, South Sudan, Syrian Arab Republic, Yemen, Iran, Iraq and North Korea.

Excluded due to limited data available:

62 countries and states: American Samoa, Antigua and Barbuda, Aruba, Andorra, Bermuda, British Virgin Islands, Caribbean Small States, Cayman Islands, Channel Islands, Congo (Rep.), Bahamas, Cuba, Curacao, Faroe Islands, French Polynesia, Gibraltar, Greenland, Grenada, Guam, Guyana, Isle of Man, Kiribati, Kosovo, Liberia, Liechtenstein, Macao, Kuwait, Jordan, Marshall Islands, Micronesia, Monaco, Nauru, New Caledonia, North Macedonia, Northern Mariana Islands, Oman, Palau, Panama, Papua New Guinea, Puerto Rico, Qatar, Samoa, San Marino, Sao Tome and Principe, Serbia, St. Kitts and Nevis, St. Lucia, St. Martin (French part), St. Vincent and the Grenadines, Sudan, Suriname, Tanzania, Timor Leste, Togo, Tonga, Trinidad and Tobago, Turkmenistan, Turks and Caicos, Tuvalu, Vanuatu, Virgin Islands (US), and Venezuela.

Excluded due to lack of commercial interest:

24 countries and states: Brunei Darussalam, Burundi, Comoros, Cote d'Ivoire, Djibouti, Dominican Republic, Equatorial Guinea, Eritrea, Eswatini, Fiji, Gabon, Gambia, Haiti, Hong Kong, Lao PDR, Lesotho, Malawi, Maldives, Mali, Mauritius, Seychelles, Sierra Leone, Sint Maarten (Dutch Part), Solomon Islands, Tajikistan.

Countries considered for internationalization after selection process:

105 Countries: Albania; Angola; Argentina; Armenia; Australia; Austria; Azerbaijan; Bahrain; Bangladesh; Barbados; Belarus; Belgium; Belize; Bhutan; Bolivia; Bosnia and Herzegovina; Botswana; Brazil; Bulgaria; Cabo Verde; Cambodia; Canada; Chile; China; Colombia; Costa Rica; Croatia; Cyprus; Czechia; Denmark; Dominican Republic; Ecuador; Egypt; El Salvador; Estonia; Finland; France; Georgia; Germany; Greece; Guatemala; Guinea; Guinea-Bissau; Honduras; Hungary; Iceland; India; Indonesia; Ireland; Italy; Jamaica;

Japan; Kazakhstan; Kenya; Kyrgyz Republic; Latvia; Lebanon; Lithuania; Luxembourg; Madagascar; Malaysia; Malta; Mexico; Moldova; Mongolia; Montenegro; Morocco; Mozambique; Namibia; Nepal; Netherlands; New Zealand; Nicaragua; Norway; Pakistan; Paraguay; Peru; Philippines; Poland; Portugal; Romania; Rwanda; Saudi Arabia; Senegal; Singapore; Slovak Republic; Slovenia; South Africa; South Korea; Spain; Sri Lanka; Sweden; Switzerland; Thailand; Tunisia; Turkiye; Uganda; United Arab Emirates; United Kingdom; United States; Uruguay; Uzbekistan; Vietnam; Zambia; Zimbabwe.

Back to Chapter: 5.1. Country Selection Criteria

Appendix 8 - Indicators Description and eights

Indicators		Description	Weights
Market Size	Adjusted net national income per capita	This index measures a country's income per person after adjusting for factors like depreciation of assets and income inequality, providing a more accurate reflection of the economic well-being of its citizens (The World Bank 2022a).	1%
	Wood Imports	This index tracks the volume and value of wood and wood product imports into a country, indicating its demand for foreign wood resources (World Integrated Trade Solution 2021).	5%
	Wood Exports	This index measures the quantity and value of wood and wood products that a country exports, representing its involvement in the international wood trade (World Integrated Trade Solution 2021a).	2%
	Forest Area	This index quantifies the total land area within a country covered by forests (The World Bank 2021c).	4%
	Pulp for Paper Production	This index indicates the production of pulp from wood, which is a key raw material for paper manufacturing, reflecting a country's contribution to the paper industry (FAOUN 2021).	6%
Market Growth Rate	Population Growth	The annual average rate of change of population size, for a given country (World Health Organization 2022)	1%
	GDP Growth	The annual average rate of change of the gross domestic product (GDP) at market prices based on constant local currency, for a given national economy, during a specified period of time. (World Health Organization 2021)	2%
	Forest Growing Stock	The total volume of the standing stems of all living trees, above a minimum size (10 cm diameter at 1.3 m above ground level). (UNECE 2020)	1%
Market Intensity	GDP (in total)	GDP measures the monetary value of final goods and services — that is, those that are bought by the final user— produced in a country in a given period (say a quarter or a year). (Callen 2023)	2%

