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**KEY FACTORS IN DEVELOPING AN EXPORT STRATEGY  
FOR SHORE POWER SYSTEMS**

Master's thesis

Programme Management and Marketing, specialization in international business

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I hereby declare that I have compiled the thesis independently and all works, important standpoints, and data by other authors have been properly referenced and the same paper has not been previously presented for grading.

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## **ABSTRACT**

Shore power contributes to air pollution reduction by providing electric power from the local grid to the vessels while berthing instead of auxiliary engines. The shore power market is a very attractive business niche, as there are regulations and funding both on local and global levels. Shore power system suppliers need to provide not only suitable technical solutions, but to be able to sell to the different markets. This study aims to identify the most important factors that need to be considered in exporting shore power systems. The central research question is - What are the most important basic factors in developing an export strategy for shoreside shore power systems? Qualitative research methods were applied to answer the research question. The author conducted an expert interview with end customers and shore power solution suppliers. The study shows that export strategy needs to be based on a company's initial strategy, which can be formulated by SWOT analysis. In addition to reactive and neighbour, market selection process can be done systematically based on market maturity and the existence of regulations. The resource-based view and VRIO framework can form a base for creating competitive advantages. A company's competitive position can be identified by the three-circle model. The local presence can be covered by agents to provide localized service to the customers. Companies need to be visible by maintaining active usage of a webpage and social media and attending related conferences and exhibitions. The biggest limitation of this study was the limited sample size.

Keywords: shore power systems, export strategy, key factors

## **INTRODUCTION**

The sustainable, renewable or green approach tends to be a predominant topic in all areas of business and life. People are getting more educated about climate change and are worried about global warming matters. Earth population is asked and taught to be environmentally friendly. That is how people's behaviour is changed on different levels including their consumption habits. Eco-friendly or emission-free labels are often the main criterion of the choice. (Gaganidze & Ramishvili, 2018) Different countries and institutions like the European Parliament in turn make their adjustments and regulations towards environmental protection and green energy usage by introducing various investment programs and taxation systems. (ESPO, 2021) Namely, the European Union directive 2014/94 / EU requires all ports in the TEN-T network to be equipped as a priority with the shoreside electricity facilities by 2025. (European Commission, 2014) The United States has also proposed supporting policies to achieve emission reduction goals by using shore power technology. (MARAD, 2021)

Emissions and pollution are one of the most important questions on a country level, that is why there are different regulations in the transport field, including the shipping sector. Everyone is looking for innovative technologies, which can play a key role in pollution prevention. However, technology development is one thing, but the ability to market and sell to different markets it is another. The globalization process makes the competition in commerce very fierce. Companies are no longer secure in the domestic markets and export is seen as a critical tool for survival. (Gaganidze & Ramishvili, 2018) Thus the importance of a strategic approach to export becomes vital. Companies need to develop an export strategy that would cover different aspects and themes. According to Mintzberg (1979), strategy is „Mediating force between the organization and its environment: consistent patterns in streams of organizational decisions to deal with the environment.“

This research is focused on the most important factors of the strategy for exporting shore power equipment as one of the most promising solutions for reducing emissions from ships. Shore power, also known as “Cold ironing”, “Onshore Power Supply (OPS)” and “Alternative Marine Power

(AMP) " allows ships to turn off auxiliary engines and use electric power from the local grid while berthing instead of auxiliary engines (Baig & Tariq, 2021).

Author will define the points, which need to be taken into consideration on a company level to ensure an efficient export experience of shore power technology in a particular case. The obtained framework can be used by companies in general, but especially by those operating in an innovative technological niche. **The research aim** of the master's thesis is to identify the most important factors that need to be considered in exporting shore power systems.

Research questions are:

1. Which factors need to be taken into consideration by the company in the market selection process for exporting the shore power systems?
2. What are the basic features of the export strategy development process?
3. What needs to be taken as a base for creating competitive advantages for shore power suppliers?
4. What are the key success factors in exporting the shore power systems?
5. How important is it to raise company and product awareness for shore power suppliers?

**The central research question** is - What are the most important basic factors in developing an export strategy for shore power systems?

Literature review and qualitative research methods are used to answer the research questions. The author analyzed secondary literature documents and marketing reports to answer the research questions. In addition to other models and frameworks, author uses the combination of 4C (Customer, Competition, Cost, and Capabilities) and 4P (Product, Price, Place, and Promotion) marketing mix in order to develop an export strategy framework. The expert interview was chosen as a way to collect data for the master's thesis because a research object needs to be understood, not measured. It also serves the purpose of obtaining reliable information from experts who are very well-versed in the field relevant to the research issues. For expert interviews, the author selected experts with previous experience in shore power projects.

The author has conducted six structured interviews with port managers in Europe and the US to get an overview of the markets and customer needs. European and US market is considered the most active markets in regards to shore power installations that are also supported by the existence

of the emissions reduction regulations (Baig & Tariq, 2021). The author aimed to find out what guides the ports in choosing the partners (technology providers), as well as what qualifications the company should have to participate in the procurement. The author has also conducted two structured interviews with sales managers in companies providing specialized shoreside solutions in the shore power business, to find out what export strategy the company uses and how the market choice is made. The thematic analysis technique is used to analyze the interviews. This method provides a systematic approach for generating codes and themes from qualitative data.

This thesis is divided into three parts: theoretical part, research methodology review and empirical analysis. In the theoretical part, the author analyzes the literature that describes the importance of export strategy development. Author also describes how to select the exporting market, create the competitive advantages and choose efficient communication tools. First part summarizes the analytical framework. Second part describes the research methodology and the research object. A short overview of the shore power technology and the market is provided. Author will describe the qualitative research methodology and the process of data analysis. Also, it answers the question of why the chosen research method is the most suitable one. Third part provides the analysis of the interviews and their results. The last part consists of discussion, conclusions and implications for the process of export strategy selection based on the literature review and expert opinion.

# **1. THEORETICAL BACKGROUND**

This first chapter presents a literature review on the topic of the factors, which need to be taken into consideration when building the export strategy. The outcomes of the theoretical part can be used by both companies with exporting experience and by pioneers. The theoretical part aims to detect the most important decision that needs to be done by exporters to develop an effective exporting strategy.

The theoretical part starts with outlining the importance of the strategy designing process. It is necessary to understand why the action is important and how it will affect the following activities. Afterwards, author is defining starting point of strategy creation, which is the formulation of the initial company's strategy. That is an important step because the initial strategy is the base for an exporting strategy. After that, the market selection process will be described including the important decisions on market entering and exiting strategy. An understanding of the market selection process and options will ensure the accurate decisions and choices made by the exporter. The next part will define what the process of creating competitive advantages looks like and which frameworks can be used to define the company's core value. After that, the communication strategy selection process will be defined. That is a very important decision because usage of the right communication tools will help to boost sales and strengthen company's reputation. The final chapter will summarise the aspects of export strategy development in one framework.

## **1.1. Bases for the strategy formulation**

There is no common definition for export strategy. By summarising the definition of strategy by different authors export strategy means the following. An export strategy is the sequence of decisions that guide the exporting company in its relationships with internal and external factors to ensure successful performance in exporting market.

There are three levels of strategy: corporate, business and functional. Corporate-level strategy defines the organisational direction. It is related to the mission, vision and structure of the

company. (Mukherjee, 2005) Business-level strategy is focused on how the business unit competes within the industry for customers. The function-level strategy covers the major functional departments like finance, R&D, marketing and manufacturing. (Mukherjee, 2005)

All the important decisions such as exporting ones are based on a company's initial strategy. Strategic or long-term planning is concerned with the formulation of a mission, vision, strategies and policies. Strategy formulation is a process of finding a strategic fit between the external opportunities or threats and internal strengths or weaknesses. Analyzing the process of strategic factors can be made using a SWOT analysis. (Sheykhi *et al.* 2016) SWOT analysis has been used for years and is the most suitable technique in strategic management (Gilang *et al.* 2016). SWOT has been criticised for a single level of analysis and the absence of weights to reflect the properties. SWOT analysis can be fulfilled by the Strategic Factors Analysis Summary matrix (SFAS). (Wheelen & Hunger, 2012)

The summary of strategic factor analysis is a combination of the External Factor Analysis System (EFAS) and Internal Factor Analysis System (IFAS). The external environmental analysis (EFAS) is a tool, which helps to determine the readiness of an enterprise to respond to strategic factors of the external environment, taking into account the assumed significance of these factors for the future of the enterprise. EFAS analysis is generated by the following steps (Wheelen & Hunger, 2012):

1. List eight to ten opportunities and threats.
2. Weight each factor based on factors' probable impact on a company's strategic position. The total weights must sum to 1.00, where the most important factors must be marked with the higher number.
3. Rate each of the listed factors based on the company's response to that factor, starting from 1 as poor to 5 as outstanding.
4. Count a weighted score by multiplying factors' weight by its rating.