	GDP per capita, PPP (current international \$)	Levels of GDP per capita are obtained by dividing GDP at current market prices by the population. It measures the level of total economic output relative the population of a country and reflects changes in total well-being of the population. (United Nations Statistics Divison 2022)	2%
Market Receptivity	Trade (% of GDP)	Trade is the total of all products and services exported and imported, in this figure expressed as a percentage of GDP (The World Bank 2023), providing insights about a country's openness and the importance of trade to overall economic activity	2%
	Net trade in goods (BoP, current US\$)	The difference between goods exported and imported is known as net trade, not including trade in services (The World Bank 2022b)	1%
	Imports of goods and services (% GDP)	Imports of goods and services signify the total value of all goods and additional market services obtained from other countries (The World Bank 2022c), analyzed as Globulus would likely import into countries	2%
	Trading Across Borders score	Doing Business documents the time and expenses linked to the logistics of importing and exporting goods, including measures related to documentary compliance, border compliance, and domestic transport, apart from tariffs (The World Bank 2019b)	5%
	Total Exports from Portugal to destination country	Represents the aggregate value of goods and services originating from Portugal and sold to that specific country within a given period (WITS 2023)	7%
Commercial Infrastructure	Commercial Risk	Commercial risk refers to potential losses arising from the trading partners or the market, as it is important secure that the trading partners are reliable. (Nordea 2023)	3%
	Transport Services (% of commercial service imports)	Covers all transport services (sea, air, land, waterway, space, and pipeline) performed by residents of one economy for those of another and involving the carriage of passengers, movement of goods (freight), rental of carriers with crew, and related support and auxiliary services. (Trading Economics 2023)	2%
	Logistics Performance Index	It is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance. (The World Bank 2021a)	5%
Standard of Living	Human Development Index	The HDI is a composite index that measures a country's overall development by considering factors such as life expectancy, education (measured by mean years of schooling and expected years of schooling), and per capita income. It provides insights into a nation's quality of life, standard of living, and access to education and healthcare (United Nations Development Programme 2021).	2%

Country Risk	Political Risk Rating	Assesses the overall stability and predictability of a country's political environment, considering factors such as government stability, rule of law, and the likelihood of political upheaval (Fund for Peace 2023)	3%
	Risk of Corruption and Bribery	This index measures the extent to which corruption and bribery are prevalent in a country, impacting its business and investment environment (Transparency International 2022)	3%
	Inflation, consumer prices (annual %)	This index tracks the annual percentage change in consumer prices, providing insights into a country's inflation rate, which can affect purchasing power and economic stability (International Monetary Fund 2022).	1%
	Profit Tax (% of commercial profits)	This index quantifies the percentage of a company's profits that must be paid in taxes, which can significantly impact the attractiveness of a location for business operations (Tax Foundation 2022).	3%
	Ease of Doing Business	This index gauges the overall ease or difficulty of conducting business in a specific country, considering factors like business regulations, access to credit, and contract enforcement (The World Bank 2019a).	5%
Economic Freedom	Economic Freedom Index	This index is designed to measure the extent to which the institutions and policies of a nation are consistent with the protective function of the State and the freedom of individuals to make their own economic decisions. (The Fraser Institute 2023)	4%
	Political Freedom Index	Measure of political rights and civil liberties, evaluates countries according to a wide range of criteria relating to democratic performance and the functioning of government. (Oxford Reference 2023)	2%
Ecological Factors	Environmental Performance Index	This index evaluates a country's environmental performance by considering a range of factors, such as air quality, water resources, biodiversity, and the impact of policies on the environment, to assess its commitment to sustainability (Yale 2022).	6%
	Climate Change Vulnerability Index	This index assesses a country's vulnerability to the impacts of climate change, taking into account factors like exposure to extreme weather events, the population's adaptive capacity, and the potential consequences of climate-related challenges (ND-GAIN 2021)	8%
Geographical Distance	Proximity to home country	Distance between two countries' geographical center (DistanceFromTo 2023), can reduce export costs and delivery times, importance for Globulus highlighted in interviews	10%

Indicators analysis with description and weights (own visualization 2023)

Back to Chapter: 5.2. Country Ranking

Appendix 9 - Breakdown of Factors and Weights

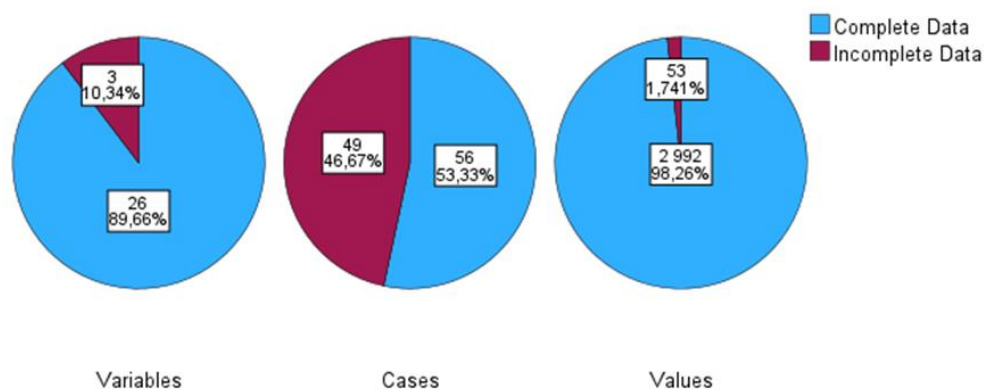
Market Size					Market Growth Rate			Market Intensity	
Adjusted net national income per capita	Wood imports	Wood exports	Forest area	Pulp for Paper production	Population growth (annual %)	GDP Growth (annual %)	Forest Growing Stock	GDP (in total)	GDP per capita, PPP (current international \$)
1,00%	5,00%	2,00%	4,00%	4,00%	1,00%	2,00%	2,00%	2,00%	2,00%
Market Receptivity					Commercial Infrastructure			Standard of Living	
Trade (% of GDP)	Net trade in goods (BoP, current US\$)	Imports of goods and services (% of GDP)	Trading across borders score	Total exports from Portugal to destination country	Commercial Risk	Transport services (% of commercial service imports)	Logistics Performance Index	Human Development Index	
2,00%	1,00%	2,00%	5,00%	7,00%	3,00%	3,00%	5,00%	2,00%	
Country Risk					Economic Freedom		Ecological Factors		Geographical Distance
Political Risk Rating	Risk of Corruption and Bribery	Inflation, consumer prices (annual %)	Profit tax (% of commercial profits)	Ease of doing business (1= easiest)	Economic Freedom Index	Political Freedom Index	Environmental Performance Index	Climate Change Vulnerability Index	Proximity to home country
3,00%	3,00%	1,00%	3,00%	5,00%	4,00%	2,00%	6,00%	8,00%	10,00%

29 Factors with categories and weights for country ranking (own visualization 2023)

Back to Chapter: [5.2.Country Ranking](#)

Appendix 10 - Missing Values Analysis

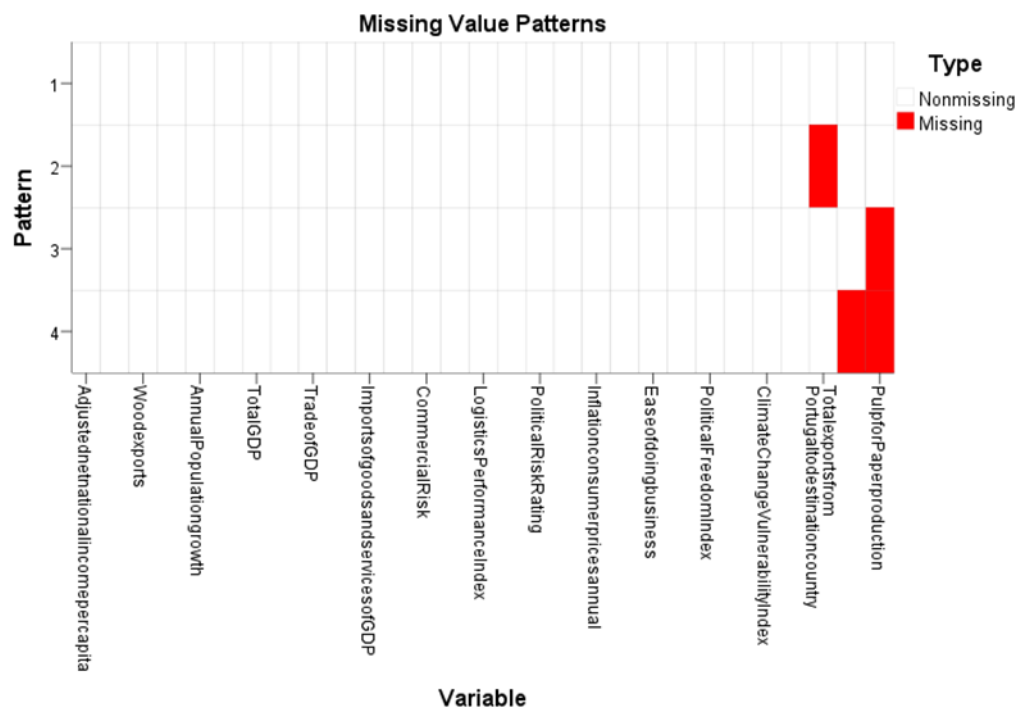
Overall Summary of Missing Values



Missing values analysis (SPSS visualization based on input values discussed in text and Appendix 2023)

Back to Chapter: [5.3.Country Clustering](#)

Appendix 11 - Missing Value Patterns



Missing values patterns (SPSS visualization based on input values discussed in text and Appendix 2023)

Back to Chapter: 5.3. Country Clustering

Appendix 12 - Pearson Correlation

	Wood Imports	Forest Area	Forest Growing Stock	GDP per Capita	Total Exports from Portugal Destination Country	Logistics Performance Index	Proximity to Home Country
Wood Imports		0.336	0.119	0.148	0.504	0.489	-0.044
Forest Area	0.336		0.261	-0.130	0.016	0.102	-0.048
Forest Growing Stock	0.119	0.261		-0.038	0.245	0.177	-0.150
GDP per Capita	0.148	-0.130	-0.038		0.198	0.566	0.052
Total Exports from Portugal	0.504	0.016	0.245	0.198		0.364	0.039

Destination Country							
Logistics Performance Index	0.498	0.102	0.177	0.566	0.364		0.096
Proximity to Home Country	-0.044	-0.048	-0.150	0.052	0.039	0.096	

Pearson correlation coefficients (SPSS visualization based on input values discussed in text and Appendix 2023)