The internal organizational analysis helps to determine the strengths and weaknesses of a company. The generation of this matrix must be done in the same way as for EFAS analysis, but instead of external factors the company's strengths and weaknesses need to be used. (Wheelen & Hunger, 2012) The highest-weighted factors determined by IFAS and EFAS will appear in a final analysis or SFAS Matrix. The final analysis will be done following the listed steps. (Rachmawati & Hidayatullah, 2019)

<b>INTERNAL FACTORS</b>			
<b>EXTERNAL FACTORS</b>		<b>Strengths (S)</b>	<b>Weaknesses (W)</b>
	<b>Opportunities (O)</b>	<b>Strengths/ Opportunities (SO)</b>	<b>Weaknesses/ Opportunities (WO)</b>
	<b>Threats (T)</b>	<b>Strengths/ Threats (ST)</b>	<b>Weaknesses/ Threats (WT)</b>

Figure 1. TOWS matrix  
Source: Friesner (2017)

SFAS analysis is the ground for the final TOWS matrix. (see Figure 1) TOWS is used to formulate strategic alternatives to generate corporate and business strategies. TOWS matrix is calculated according to SFAS. There are four strategic alternatives: Strength – Threat (ST), Weakness – Opportunity (WO), Strength – Opportunity (SO) and Weakness – Threat (WT). The selection of the strategy, which would help a company to develop business goals and action plans, is based on the weighting of the strategical alternatives. (Wheelen & Hunger, 2012) One of the most important parts of the analysis is the implementation, evaluation and control of the strategy. The selected strategy would be fundamental for export strategy development. Only after determining internal and external factors and identifying the strategies company can enter the market selection phase.

## 1.2. Export market selection

In a simple manner, a market can be designated as domestic and export, but this approach is not up to par for decision making. According to the Cambridge dictionary, an export market is a country or group of countries to which other countries' products or services are sold. Domestic market is also known as home or internal market means that products or services are bought and sold within one country. Physically market can be defined by size, trends, potential and share, which is important in assessing markets. (Piercy, 2014) Market size and potential are described by a general number of inhabitants, anticipated number of inhabitants in future, GDP, imports and energy and electricity consumption. (Ye Sheng & Mullen, 2011) This is helping to reveal market opportunities and threats. The political and economical environment need to be taken into account, as well as geographical and psychological distance. The main part of the psychological distance is

cultural differences outlining language, cultural factors, legal system, politics, and religious differences. (Gallego *et al.* 2009) The statistical data analysis and expert valuation method are used for the export market definition process (Miečinskienė *et al.* 2014).

In some cases, the export market selection is done unconsciously or with a so-called reactive approach. A company starts receiving unsolicited orders and management needs to decide whether to accept or reject the market. Market selection has been gaining much attention from the export writers because this decision impacts further actions. In some cases, companies are beginning their selection with neighbouring countries because of the physical and geographical closeness. (Kontinen & Ojala, 2012)

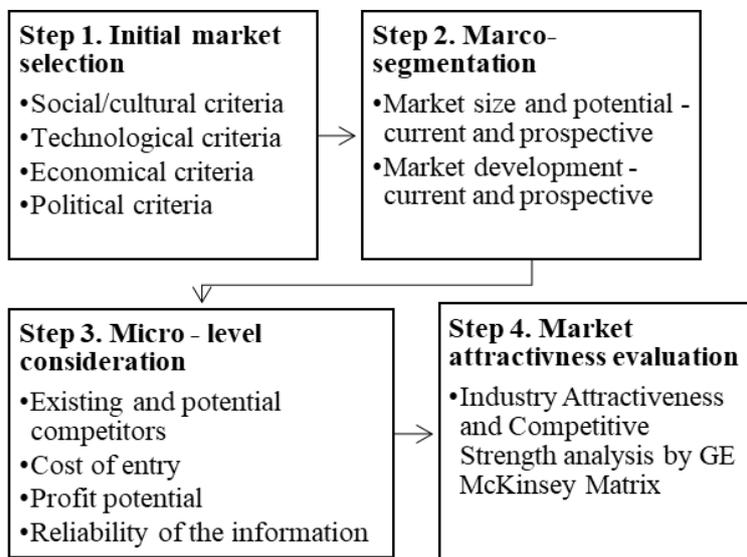


Figure 2. Systematic approach to market selection

Source: Compiled by the author based on Urbonas (2003), Kontinen & Ojala (2012), Miečinskienė *et al.* (2014) and Gaston-Breton & Martín (2011)

Apart from reactive or neighbour, the selection can be done systematically. (see Figure 2) The systematic or analytical approach is a thorough process, which requires a lot of secondary or primary data and resources. Different methods with different stages are suggested, so the relevant literature is not congeneric (Kogan *et al.* 2017). Based on the opinions of various authors a collective step-by-step instruction on how to select a market for exporting was drawn up. Summarised instruction of a systematic approach to market selection is based on Kontinen & Ojala, Miečinskienė *et al.* and Gaston-Breton & Martín. (see Appendix 1) After all 4 steps are done the final decision will take place. The company would need to select the country or group of

countries where to export. The next decision is whether to concentrate on one or a few markets or export to many markets.

### **1.2.1. Export market choice: market concentration or market spreading**

Every export manager needs to be aware of the options. Such choices are not normally given, they need to be searched and measured. In addition, it is very important to link the choice to a particular case or circumstances, rather than follow the example of other companies. (Piercy, 2014) Market concentration is the “purposeful selection of relatively few markets for more intensive development” (ITI Research, 1979). The essence of this strategy is to concentrate the resources on a smaller number of markets and to make detailed research on market attractiveness and potential (OECD, 2018). The number of country markets depends on product characteristics and company resources, but the classic study suggests from 5 to 12 markets (Katsikea *et al.* 2005). The strengths of market concentration include the specialisation of a chosen market, scale economies, and growth by market penetration. It may enhance profitability by reducing the costs and need for advertising and promotion from zero. (Cooper & Nakanishi, 2010) (see Appendix 2)

Market spreading is an alternative to market concentration for exporters, which is selling to many export markets and taking small market shares in order to gain higher profitability (Piercy, 2014). Market spreading does not necessarily mean that product or service would be equally aggressively marketed in many markets. Markets are not always chosen purposely. On the contrary, selection can be the result of a natural marketing process. The marketing approach can differ for different markets, and it is also not divided between the markets equally. (Trabold, 1995) The number of country markets depends on product characteristics and company resources, but the classic study describes it starting from 12 markets. (Katsikea *et al.* 2005) (see Appendix 2) The choice of market strategy depends on a lot of factors and circumstances, but the main factors fall into four categories: product characteristics, company characteristics, market conditions and costs. (see Appendix 3)

### **1.2.2 International market entry mode**

Market entry mode is the way how a company can expand its business into a non-domestic market (Osland *et al.* 2001). Export is one of the methods used to enter the international market. It is important to understand how export differs from alternative entry methods. The choice of entry mood is affected by business-specific, product, environment and company's strategy. The literature describes a wide range of entry modes suitable for different types of companies that can be

considered. The entry modes may be arranged along four dimensions: control, resource commitment, flexibility, and risk. (see Figure 3) All of those dimensions are interrelated. (Cavusgil *et al.* 2008)

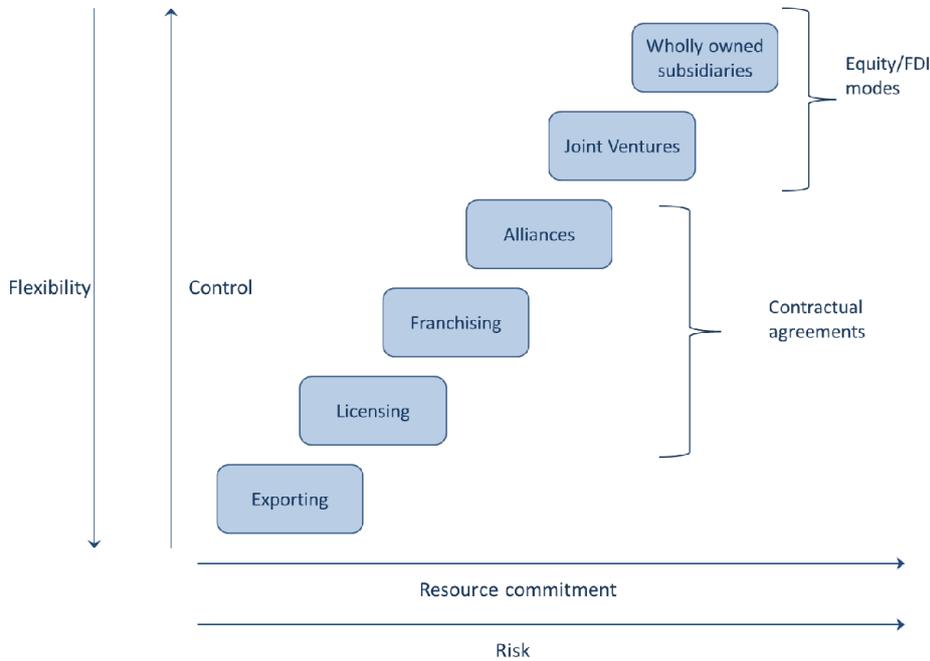


Figure 3. Arrangement of entry modes  
Source: Cavusgil *et al.* (2008)