Back to Chapter: 5.3.Country Clustering

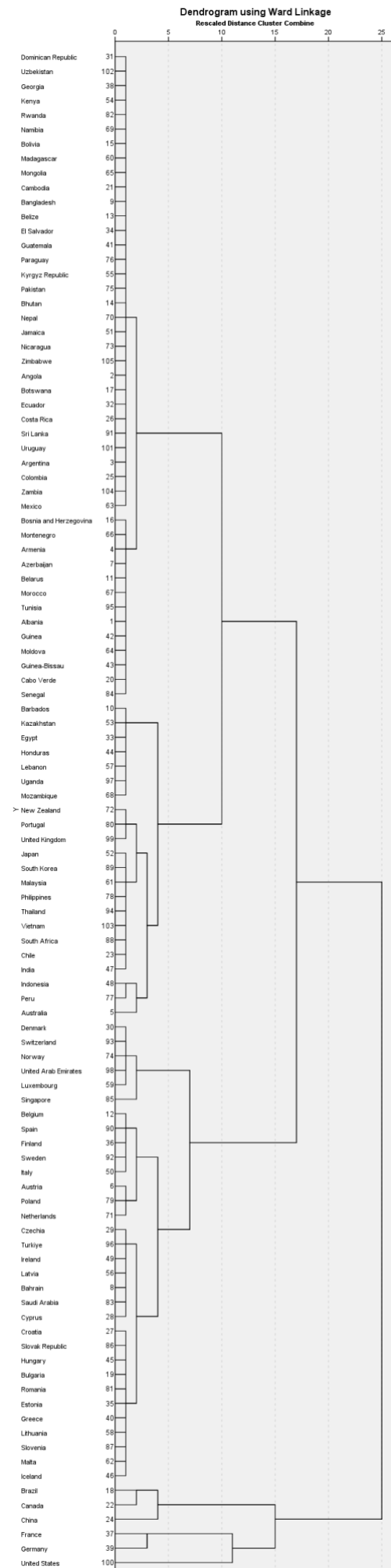
Appendix 13 - Indicators Chosen for Clustering Analysis



Variables for clustering analysis (SPSS visualization based on input values discussed in text and Appendix 2023)

Back to Chapter: 5.3.Country Clustering

Appendix 14 - Dendrogram



Dendrogram from hierarchical clustering analysis (SPSS visualization based on input values discussed in text and Appendix 2023)

Back to Chapter: 5.3.Country Clustering OR
6.6.Error! Reference source not found.

Appendix 15 - Spanish Competitor's Revenues

Spanish Competitors	Revenues (EUR)
Garnica Sociedad Anonima	34.6 million ¹
Maderas Mancebo SL	4.17 million ²
Maderas Alonso Llorente	3.93 million ³
Madergal SL	3.21 million ⁴
Maderas Castro Varela SL	2.32 million ⁵
Maderas Bagua SL	275 thousand ⁶

Revenues of Spanish competitors (own visualization 2023)

1- (Orbis 2022b) 2- (Orbis 2022c) 3- (Orbis 2022d) 4- (Orbis 2021a) 5- (Orbis 2022e) 6- (Orbis 2022f)

Back to Chapters: 6.1.2.Competition OR 6.1.3.Overall Market Sales Potential and Company Sales Potential

Appendix 16 - Spanish industry revenues for the wood market until 2025 in billion Euros



Analysis of the industry's current and expected revenues until 2025 in billion Euros (own visualization, based on Statista 2021b)

Back to Chapter: 6.1.3.Overall Market Sales Potential and Company Sales Potential

Appendix 17 - Assumptions

Assumptions	Data	Notes
Year of market entry	2025	
Escalation of variable costs	2.00%	
Escalation of wood prices	2.00%	
Discount rate	4.10%	
Marketing costs		varying, 485€ to 2,173€
Transportation costs to Spain (per ton)	10.00 €	
Logging costs when exporting (per ton)	7.50 €	
Processing costs when exporting (per ton)	7.50 €	
Average price per ton in Spain	60.00 €	
Possible acquisition size of new land in ha (scenario, payback period)	20	
Tulea overall interest paid 2022	1,474.29 €	
Share of Globulus' revenue from Tulea (2022)	18%	
Globulus' proportional allocation of interest paid	265.37 €	
Price range for land in Agueda per square meter	0.90 €	0,3-1,5€, average taken
Aquisition of new land (10% of current 200 hectares) (in ha)	20	

Assumptions taken for the financial analysis (own visualization 2023)

Back to Chapter: [9.1.Assumptions](#) OR [9.4.Investment Plan](#)

Appendix 18 - P&L Statement when Exporting

P&L	2024 - without exporting	2025 - starting to export	2026	2027	2028	2029	2030
Hectares used yearly for usual business	17	12	10	8	6	4	0
Hectares used yearly for exporting	0	5	7	9	11	13	17
Revenues from usual business (Sales, Actual Sales)	200,000.00 €	142,800.00 €	120,686.40 €	97,631.14 €	73,605.39 €	48,579.56 €	0.00 €
Revenue from exporting (Sales, Actual Sales)	- €	72,000.00 €	102,816.00 €	134,835.84 €	168,095.35 €	202,631.30 €	264,979.39 €
Total Revenues (Sales, Actual Sales)	200,000.00 €	214,800.00 €	223,502.40 €	232,466.98 €	241,700.73 €	251,210.86 €	264,979.39 €
Logging costs from usual business							
Logging costs from exporting	- €	9,000.00 €	12,852.00 €	16,854.48 €	21,011.92 €	25,328.91 €	33,122.42 €
Processing costs from exporting	- €	9,000.00 €	12,852.00 €	16,854.48 €	21,011.92 €	25,328.91 €	33,122.42 €
Transporting costs from exporting	- €	12,000.00 €	17,136.00 €	22,472.64 €	28,015.89 €	33,771.88 €	44,163.23 €
Total COGS from usual business	80,000.00 €	56,000.00 €	46,400.00 €	36,800.00 €	27,200.00 €	17,600.00 €	0.00 €
Total COGS from exporting	- €	30,000.00 €	42,840.00 €	56,181.60 €	70,039.73 €	84,429.71 €	110,408.08 €
Total Cost of Goods Sold (COGS)	80,000.00 €	86,000.00 €	89,240.00 €	92,981.60 €	97,239.73 €	102,029.71 €	110,408.08 €
Gross Profit	120,000.00 €	128,800.00 €	134,262.40 €	139,485.38 €	144,461.01 €	149,181.15 €	154,571.31 €
Marketing costs from exporting	- €	485.00 €	2,048.95 €	2,028.34 €	2,075.48 €	2,122.93 €	2,173.81 €
Land preparation and planting costs (yearly breakdown)	43,750.00 €	43,750.00 €	43,750.00 €	43,750.00 €	43,750.00 €	43,750.00 €	43,750.00 €
Fertilizing costs (yearly breakdown)	2,333.33 €	2,333.33 €	2,333.33 €	2,333.33 €	2,333.33 €	2,333.33 €	2,333.33 €
Land maintenance costs (yearly breakdown)	6,083.33 €	6,083.33 €	6,083.33 €	6,083.33 €	6,083.33 €	6,083.33 €	6,083.33 €
SG&A Expenses (Total fixed costs)	52,166.67 €	52,651.67 €	54,215.62 €	54,195.01 €	54,242.15 €	54,289.60 €	54,340.48 €
EBITDA	67,833.33 €	76,148.33 €	80,046.78 €	85,290.37 €	90,218.86 €	94,891.55 €	100,230.84 €
Depreciation and Amortization	- €	- €	- €	- €	- €	- €	- €
EBIT	67,833.33 €	76,148.33 €	80,046.78 €	85,290.37 €	90,218.86 €	94,891.55 €	100,230.84 €
Interest Expense	265.37 €	265.37 €	265.37 €	265.37 €	265.37 €	265.37 €	265.37 €
EBT (Pretax Income)	67,567.96 €	75,882.96 €	79,781.41 €	85,025.00 €	89,953.49 €	94,626.18 €	99,965.46 €
Income Tax	14,189.27 €	15,935.42 €	16,754.10 €	17,855.25 €	18,890.23 €	19,871.50 €	20,992.75 €
Net Income	53,378.69 €	59,947.54 €	63,027.31 €	67,169.75 €	71,063.25 €	74,754.68 €	78,972.72 €

Profit and Loss Statement calculated when exporting, based on in-depth interviews with Tulea and assumptions taken (own visualization 2023)

Back to Chapter: [9.3.2.Cost Estimation](#)

Appendix 19 - Operational Risks

RISK CHARACTERIZATION	EXPLANATION	RISK/CHALLENGE SEVERITY	RISK/CHALLENGE LIKELIHOOD	RISK/CHALLENGE LEVEL	MITIGATION APPROACHES / WARNINGS
Low demand	Globulus might not find buyers in the Spanish market	UNDESIRABLE	POSSIBLE	HIGH	Closer examination of possible buyers, otherwise sticking to current business model as secured demand from The Navigator Company
Financial viability	The price for wood in Spain might not be significantly higher than in Portugal, questioning financial viability	UNDESIRABLE	POSSIBLE	HIGH	Would negate exporting business model, leads to sticking to current business model
Transport and export process	The process itself might not run smoothly. Loading and transporting the wood could result in extra costs	TOLERABLE	IMPROBABLE	MEDIUM	Close examination of transport companies, improvement over time possible
Issues with the AFBV	The AFBV nurtures Globulus' land, it is unclear whether Globulus can sell to another buyer than to the designated The Navigator Company	UNDESIRABLE	IMPROBABLE	MEDIUM	Discussion with AFBV representatives about issue possible
Loss of buyers	Buyers in Spain might run out of business	TOLERABLE	IMPROBABLE	MEDIUM	Highly improbable, leading to search for new buyers
Changes in political and legal landscape	Taxes on wood exports (or imports) could be imposed. Spain could impose new wood certification laws	ACCEPTABLE	IMPROBABLE	LOW	Highly improbable, new calculations on financial viability required

Operational risks occurring for Globulus when exporting (own visualization 2023)