Most companies start their international experience with three broad options of exporting: direct, indirect or cooperative. Exporting is the most suitable approach for fresh exporters and small companies, as it is characterised by flexibility, low risks and minimal resource commitments. Direct exporting means that the manufacturer sells to a customer without intermediaries at all or with intermediaries located in the foreign market. The main advantage is greater control over the process, creation of closer relationships with customers and potential for higher profits. Indirect exporting is accomplished by involving the intermediaries such as export merchants, agents, e-commerce platforms, export management companies or government agencies located in a home market. Cooperative exporting such as the piggyback approach is the perfect solution for small and medium enterprises. Cooperative exporting means that companies are sharing distribution networks, but still have control over their exporting operations. (Kotabe & Helsen, 2010)

Licensing is an alternative market entry method characterised by relatively low risks and resources involved. Licensing is a contractual transaction between the company – licensor and foreign

company – licensee to use its assets such as trademark, patents, copyrights, technology, know-how, production process or other specific skills (Cavusgil *et al.* 2008). The benefits that licensors are getting by this agreement are the royalty, fees or other forms of compensation paid by a foreign company. Franchising is another type of contractual arrangement, where the company – franchisor allows foreign company - franchisee to use its trade names, trademarks or entire business system (Kotabe & Helsen, 2010). It is profitable for the franchisor as it is exchanged for fees, royalties or other forms of compensation. Franchising allows a company to enter a new market with relatively medium resource allocation. Moreover, political risks for the rights-owner are also relatively small. Alliances mean an agreement between the exporting company and foreign company to cooperate in R&D, manufacturing, design, or any other value-adding activities (Pan & Tse, 2000). It is considered a non-equity based collaboration.

Joint ventures are a form of collaboration that can be summarised as synergy. Joint ventures mean that companies are creating a jointly owned entity by investing in equity (Osland *et al.* 2001). It is a common entry method for multinational corporations. The biggest advantage is the expertise provided by the local partner including network and regulatory compliance, the biggest shortcoming is the lack of full control. Another entering option for multinational companies is wholly-owned subsidiaries. Wholly owned subsidiaries can occur in two ways: acquisitions or buying an existing foreign company and greenfield operations or creating the venture from zero (Cavusgil *et al.* 2008). Fully owned enterprises mean that all the profit and control is going to one company. However, the risk and resource obligations will also belong to the same company. Wholly owned subsidiaries as well as joint ventures involve the establishment of physical presence and equity investments and are so-called foreign direct investment (FDI) modes.

### **1.2.3 International market exit barriers**

Market exit is a strategic decision to withdraw market (Karakaya, 2000). Companies should keep in mind exit barriers when entering international markets because exporting activities are followed by risks and obstacles. There are different barriers possible to appear following the market entry and exit. Entry barriers needed to be explored in advance by the SWOT and STEP analysis discussed above. However, exit barriers are also needed to be taken into account. The most common reasons for market exit are the following: sustained losses; the difficulty of cracking the market; volatility; premature entry; ethical reasons; intense rivalry and resource reallocation. (see Appendix 4)

There are entering and exiting barriers that may delay and complicate the entering or exiting processes. However, ignoring the existence of exiting barriers may have more strong consequences. Exiting a country is often very costly because it is followed by substantial fixed costs. If the existing circumstances include a reduction of workers, then it can also deteriorate the corporate image or damage a reputation, because that news always has a negative connotation. Moreover, the disposition of specialized or fixed to location assets may create difficulties for exiting and additionally the liquidation value of such assets can be low. Therefore, an exit from one country's market may create a signal to other markets about the company's commitments, which may lead to resource and customer losses. Sometimes exiting decision is made too early and the company can lose long-term opportunities.

### **1.3. Creating competitive advantages**

Competition is a collation by the buyer between the options of the products or services that meet the customer's needs. There is no sense in exporting if your company or product have no competitive advantages. Many important frameworks can be used to detect and develop competitive advantages starting with Porter's concept to the resource-based view (RBV). Author has chosen the RBV as it helps to understand the real drivers of the performance.

Most of the classic studies are paying attention to a resource-based view as the dominant strategy paradigm (Barney, 1991). This approach is focused on a company's internal skills, resources and capabilities as a starting point of strategy development. After defining the company's unique skills, affordable resources and internal capabilities, the best suitable product market can be determined. (Knudsen & Madsen, 2002) It is said, that the management of a firm has a twice greater impact on company performance than the industry in which it resides (Mackey, 2008). That confirms, that the decisions made by managers as well as the people working in the company matter.

Resources are the inputs that can be thought of as a strength or a weakness and are used to create goods or services. According to Barney, (1991) company's resources include assets, capabilities, organisational processes, firm attributes, information, and knowledge. Resources can be classified as tangible or intangible as well as physical, human or organisational. RBV assumes that the resources must be heterogeneous for example people are not interchangeable and immovable for example corporate culture is not movable. According to Jay Barney resources should be Valuable,

Rare, Imperfectly Imitable and Organised to capture value in order to deliver long term competitive advantages. (see Figure 4)

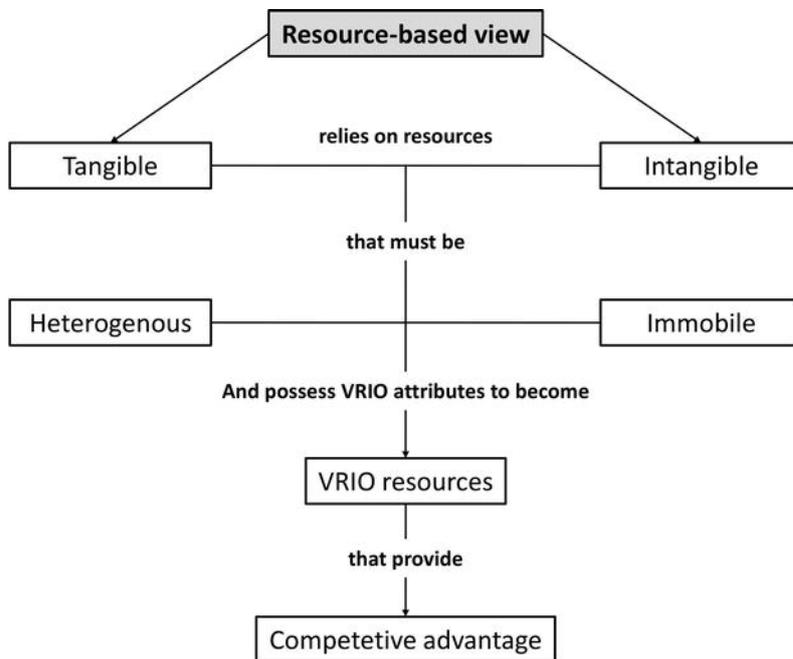


Figure 4. Resource-Based View  
Source: Smętek *et al.* (2019)

In order to transform company resources into a sustained competitive advantage resources must have four requirements summarised by the VRIO framework. (see Figure 5) VRIO framework is highlighting the most important factors to create and maintain sustainable competitive advantages.

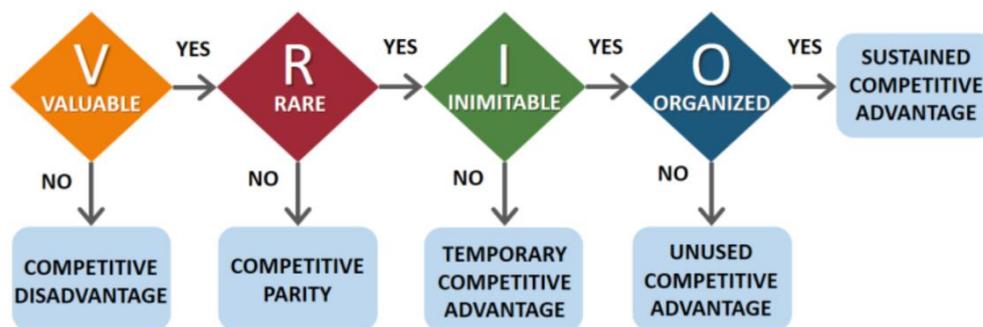


Figure 5. VRIO framework  
Source: Bruin (2016)

Resources are valuable if they enable a company to implement strategies that improve its efficiency and effectiveness by exposing opportunities or mitigating threats. Valuable resources

are leading to an increase in revenue or decrease in costs. The resources that cannot meet these conditions are resulting in a competitive disadvantage. Resources that can only be acquired by one or a few companies are rare. If a certain resource is possessed by a large number of industries, then it leads to competitive parity. Valuable and rare resources can be considered a temporary competitive advantage. Competitors can imitate this resource through duplication or substitution. That is why resources should be inimitable and nonsubstitutable. Even if the company has valuable, rare and inimitable resources it would not automatically lead to sustained competitive advantage. To fully realise this potential company need to be organised to capture the value from them. If only the company is capable to exploit its sustained competitive advantage can be achieved. (Dhanaraj & Beamish, 2003) That analysis is needed to be done to understand where internal strength is coming from and what needs to be optimised to use resources more effectively.