Back to Chapter: 9.3.4.Operational Risk Analysis

Appendix 20 - Profitability Ratio Analysis

Profitability Ratios	2024 - without exporting	2025 - starting to export	2026	2027	2028	2029	2030
Return on Sales							
EBIT	67,833.33 €	73,348.33 €	75,360.38 €	79,659.23 €	84,613.47 €	90,312.00 €	100,230.84 €
Sales	200,000.00 €	212,000.00 €	218,816.00 €	226,835.84 €	236,095.35 €	246,631.30 €	264,979.39 €
%	33.92%	34.60%	34.44%	35.12%	35.84%	36.62%	37.83%
Return on Assets							
EBIT	67,833.33 €	73,348.33 €	75,360.38 €	79,659.23 €	84,613.47 €	90,312.00 €	100,230.84 €
Assets	3,457,089	3,457,089	3,457,089	3,457,089	3,457,089	3,457,089	3,457,089
%	1.96%	2.12%	2.18%	2.30%	2.45%	2.61%	2.90%
Return on Equity							
Net Income	53,378.69 €	57,735.54 €	59,325.06 €	62,721.15 €	66,635.00 €	71,136.83 €	78,972.72 €
Equity	2,300,107.19 €	2,300,107.19 €	2,300,107.19 €	2,300,107.19 €	2,300,107.19 €	2,300,107.19 €	2,300,107.19 €
%	2.32%	2.51%	2.58%	2.73%	2.90%	3.09%	3.43%
DuPont Identity							
Net Income	53,378.69 €	57,735.54 €	59,325.06 €	62,721.15 €	66,635.00 €	71,136.83 €	78,972.72 €
EBT	67,567.96 €	73,082.96 €	75,095.01 €	79,393.86 €	84,348.10 €	90,046.62 €	99,965.46 €
%	79.00%	79.00%	79.00%	79.00%	79.00%	79.00%	79.00%
EBT	67,567.96 €	73,082.96 €	75,095.01 €	79,393.86 €	84,348.10 €	90,046.62 €	99,965.46 €
EBIT	67,833.33 €	73,348.33 €	75,360.38 €	79,659.23 €	84,613.47 €	90,312.00 €	100,230.84 €
%	99.61%	99.64%	99.65%	99.67%	99.69%	99.71%	99.74%
EBIT	67,833.33 €	73,348.33 €	75,360.38 €	79,659.23 €	84,613.47 €	90,312.00 €	100,230.84 €
Sales	200,000.00 €	212,000.00 €	218,816.00 €	226,835.84 €	236,095.35 €	246,631.30 €	264,979.39 €
%	33.92%	34.60%	34.44%	35.12%	35.84%	36.62%	37.83%
Sales	200,000.00 €	212,000.00 €	218,816.00 €	226,835.84 €	236,095.35 €	246,631.30 €	264,979.39 €
Assets	3,457,089	3,457,089	3,457,089	3,457,089	3,457,089	3,457,089	3,457,089
%	5.79%	6.13%	6.33%	6.56%	6.83%	7.13%	7.66%
Assets	3,457,089	3,457,089	3,457,089	3,457,089	3,457,089	3,457,089	3,457,089
Equity	2,300,107	2,300,107	2,300,107	2,300,107	2,300,107	2,300,107	2,300,107
%	150.30%	150.30%	150.30%	150.30%	150.30%	150.30%	150.30%

Profitability ratios occurring in export scenario, resulting from operational plan analysis (own visualization 2023)

Back to Chapter: 9.6.1.Profitability Ratios

Appendix 21 - Profitability ratios of Tulea's competitors in Spain

Profitability Ratios	Tulea (expected values 2025, starting to export) 1	Garnica Sociedad Anonima 2	Maderas Mancebo 3	Maderas Alonso Llorente 4	Madargal 5	Maderas Castro Varela 6	Maderas Bagua 7
Return on Sales							
EBIT	76,148 €	3,545,737 €	92,707 €	375,752 €	42,028 €	33,260 €	33,260 €
Sales	214,800 €	36,875,762 €	4,444,159 €	4,189,971 €	3,632,946 €	2,473,420 €	2,473,420 €
%	35.45%	9.62%	2.09%	8.97%	1.16%	1.34%	1.34%
Return on Assets							
EBIT	76,148 €	3,545,737 €	92,707 €	375,752 €	42,028 €	33,260 €	33,260 €
Assets	3,457,089 €	28,314,472 €	3,271,997 €	3,796,390 €	4,642,326 €	1,040,674 €	1,040,674 €
%	2.20%	12.52%	2.83%	9.90%	0.91%	3.20%	3.20%
Return on Equity							
Net Income	59,948 €	2,736,380 €	64,587 €	286,765 €	31,779 €	24,945 €	24,945 €
Equity	2,300,107 €	23,457,078 €	1,660,716 €	1,878,346 €	1,668,284 €	741,702 €	741,702 €
%	2.61%	11.67%	3.89%	15.27%	1.90%	3.36%	3.36%

Profitability ratios of Spanish competitors analyzed in Chapter 6.1.2 (own visualization 2023)

1- (Orbis 2022a) 2- (Orbis 2022b) 3- (Orbis 2022c) 4- (Orbis 2022d) 5- (Orbis 2021) 6- (Orbis 2022e) 7- (Orbis 2022f)