### 1.3.1. Analysing the value created by a company

There is another approach that is supporting identifying the company's competitive advantages and growth strategy. There are three core concepts to cut across these frameworks that are formulated into a free circle model: customers, company and competitors. (see Figure 6)

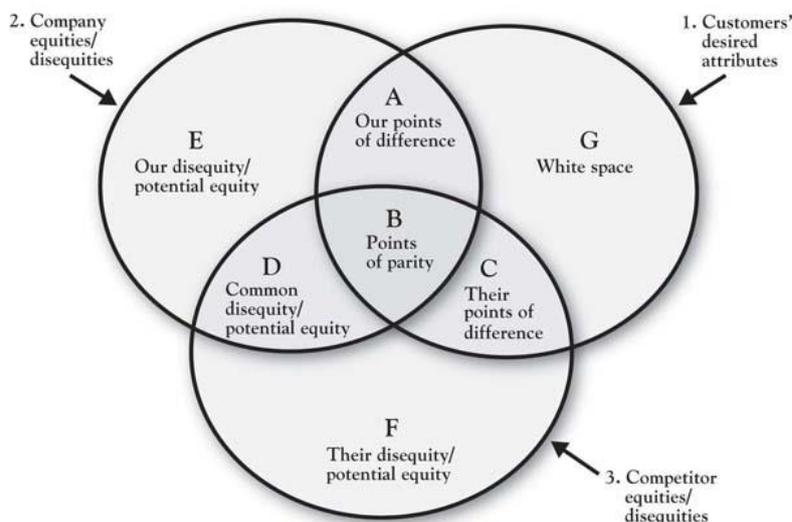


Figure 6. Three circles analysis  
Source: Urbany, Davis (2012)

The three-circle model provides a method of explicitly identifying the customer value in a market and how a company can break it down and improve a firm's competitive position and profit potential. (Urbany & Davis, 2010) This framework is helping to understand the value or potential

value a company creates. Price does not need to be used in this analysis as one of the values because the price is a consequence of the value you create. A customer circle answers a question – What value does the customer seek? This circle contains the value sought by the customers including the requirements for product and service, and the benefits sought. Company circle answers a question – What value does the customer perceive in the company's offer? The competitor circle answers a question – What value does the customer perceive in competitors' offerings? This circle contains a comprehensive list of values offered by competitors. It is important to consider the real competitor who provides an alternative to the customers.

Three overlapping circles create seven sections. Area A is a pure definition of a current competitive advantage. It is a unique created value that matters to customers and is untouched by competitors. The core question in creating a competitive strategy is to identify what is company's “area A” is. A company needs to develop and defend this area. Area B identifies the common values offered by both company and competitors. Area C shows what a competitor is offering to a customer and what company is not. Area C needs to be analyzed in order to make a strategic decision on whether the company is going to start offering the same values. Area E shows the value we are offering which is still untouched by the customers. It is important to understand whether values in E area are unrecognised or unwanted because it would reflect on future strategies (Urbany & Davis, 2010). Areas E, D or F indicate values that are unwanted or unrecognised by the customer. Area G represents unmet needs that matter to customers. Values from that area can be indicated as a potential growth opportunity.

### **1.3.2. Price competition**

Price competition means that a company is regularly offering their products or services lower than competitors (Ghani, 2010). Price in the competition should never be ignored. However, being competitive is not just a question of being cheaper, it includes different other factors connected with the product, services and marketing intangibles. Price adjustments are bringing a short-run increase in exports, while other non-price factors are important in a long run (Piercy, 2014). Most companies are deciding on price in reaction to change rather than in anticipation of it. The biggest outcome is a need for constant market control to ensure readiness for rapid price adaptation. Due to the information revolution, this process became easier and more accurate. At the same time, information is more affordable both for exporters and customers which leads to price transparency. Pricing is a process of finding the balance between the customer's satisfaction and the company's needs to cover the costs and earn a profit (Kotler *et al.* 2004).

There are three groups of factors that can influence pricing: internal, external and market factors (Li & Ferreira, 2008). Internal factors include production costs, marketing costs, profitability, transport costs and customs duty. External factors are exchange rate, inflation, price control and other regulations. Regular control and evaluation of external factors are important in export pricing decision-making. An understanding of the international market environment helps a company to be more effective by setting prices and being competitive. Market factors include competitors and purchasing power.

The choice of pricing strategy depends primarily on the market situation, product quality, and product life cycle phase (Udokporo, 2021). Companies can adopt different pricing approaches. In practice, companies do not usually use a single strategy, but they use a balanced approach. Three main pricing methods can be distinguished: cost-based pricing, customer-based pricing and market-based pricing approach. (see Appendix 5)

### **1.3.3. Non-price competition**

The company is not competing on a single factor like price or quality, but the total package offered to the buyer matters. Non-price competition means that a company instead of lowering the price will focus on promotion and highlighting the distinctive benefits of the product or service (Ghani, 2010). Non-price de-emphasizes price by developing a unique product, service and marketing support.

It is important to understand that companies are not just selling generic products, but other product factors like quality, design, packaging and others. The usage of those factors defines whether we are selling the expected or augmented product. The expected product covers the customer's minimum purchase conditions. An augmented product means the expectation was exceeded (Levitt, 2010). Distinguishing the product is a concept of competitive differentiation. The potential gains from improving quality are sustainable and last for a longer time than price adjustments. The role of service in competition cannot be underestimated. Commercial services like physical distribution are providing a significant degree of competitive strength. Especially when customers experience the following: speed in order processing; ability to deliver on time; the policy on returned goods; the chargers for service; the ability to meet “emergency” orders. Financial services may be described as an opportunity to offer a credit or loan and provide flexible financial conditions. Product support services include pre-purchase advice, education and various types of

after-sales services. Marketing intangibles are providing the hidden values that are created by advertising, social marketing and branding. (Piercy, 2014)

Non-price competition strength is the support in gaining export market shares and building buyer loyalty. This strategy allows for improving profitability as there is not the same pressure in maintaining low prices and responding to price competition. The idea behind brand loyalty is that if the product matches the customer requirements with several factors then it would be harder to break it for competitors.

#### **1.4. Developing an effective communication strategy**

The main objective of marketing communication is to increase sales and improve customer relations through the use of promotion tools. (Kotler & Keller, 2012) The same goals are fulfilled when using export marketing communications tools. Export marketing implies acting beyond the national boundaries. Marketing actions need to be accomplished within a specific target audience at a specific time with a specific goal. Marketing communications is defined as a tool to inform, persuade or remind the customers about the company and products provided. (Kotler *et al.* 2004)

As a base for export marketing communication strategy, Kotler's marketing strategy is taken. Marketing communication starts with the target audience identification. (see Figure 7) This decision influences the following steps, as the approach to communication depends on the audience. Once the target audience is defined, the communication objectives need to be settled. The highest objective is to sell a product - purchase. However, purchasing is a result of a long consumer decision making process. According to Kotler, the buyer need to pass six stages before making the purchase. Customers may be unaware of a product or know inefficiently little, so the customer needs to pass the stages of Awareness and Knowledge. In this case, the communication objectives would correspond. Communication would be aimed at introducing the company and product and informing about innovative features. The next step is to generate favourable feelings and thereafter build consumer preference. That is how the customer is moving from the Linking stage of buyer-readiness to the Preference stage. The last stage before the Purchase is Conviction. Customers may prefer the product, but it does not mean that they would buy it. For the purpose of conviction, direct marketing tools or personal selling may be used. The decision to enter the final step can be supported by special promotional tools. (Kotler *et al.* 2004)

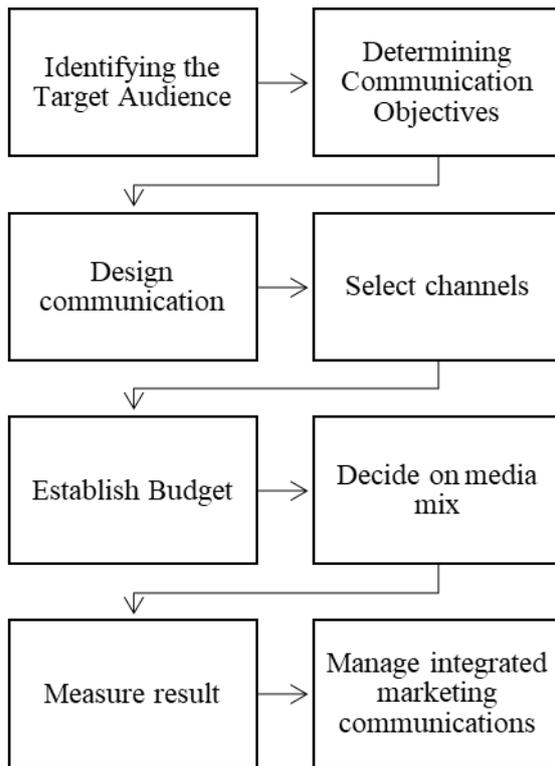


Figure 7. Steps in developing effective communications  
 Source: compiled by the author based on Kotler *et al.* (2004)

Having defined the communication objectives, the exporter needs to design a message. In some studies, the AIDA model is recommended. (Hassan *et al.* 2015) According to Lewis, a message needs to get Attention, hold Interest arouse Desire and obtain Action. Besides content, the message needs to support the company's brand by its format. (Morgan *et al.* 2012) The choice of the colours, illustration, message size, and shape needs to be done following the company's brand book. Communication needs to be formatted in a way that the company behind the message is recognised. It is also important to note, that illustrations to the communication messages are playing a great role in creating and building the understanding of the product and increasing the reliability of a company (Kumar *et al.* 2018). Export marketing helps to built a name and goodwill to the export company. At the same time it is building the reputation to the original country of the company.