Back to Chapter: **9.6.1.Profitability Ratios**

Appendix 22 - Operational Plan

	2025*	Operational Plan				
		2026	2027	2028	2029	2030
Logging costs per ton (2% Escalation)	7.50 €	7.65 €	7.80 €	7.96 €	8.12 €	8.28 €
Processing costs per ton (2% Escalation)	7.50 €	7.65 €	7.80 €	7.96 €	8.12 €	8.28 €
Transportation costs per ton (2% Escalation)	10.00 €	10.20 €	10.40 €	10.61 €	10.82 €	11.04 €
Variable costs per ton	25.00 €	25.50 €	26.01 €	26.53 €	27.06 €	27.60 €
Variable costs per ton when not exporting	20.00 €	20.40 €	20.81 €	21.22 €	21.65 €	22.08 €
Marketing costs	485.00 €	2,048.95 €	2,028.34 €	2,075.48 €	2,122.93 €	2,173.81 €
Land preparation and planting costs per hectare	218.75 €	218.75 €	218.75 €	218.75 €	218.75 €	218.75 €
Fertilizing costs per hectare per year	11.67 €	11.67 €	11.67 €	11.67 €	11.67 €	11.67 €
Maintenance costs per hectare per year	30.42 €	30.42 €	30.42 €	30.42 €	30.42 €	30.42 €
Fixed costs per hectare (excl. Marketing cost)	260.83 €	260.83 €	260.83 €	260.83 €	260.83 €	260.83 €
Annual sales	72,000.00 €	102,816.00 €	134,835.84 €	168,095.35 €	202,631.30 €	264,979.39 €
Annual Variable costs for exports	30,000.00 €	42,840.00 €	56,181.60 €	70,039.73 €	84,429.71 €	110,408.08 €
Contribution margin	42,000.00 €	59,976.00 €	78,654.24 €	98,055.62 €	118,201.59 €	154,571.31 €
Fixed costs	1,789.17 €	3,874.78 €	4,375.84 €	4,944.65 €	5,513.76 €	6,521.03 €
Average price per ton (2% Escalation)	60.00 €	61.20 €	62.42 €	63.67 €	64.95 €	66.24 €
Average quantity of wood per hectare in tons	240	240	240	240	240	240
Hectares reserved for export	5	7	9	11	13	17
Profit	40,210.83 €	56,101.22 €	74,278.40 €	93,110.97 €	112,687.83 €	148,050.28 €

Payback Period 4.10 years

	2025	2026	2027	2028	2029	2030
Possible Initial Investment	- 180,000.00 €	- 139,789.17 €	- 83,687.95 €	- 9,409.55 €	83,701.42 €	196,389.25 €

	2025	2026	2027	2028	2029	2030
Possible Initial Investment	- 45,000.00 €	- 4,789.17 €	51,312.05 €	125,590.45 €	218,701.42 €	331,389.25 €

Payback Period 3.31 years

Operational plan (own visualization 2023)

Back to Chapter: **9.6.4.Payback Period** OR **9.5 Financing Plan**

Appendix 23 - Incremental Cash Flow Calculation for Exports

Incremental Cash Flow Calculation for Exports						
Year	31.12.2025	31.12.2026	31.12.2027	31.12.2028	31.12.2029	31.12.2030
<i>(in euros)</i>						
Incremental Sales Revenue	12,000.00	17,136.00	22,472.64	28,015.89	33,771.88	44,163.23
<i>Sales Revenue Export</i>	<i>72,000.00</i>	<i>102,816.00</i>	<i>134,835.84</i>	<i>168,095.35</i>	<i>202,631.30</i>	<i>264,979.39</i>
<i>Sale Revenue without Export</i>	<i>60,000.00</i>	<i>85,680.00</i>	<i>112,363.20</i>	<i>140,079.46</i>	<i>168,859.42</i>	<i>220,816.16</i>
Incremental Costs	6,485.00	9,931.51	11,448.87	12,653.83	13,441.09	15,062.34
Total Costs Export	31,789.17	46,714.78	60,557.44	74,984.37	89,943.47	116,929.11
<i>Variable Costs Export</i>	<i>30,000.00</i>	<i>42,840.00</i>	<i>56,181.60</i>	<i>70,039.73</i>	<i>84,429.71</i>	<i>110,408.08</i>
<i>Fix Costs Export</i>	<i>1,789.17</i>	<i>3,874.78</i>	<i>4,375.84</i>	<i>4,944.65</i>	<i>5,513.76</i>	<i>6,521.03</i>
Total Costs without Export	25,304.17	36,783.27	49,108.57	62,330.54	76,502.38	101,866.78
<i>Variable Costs without Export</i>	<i>24,000.00</i>	<i>34,957.44</i>	<i>46,761.07</i>	<i>59,461.38</i>	<i>73,111.55</i>	<i>97,519.55</i>
<i>Fix Costs without Export</i>	<i>1,304.17</i>	<i>1,825.83</i>	<i>2,347.50</i>	<i>2,869.17</i>	<i>3,390.83</i>	<i>4,347.22</i>
EBITDA	5,515.00	7,204.49	11,023.77	15,362.06	20,330.79	29,100.90
<i>Depreciation</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
EBIT	5,515.00	7,204.49	11,023.77	15,362.06	20,330.79	29,100.90
<i>Taxes</i>	<i>1,158.15</i>	<i>1,512.94</i>	<i>2,314.99</i>	<i>3,226.03</i>	<i>4,269.47</i>	<i>6,111.19</i>
Net Income	4,356.85	5,691.55	8,708.78	12,136.03	16,061.32	22,989.71
Operating Cash Flow	4,356.85	5,691.55	8,708.78	12,136.03	16,061.32	22,989.71
<i>CAPEX</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Investment in NWC</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Free Cash Flow	4,356.85	5,691.55	8,708.78	12,136.03	16,061.32	22,989.71
<i>years into the future</i>	<i>1.00</i>	<i>2.00</i>	<i>3.00</i>	<i>4.00</i>	<i>5.00</i>	<i>6.00</i>
DCF	4,185.25	5,252.05	7,719.78	10,334.12	13,137.95	18,064.63

Net Present Value	
NPV FCF	58,693.79 €

Incremental Cash Flow Calculation for Exports (own visualization 2023)

Back to Chapter: 9.6.2.NPV OR 9.7.Sensitivity and Scenario Analysis

Appendix 24 - IRR Calculation

IRR Calculation						
Operating Cash Flow	4,356.85	5,691.55	8,708.78	12,136.03	16,061.32	22,989.71
<i>CAPEX</i>	<i>45,000.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Investment in NWC</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Free Cash Flow	(40,643.15)	5,691.55	8,708.78	12,136.03	16,061.32	22,989.71
<i>years into the future</i>	<i>1.00</i>	<i>2.00</i>	<i>3.00</i>	<i>4.00</i>	<i>5.00</i>	<i>6.00</i>
DCF	(40,643.15)	5,252.05	7,719.78	10,334.12	13,137.95	18,064.63

NPV FCF	13,865.39 €
IRR	8.76%

IRR Calculation with CAPEX (own visualization 2023)

Back to Chapter: 9.6.3.IRR

Appendix 25 - Scenario Analysis

Scenario	1	NPV 2025 - 2030
Price	Pessimistic	
Quantity	Pessimistic	
Discount Rate	Pessimistic	-33,358.05 €
Transportation Cost	Pessimistic	
Scenario	2	NPV 2025 - 2030
Price	Pessimistic	
Quantity	Pessimistic	
Discount Rate	Pessimistic	-20,856.57 €
Transportation Cost	Conservative	
Scenario	3	NPV 2025 - 2030
Price	Pessimistic	
Quantity	Pessimistic	
Discount Rate	Conservative	-43,330.58 €
Transportation Cost	Pessimistic	
Scenario	4	NPV 2025 - 2030
Price	Pessimistic	
Quantity	Conservative	
Discount Rate	Pessimistic	-56,533.74 €
Transportation Cost	Pessimistic	
Scenario	5	NPV 2025 - 2030
Price	Conservative	
Quantity	Pessimistic	
Discount Rate	Pessimistic	-11,759.47 €
Transportation Cost	Pessimistic	
Scenario	6	NPV 2025 - 2030
Price	Conservative	
Quantity	Conservative	
Discount Rate	Pessimistic	-31,686.50 €
Transportation Cost	Pessimistic	
Scenario	7	NPV 2025 - 2030
Price	Conservative	
Quantity	Conservative	
Discount Rate	Conservative	-38,519.89 €
Transportation Cost	Pessimistic	
Scenario	8	NPV 2025 - 2030
Price	Conservative	
Quantity	Conservative	
Discount Rate	Conservative	-12,348.28 €
Transportation Cost	Conservative	
Scenario	9	NPV 2025 - 2030
Price	Conservative	
Quantity	Optimistic	36,176.91 €
Discount Rate	Optimistic	
Transportation Cost	Optimistic	
Scenario	10	NPV 2025 - 2030
Price	Optimistic	
Quantity	Conservative	
Discount Rate	Optimistic	70,237.72 €
Transportation Cost	Optimistic	
Scenario	11	NPV 2025 - 2030
Price	Optimistic	
Quantity	Optimistic	
Discount Rate	Pessimistic	81,146.65 €
Transportation Cost	Optimistic	
Scenario	12	NPV 2025 - 2030
Price	Optimistic	
Quantity	Optimistic	
Discount Rate	Optimistic	59,831.44 €
Transportation Cost	Conservative	
Scenario	13	NPV 2025 - 2030
Price	Optimistic	
Quantity	Optimistic	
Discount Rate	Optimistic	122,037.64 €
Transportation Cost	Optimistic	
Scenario	14	NPV 2025 - 2030
Price	Pessimistic	
Quantity	Optimistic	
Discount Rate	Optimistic	-30,132.19 €
Transportation Cost	Optimistic	
Scenario	15	NPV 2025 - 2030
Price	Optimistic	
Quantity	Pessimistic	
Discount Rate	Pessimistic	34,219.29 €
Transportation Cost	Optimistic	
Scenario	16	NPV 2025 - 2030
Price	Optimistic	
Quantity	Optimistic	
Discount Rate	Pessimistic	10,295.65 €
Transportation Cost	Pessimistic	
Scenario	17	NPV 2025 - 2030
Price	Pessimistic	
Quantity	Optimistic	
Discount Rate	Pessimistic	-103,026.59 €
Transportation Cost	Pessimistic	
Scenario	18	NPV 2025 - 2030
Price	Optimistic	
Quantity	Optimistic	
Discount Rate	Optimistic	12,573.18 €
Transportation Cost	Pessimistic	

Scenario analysis (own visualization 2023)

Back to Chapter: 9.7.Sensitivity and Scenario Analysis