There are two types of communication channels: personal and non-personal. Personal communication means that at least two people are interacting via email, social media phone or face-to-face. Personal communication is more effective than mass communication. However, non-personal channels such as mass communication can stimulate the following personal interaction.

Non-personal channels include media, mass advertising, sales promotions, events and public relations. (Shrivastava & Dawle, 2020) A company needs to use all free communication channels such as its own website, email marketing, social media and others depending on the company's field. Setting the total promotional budget can be done differently. The objective-and-task method is suitable for exporting because the budget would be defined by the tasks that must be performed on a selected market. At the same time, it means that budgeting will not be the same for all the exporting markets.

The next step is setting the coordinated promotion mix. Different tools can be combined to support each other performance and export activities. Advertising is a popular tool that can reach different geographical dispersed buyers. Advertising can be used to build up long term image and to stimulate quick sales by adding sales promotions, but still, it is considered one-way communication. Public relations can help reach those customers who avoid advertisements since the potential customer gets the message as news or story rather than a direct sales communication. Sponsorship, partnership and events are also credible tools of PR. Direct marketing is a suitable tool to reach the targeted marketing efforts by email, phone or social media (for example LinkedIn). Social media marketing is a digital tool, which enables to reach any target group in any country with relatively small efforts. Website combines different opportunities for all marketing purposes covering all buyer readiness stages starting from awareness and finishing with purchase. Website is a constantly developing tool including unique supportive functions like chatbots, tracking of customer activity, subscription, downloadable material and many other options. Website is a vital tool for exporting as it serves as visiting card for your potential buyers. Personal selling is the most effective tool at the later stages of the buying process, especially in exports. It can be used during trade fairs and exhibitions in foreign markets, which is also a highly recommended tool in export marketing. Events and experiences help to build direct contacts with customers, and partners and expand the network. Personal selling can be also done by sales representatives or agents at selected markets. (Kotler & Keller, 2012) After implementing the plan communication result need to be measured. The behavioural measures of audience response need to be collected and analysed. That can be done by a feedback survey, especially in foreign markets.

For exporting activities the implementation of integrated marketing communication (IMC) can be a great solution. It allows the creation of a multi-pronged marketing campaign that targets wider audiences. The idea of IMS is to link and integrated all communications to ensure that customer gets the “message”. (Schultz *et al.* 2014)

## 1.5. Summary of the analytical framework

An export strategy is the sequence of decisions that guide the exporting activities in a company. Several decisions need to be taken before exporting to ensure successful performance and efficiency of resources used. Author summarised information discussed in the theoretical part into the framework. ( see Appendix 6)

Table 1. Summary of the theoretical framework

<b>Export strategy development process</b>	<b>Suggested approach</b>	<b>Result</b>
Strategy formulation	SWOT + SFAS+TOWS	The base of the export strategy (company strategy) is defined.
Market selection	4 Steps approach: initial market selection; macro-segmentation; micro-level consideration; market attractiveness evaluation	Strategic approach to the market selection process. Market selection is done by using step by step winnow.
		Market concentration or market spreading strategy is selected.
		Market entry mode selected
		Market exit barriers defined
Creating competitive advantages	Resource-based view + VRIO framework	Company's internal resources and capabilities are defined. A base for competitive advantage is created.
	Three-circle model	Value created by a company is analysed
		Pricing strategy decided
		Non-price factors are detected
Developing an effective communication strategy	8 Steps approach: identifying the target audience; determining communication objectives; designing communication; selecting channels; establishing budget; deciding on media mix; measuring result; managing IMC	Communication strategy is selected, and communication process is defined

Source: compiled by the author based on the theory part

Strategy formulation starts with internal and external analysis of the company's strengths, weaknesses, opportunities and threats. The first step aims to define the initial strategy of the company as a base for a following export strategy. (see Table 1) The second step is a market

selection decision which can be made by a 4 steps approach defined by the author in a previous chapter. The four-step approach starts with the selection of the initial market using the STEP model. Next step is a macro-segmentation on a country level covering the geographic, demographic, and socioeconomic variables. This step aims to measure the market size and development as well as current and prospective market potential, market demand and requirements for exporting companies. After this, the competition, cost of entry & exit and potential profit need to be defined. Last step of this selection process is a market attractiveness evaluation, which can be done by GE-McKinsey Matrix. As soon as the market or group of markets is selected, the company needs to decide whether to concentrate on a single or few markets or spread over a large number of markets. Thereafter, the market entry strategy and exit barriers need to be analysed.

The next task is to define company's competitive advantages and positioning in a market. Sustainable competitive advantages can be formulated by a resource-based view and VRIO framework. To analyse a value created by a company the three-circle model can be applied. The three-circle model provides a method of explicitly identifying the customer value in a market, and how a company can break it down and improve a firm's competitive position and profit potential. In addition to this, the company needs to decide how to compete on a price and non-price bases. Companies can adopt different pricing approaches and use different non-price strategies. In practice, companies do not usually use a single strategy, but instead, they use a balanced approach. Last, but not least, is a decision on communication strategy. According to Kotler, communication strategy development can be done in 8 steps. Marketing actions need to be accomplished within a specific target audience at a specific time with a specific goal. Marketing communications is a tool to inform, persuade, or remind the customers about the company and products provided.

An export strategy is the first thing company needs to develop when going in an international direction. During the export strategy development, the most important decisions will be made. This is the possibility of gathering and analysing different information that will be used for export plan. The next step is writing an export plan, which is a business plan that focuses on international markets.

## **2. RESEARCH METHODOLOGY**

This chapter describes the research methodology and research object. First of all, author describes the choice of research method and the approach to analysing the collected qualitative data. Second, the author is describing the research object or shore power solutions and why it is becoming the preferred method of maritime electrification.

### **2.1. Research methodology**

Qualitative research methods were applied to answer the research question. Qualitative research is usually used when the goal of the research is to understand the phenomenon with a focus on quality, not quantity (Annan, 2019). Aiming to collect the primary data for qualitative research author conducted an expert interview. The expert interview serves the purpose of obtaining reliable information from experts who are very well-versed in the field relevant to the research issues. Structured interview methods were chosen to collect qualitative data. A structured interview is an appropriate approach when the aim is to get different opinions and feedback from different responders on the same topic or theme (Saunders *et al.* 2019).

The author conducted six structured interviews with port representatives in Europe and the US to get an overview of the markets and customer needs. The interview with ports aimed to find out what guides the ports in choosing the partners (technology providers), as well as what qualifications the company should have to participate in the procurement. In addition, to interviews with ports, author conducted two structured interviews with sales managers in companies providing specialized solutions in the shore power business, mostly to find out what export strategy the company uses for a particular country and how the market choice is made.

Two different questionnaires were designed in order to show the perspective of the customer and supplier. That helps to understand the theme from two different views. The first one was done for port representatives (end customers). (see Appendix 7) The second one was designed for sales managers of two companies (solution suppliers). (see Appendix 8) Ports were chosen according to

their involvement in shore power projects. Most of the ports have already had shore power installations and two-ports are planning to connect vessels to the electricity supply. Usually, the shore power projects are handled by technical managers, sustainability managers or infrastructure managers, so they formed the targeted group for research. Shore power system suppliers were chosen according to their experience and exporting activities. One of the companies is focused on a cable management system, and another on a shoreside substation. (see Figure 8) Both companies have started from the domestic markets and are now exporting to other markets. Interview with suppliers aims to understand the specifics of shore power business and to get their view on export strategy development process. Interviews were conducted in a written form as this was the preferable way for most of the responders.

Aiming to find relevant experts author examined the shore power market overview to identify ports that have experience with shore power installation or intention to install one. Moreover, the shore power market study helped to find out suppliers of different parts of shore power systems. The information provided by Power Technology Research consulting company were used. After the targeted experts were defined, author has tried to approach decision-makers in ports and companies by sending information to contacts from web pages and on LinkedIn. Author has reached the decision-makers and has sent them the questionnaire. The answers were collected within 3 weeks starting from the 1 of March.

The data collected through structured interviews was handled by thematic analysis. Thematic analysis helps to identify, analyze, and interpret patterns of meaning or themes within data. This method provides a systematic approach for generating codes from qualitative data. Thematic analysis is considered to be a flexible and accessible approach in terms of research questions, and quantity of data. (Clarke & Braun, 2017) As the structured interviews were done in written form no transcription was needed. The initial structure of the interviews allows an author to compare answers from different responders for the same questions. The main outcomes of the interviews were coded and summarized into themes. These themes help to understand the content and derive meaning from it. As the author already knew what themes are important for the analysis, then the deductive or concept-driven coding approach was used.

## 2.2. Description of the research object

This chapter will give an insight into the shore power business including the existing regulation and funding agencies. The second part of the chapter is focused on the description of the research object or shoreside shore power exporters.

### 2.2.1 Description of the specifics of the shore power business

Shipping is having a huge effect on global trade as 80% of the cargo volume goes through port gateways. (Qi *et al.* 2020) Growth is experienced not only in cargo transportation but also in transporting passengers. Thus, cruising recently became a very popular activity (Pallis, 2015). Rapid growth in interests goes along with increasing amounts of emissions and pollution. Ships are polluting when their diesel auxiliary engines are working. However, if we switch off the engines we can still power the ship with electricity to ensure its smooth work.

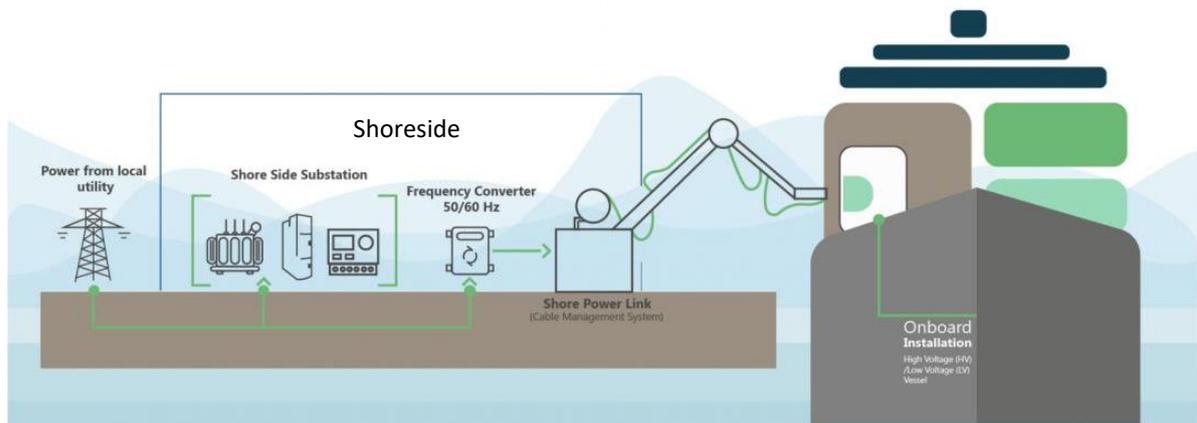


Figure 8. Shore power system  
Source: Power Technology Research (2021)

One of the alternatives for auxiliary engines is to use shore power solutions when berthing. (see Figure 8) During the port stay, onboard electricity is used for hoteling, loading and unloading. That means ships can be connected to shore power, which would reduce a huge level of pollution by greenhouse gasses, sulfur dioxide, nitrogen oxides and noise. These kinds of emissions are harmful both to the environment by contributing to climate change and to people by provoking serious health problems. (Merk, O., 2014)

Shore power, also known as “Cold ironing”, “Onshore Power Supply (OPS)” and “Alternative Marine Power (AMP)” transports electric power from the local grid to the vessels. Shore power

systems can be split into two parts: installation on shore and onboard. The shore part includes a substation, which distributes the electrical power received from the local grid; a frequency converter, which converts 50 Hz to 60 Hz; and a cable management system, which delivers electricity from the shore to the vessel. The onboard part comprises switchgear, transformer and connection point, which adjust the incoming voltage for the vessel's needs. (Baig & Tariq, 2021)

Starting from 2012 the shore power infrastructure has been regulated by an international standard IEC/ISO/IEEE 80005 -1. Three international standard organizations agreed to clear shore power adopting processes. The standard is regulating both high (IEC / ISO / IEEE 80005-1, HVSC) and low voltage (IEC / ISO / IEEE 80005-3, LVSC) system installations, communications protocol (IEC / ISO / IEEE 80005-2), as well as plugs and socket-outlets (IEC 62 613, Plugs & Sockets Outlets). (Nguyen *et al.* 2021)

Air emissions are strictly regulated in the shipping industry. IMO Marpol Annex 6, which is in force since 2005, regulates air pollutants from diesel engines such as nitrogen, sulfur oxides and carbon dioxide. Marpol Annex 6 was ratified by 75 countries. (Čampara *et al.* 2018) To prove compliance with the regulations, an International Air Pollution Prevention certificate was initiated. In some countries and regions, the government has put in place local regulations. (see Appendix 9) Namely European countries have adopted EU Directive 2014/94/EU, which requires ports to deploy the shore power infrastructure on a priority basis in ports in the Trans - European Transport Network CORE (TEN - T) and other ports by 31 December 2025, if it is feasible for the port. Moreover, EU Commission presented the Fit for 55 climate package, which aims to achieve 55 per cent of carbon dioxide emissions reduction by 2030 compared to 1990 levels. (European Commission, 2014) Since 2014 The California Air Resources Board (CARB) has adopted a regulation to reduce hotelling emissions from diesel engines by 50% for the container, cruise, and refrigerated cargo vessels. In 2017 the percentage increased to 70% and in 2020 reached 80%. The regulation was extended to roll-on/roll-off vehicle carriers and tanker vessels in 2020. (The Port of Los Angeles, 2021)

Even though shore power technology has existed for more than 10 years, it is still not widely used. Some obstacles are hard to overcome. (see Appendix 10) The main one is the cost of infrastructure and equipment. However, there are different opportunities if getting the financial support, which comes from governments, investors and in Europe from European funding entities. The United States has also proposed supporting policies for shore power deployment. (see Appendix 11)

Generally, most of the port and ship operators are considering the shore power as a no-regrets move, notwithstanding that not all of them are ready to face the complexity and necessity of negotiations with various actors. (Bullock, 2020)

### 2.2.2 Description of the specifics of shore power suppliers' business

In most cases, the shore power system is not supplied by one company. As it was seen from the previous drawing, whole solutions can be divided into several parts. This means that different parts of the whole system are provided by different suppliers. (Qi *et al.* 2020) There are four options for the procurement process, depending on the port ownership and decision. For the privately-owned ports, there are two options: ports directly purchase different parts of the solutions from different suppliers or ports choose the electrical integrator, who in turn decides about other subsuppliers.

In the case of the state ports, everything needs to be done via tendering systems. However, the idea remains the same. Port can publish the tender separately for different suppliers or can publish the tender to purchase turn-key solutions. In the second case, the main supplier will be the electrical integrator, who will choose the subsuppliers by themselves. In most cases, electrical integrators are the companies that provide the shoreside substations and frequency converters. (see Figure 9)



Figure 9. Shoreside substations

Source: Eason (2018)

This means, that they are choosing between different cable management system suppliers to participate in turn-key tenders. (see Figure 10)

For cable management system suppliers electrical integrators are the middle customers, but the main and end customer is the port (Ballini *et al.* 2022). A frequency converter is a small part of the shoreside solutions and can be provided by different suppliers. It can also be placed on a ship side. Onboard installations are handled separately by other suppliers and in this case, the customer is the shipowner.



Figure 10. Cable Management System  
Source: Haas (2020)

This study is only focusing on shoreside shore power suppliers of shoreside substations and cable management systems. Author conducted an interview with both shoreside substations and with cable management systems providers to get the answers to the questions from both shoreside players. This will also help to investigate whether the exporting strategy development process will differ and how.

### **3. FINDINGS OF THE EMPIRICAL STUDY**

The third chapter of the master's thesis provides an overview of the results of the theoretical and practical parts. This chapter starts with the analysis of interviews, which were conducted with different ports and shore power shoreside system suppliers. The interview analysis aims to find the answer to the research question. The results of the interviews are presented in coded form, Port A, Port B, Supplier X, etc. Coded answers of end customers can be found in the table view. (see Appendix 12) The author also summarised the codes of answers of supplier X and supplier Y into themes. (see Appendix 13) Supplier X is the cable management system provider and the Supplier Y is a shoreside substation provider. All eight answers to interview questions were received by e-mail. The names of the interviewees or companies are not mentioned in the anonymity statement. The second part consists of a discussion of the theoretical and practical parts including the implications for the shore power supplier and suggestions for future studies.

#### **3.1. Results of interview analysis**

First of all interviews with ports and solution suppliers helped to understand the specifics of the shore power business and the purchasing process. Several companies provide different parts of the whole shore power system. For some companies, export is the main source of business, as the domestic market is very small. In order to participate in a procurement process, they need to fulfil the given requirements to proceed with the tendering. Most of the ports, especially big ones are state-owned companies, which is why they must organize the public tender. Privately owned ports select the suppliers directly. For the suppliers, this means that they need to follow a tendering system, as most of the projects are published there, but at the same time suppliers need to approach private ports directly to be aware of projects there.

For EU ports the decision on whether to install shore power solutions in most cases comes from the Fit for 55 packages and the European Union Directive. Decision-maker from the Port D commented: „Environmental regulations related to air quality are becoming more and more demanding and will require the implementation of shore power solutions by 2030 (Fit for 55

packages).“ For US ports, the reason for installation is mostly the port's internal initiative and sustainable strategy. (see Table 2) At the same time, this means that the demand for shore power solutions for cruise and container vessels will be actual in Europe for at least 8 years more.

Table 2. Summary of answers of end customers

<b>Themes/Answers</b>	<b>Summary of end customers answers</b>
<b>Decision reason</b>	<ul style="list-style-type: none"> <li>• Fit for 55 package</li> <li>• EU Directive</li> <li>• Port internal green strategy</li> </ul>
<b>Purchasing process</b>	<ul style="list-style-type: none"> <li>• Tender</li> <li>• Direct purchase</li> </ul>
<b>Requirements for supplier</b>	<ul style="list-style-type: none"> <li>• Suitable solution</li> <li>• Price</li> <li>• Experience</li> </ul>
<b>Price competition</b>	Price is the main criterion, after comes the technical value
<b>Reliability indicators</b>	<ul style="list-style-type: none"> <li>• References (verified experiences)</li> <li>• Financial capacity</li> </ul>
<b>Awareness of supplier</b>	<p>Awareness of suppliers is important, especially at the procurement level.</p> <p>Suppliers can be found in conferences seminars and exhibitions. It can be suppliers' proactive marketing.</p>
<b>Non-price competition</b>	<ul style="list-style-type: none"> <li>• Fast, reliable, quick reactions are important</li> <li>• Keeping deadlines</li> <li>• After service and training are important</li> <li>• Local presence while procurement and general construction phase (at least partners)</li> </ul>
<b>Neighbour experience</b>	It is helpful to learn different cases, but it does not affect the choice of supplier.
<b>Requirements for foreign companies</b>	<ul style="list-style-type: none"> <li>• Local presence or representation is required.</li> <li>• Opportunity to speak the local language.</li> <li>• Knowing the local standards and regulations.</li> </ul>

Source: compiled by the author based on answers from end customers

Interviews with ports helped to specify the most important requirements for the shore power solutions suppliers. All of the responders made an accent on price as the main criterion. Another

factor is the technical value which includes suitable technical solutions and references or verified installations.

A suitable technical solution means that shore power equipment is adjusted to project-specific requirements. Moreover, solutions need to be maintainable and reliable. Additionally, the solution should be easy to operate. References are playing a vital role because customers need to be aware of the company's expertise. Reputation is strengthened when the company can prove the experience or show the verified installation. Experience is one of the eight key success factors according to the end customers and solution suppliers. (see Figure 11) These factors can be taken into consideration to identify the competitive advantages.

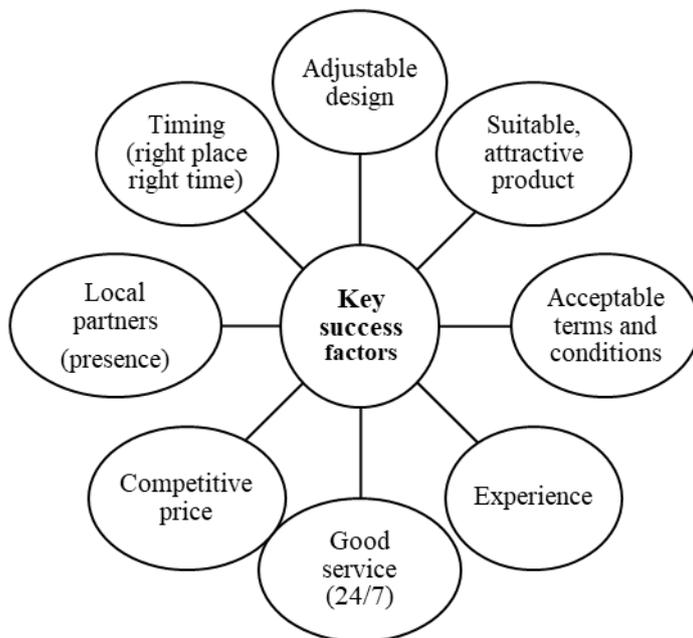


Figure 11. Key success factors for shore power suppliers  
Source: compiled by the author based on answers from end customers and suppliers

According to the suppliers, price is a very important factor. „Price would usually have at least 50% weight for the tender decision," said Supplier Y. (see Appendix 13) The main competitive strategy is the price competition. Supplier X added, “Our main advantage is in my opinion that we are competitive on price.” However, they also put a big effort to compete on non-price bases. In addition to this, there need to be acceptable terms and conditions including payment, warranty and delivery terms.

The choice of a good local partner is an extremely important step. Local presence allows physical interaction and improves customer service. Port B commented: „Local presence weighs positively in the procurement process or at least local partner.“ Port F also added that for the general construction phase, which can be sometimes a part of the scope, a local team member is preferred, as knowledge of local conditions and language is always useful. Moreover, some of the ports request the usage of the local language in response to the call for tenders and during the process.

As it was mentioned in a beginning, some countries are regulating and speeding the process of maritime electrification to ensure the reduction of carbon dioxide emissions. This is why it is very important to track the regulations and appear on the right market, with the right solution at the right time. It is also very beneficial to approach the ports at the design phase and support the design team by suggesting a technical solution. In some cases, the suggested solution can be taken as a reference for the tender documents. The company is increasing its chances to become a selected supplier by providing suitable technical solutions.

It was also mentioned, that suppliers need to be flexible when it comes to modifying designs or developing the new system according to the customer's demand. Supplier Y said: „Even though the equipment is more or less standard all the time, there are still market-driven modifications we need to implement or surpass here and there.“ The product also needs to be attractive to the customer design-wise. Even though those solutions are usually placed inside the port area they still need to look well.

„Service is a very important part of any supply, that is going to be the difference between a good supplier and the best one,“ stated port E. Good service is a combination of different factors including fast reaction, reliable answers, regular support, timely delivery and personal attitude toward the successful completion. Supplier X added: “Important is also to take care of our customers at any time any day year-round with a 24/7/365 service available.”

In addition to the key success factors mentioned before, it is important to consider the special requirements for foreign companies. Decision-maker from Port B commented: „In many cases, for tender above a certain amount, they would need a local partner to operate here.“ Other ports also mentioned the importance of local language proficiency, because sometimes the local language is used not just for communication, but in the documentation and procurement phase. (see Figure 12)

Exporters also need to be aware of local standards and regulations. All the above-mentioned requirements can be summarized by a local presence by the company or the representatives.

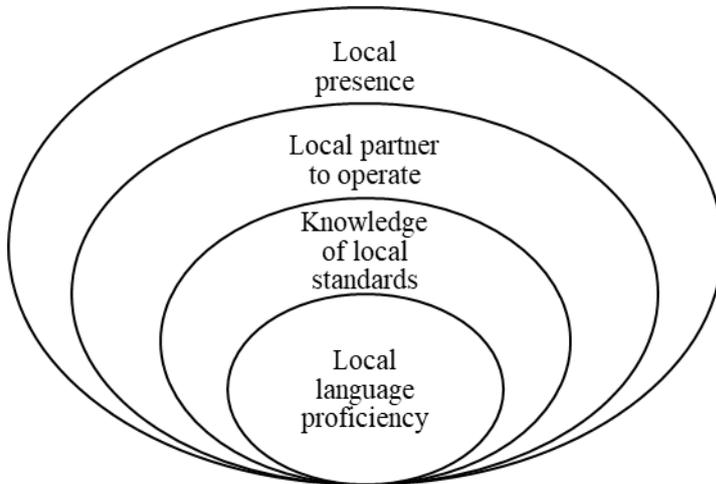


Figure 12. Requirements for the foreign companies

Source: compiled by the author based on answers from end customers

Shore power systems can be described as a “complicated technical setup”, which means that proof of product reliability has a huge impact on the supplier selection process. Even if the company has the most competitive price, it is impossible to prove its reliability without the references. “The company must have experience in a related field of similar projects,” commented a decision-maker from Port F. In order to sell the first system company needs to find a way and manage to receive a contract without references. Sometimes, companies can offer a great discount for the port on supplying the prototype. In most cases, the biggest probability to agree on this occurs in a domestic market. In addition to this, the end customer is also interested to investigate the company's reliability. Responder from Port B described the company reliability indicators: “Depending on the value of the tender different requirements have to be met. In most complex cases providers will have to provide, balance sheets, customer references, engineering references and more.” Company should have the financial capacity to handle the shore power project.

Important factor is the awareness about a company, which is a part of the communication strategy. “A lot of resources are allocated to market the company, and meet with potential customers both via communication channels, exhibitions and customer visits. Without this being in place, selling would be impossible,” commented Supplier X. All the ports agreed that awareness about suppliers matters a lot, even at the procurements level to ensure that all key suppliers are aware of tender.

Port F added, “We find suppliers, from conferences, seminars, previous contacts or on the initiative of technology providers themselves.” This means that the company needs to be visible and attend relevant exhibitions, conferences and seminars. In addition, the company needs to use direct digital communication tools to initiate the dialogue with the potential end customers. Suppliers also noted that digital communication tools are very efficient. The centre of digital channels is a website. The main function of digital tools is access to needed information, where customer can easily recognize their needs and find a product that meets their needs. The most useful and professional social media channel is LinkedIn and companies are sharing all relevant information there. Responder X also added: “Additionally, I can say that we are building up an Agent Network with local representation in selected countries, to get ears and eyes locally into the different countries and regions.” Agent's resources are included in the communication strategy as they can suggest the best working promotion channels and share the information through their network.

An interesting conclusion was made about the effect of neighbour experience on the choice of supplier. It came out that neighbour experience is helpful, but it is not crucial. Different ports are sharing the experience with different suppliers and sometimes cooperate to schedule the maintenance work as an example. Port F suggested a goof explanation: „During the feasibility studies, these bidders are often contacted to assess the project's technology, cost and suitability for a port.“

The second part of the analysis on interviews is focused on export strategy and market selection. First of all, both of the suppliers agreed on the importance of export strategy. Both of the suppliers understand this term and use it at work. The sales manager from company X stated that export is a main source of activities, so it can be defined as a business-level strategy. Accordingly, export strategy is the same as organisational strategy. CEO and board are giving the direction on which the company concentrates the business. Main criteria in a market selection process are the readiness and maturity of the market. Company is following the existing trend for shore power, as some of the geographical areas are more advanced in need of shore power in a short term. Nevertheless, the company is keeping an eye on coming trends to prepare for exporting in long term. Manager is also adding: “My best experience to enter into new foreign markets is to use local knowledge or by use of local representatives or service agents as someone also may call it.”

For the substation provider, the export strategy is “shooting from all the cylinders.” Exporter Y continued: „Strategy is mostly based on understanding where we can handle what.“ Small-sized

company Y is formulating a strategy jointly unlike cable management system providers. The decision is made based on where and what to export.

The interview showed that cable managements system and shoreside substation providers are following a similar exporting strategy as they have the same targeted markets and customers. Supplier S added: „Yes, it would be logical for them to have the same strategy unless the company is also working within different other business areas and where CMS and shoreside SubStation are only part of their overall business.” The shoreside substation provider also agreed, that on a general level strategy will be similar. Supplier Y commented: “Obviously, there are some substantial peculiarities if we go into fine details, but general aspects can be pretty similar.” As it was mentioned in the description part, sometimes ports are requesting a turn-key solution. In this case, the substation provider can be acting as the main supplier or electrical integrator. At the same time, cable management system providers become a subsupplier for the electrical integrator. Supplier X also added: “In such cases, the port can even dictate which supplier the integrator shall choose.” However, according to Supplier X business is still very young and dynamic and this model will be changing. However, the end customer will always be the same.

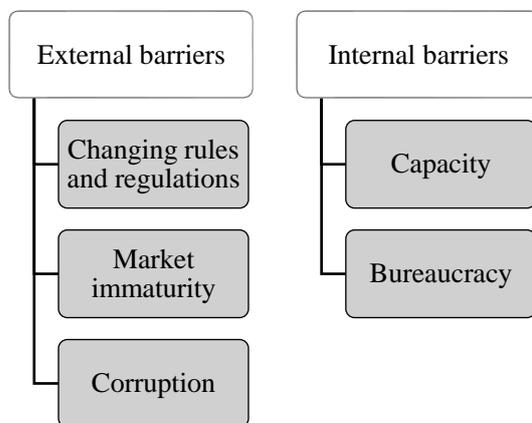


Figure 13. Main external and internal barriers to exporting

Source: compiled by the author based on answers from solutions suppliers

Both of the companies consider market spreading as a leading strategy taking into account the business specifics. Sales manager X explained: „We have started with some geographical areas as mentioned earlier and we are expanding to new areas continuously.“ Cable management system, as well as substation supplier, have started selling on a domestic market and thereafter started exporting to neighbour market and further.

A summary of the external and internal barriers that prevent companies from exporting can be seen in a summarised view. (see Figure 13) Suppliers consider changing rules and regulations as the main external barrier. Rules and regulations can change on a country level or even at the EU level as an example. Any of those novelties will affect the „game rules“. Market immaturity is another barrier. There are different factors that in turn affect market readiness to receive up-to-date products. In any case, this greatly affects the potential for interaction with this market. The last factor mentioned by suppliers was corruption, which can be completely avoided in some countries but not everywhere. The main internal barrier is the capacity to cover many markets and provide different tailored solutions. Supplier X also added: „Internal barrier is to avoid creating a bureaucratic organization, which becomes more difficult as the company is growing.“ Flexibility in a company allows providing fast service for a client and reacting fastly to market changes.

Both of the suppliers mentioned that the export strategy for one market will differ from the export strategy for another market, however, the key aspects will remain the same. According to the suppliers' answers, the main differences are mentality, market-entry barriers, additional market regulations, evaluation criteria, local competition level and the detailing of the offer required.

## **3.2. Discussion**

### **Strategy formulation process**

The first topic covered in the theoretical part was the strategy formulation process. In the theoretical part, the author suggested starting with the company's initial strategy and using it as a base for other strategies including export. Interview with suppliers shows that taking the initial strategy as a base is a good approach because some of the shore power suppliers are looking at export as a core activity. The second supplier mentioned that they are trying to get all possible projects in the different markets according to their capacity. For both companies, SWOT analysis will be a useful tool to identify and analyze strengths, weaknesses, opportunities, and threats that can help to define the right strategy. Only after determining internal and external factors and identifying the strategies company can enter the market selection phase. Sheykhi *et al.* (2016) in their article were using the SWOT analysis for the formulation of strategies to export development in small and medium-sized enterprises. They explain the choice of SWOT by underlying the importance of external and internal factor analysis. Additionally, other authors are also suggesting

investigating the Uppsala model developed by Johanson & Vahlne (1977) and the Born Global term by Knight & Cavusgil (2004) to choose an appropriate internalization strategy. Uppsala model suggests companies begin their trade activities in their domestic market until significant market knowledge is gathered (Johanson & Vahlne, 1977). Born Global is a counter-theory to the Uppsala model that assumes that companies have a global focus from or near their founding (Astbury & Lux, 2017).

Another interesting aspect came out of the interview with suppliers. Both suppliers agreed that on a general level the exporting strategy for cable management system supplier and shoreside substation supplier is similar, as they act on the same market and have the same end customer. However, strategies will differ if going into fine details. The biggest difference is coming from the fact that the cable management system supplier acts as a subsupplier to the shoreside substation provider. However, in most cases, the final decision about the cable management system provider is made by ports because they can dictate the rules. The interview with the suppliers shows that there cannot be one suitable strategy for all the markets, but the strategy's key aspects remain the same. This means, that they need to have a general export strategy that covers the key aspects of exporting and adjusted strategies for different markets. Some important aspects need to be analysed during the adjusted export strategies development. The main factors that need to be considered are cultural difference, economic versus technical ratio, local supplier dominance and additional market entry&exit barriers.

In addition to this, the external and internal barriers to exporting need to be considered. Exporters consider changing rules and regulations on different levels as a main external barrier that can affect the activities in the chosen market. Market immaturity is another factor that makes the selling process difficult and unstable. Corruption is also an actual topic for some markets. Besides external, there are internal obstacles. The most common one is limited capacity. Especially at the growth stage company can experience a shortage of internal resources that are negatively affecting the export activities and the opportunity to expand to other markets. Bureaucracy is another topic that is slowing down the communication with customers and decision-making processes. Shore power suppliers need to avoid bureaucracy to be able to provide a good service to customers.

### **Market selection mode**

Local and global regulations highly influence the decision to install the shore power solutions. European Union regulations are becoming more demanding and require the implementation of

shore power solutions by 2030. However, the port's own initiatives to move towards green and sustainable future are also common, especially for ports in the United States. Suppliers need to track the regulations in different markets around the world to determine export potential in the short and long term. This information is important for the market selection process and forecasting.

The author suggests combining different market selection modes and paying attention to the systematic approach. As was mentioned in the theoretical part, selection can be done unconsciously when a company starts to receive requests and needs to decide whether to accept or reject the market. Another way is to start with the neighbour markets to shorten the geographical and psychological distance. Apart from reactive or neighbour, the selection can be done systematically. The systematic or analytical approach is a thorough process, which requires a lot of secondary or primary data and resources. The author has summarised different existing strategies proposed by different authors in a systematic approach in 4 steps: initial market selection, macro-segmentation, micro-level consideration, and market attractiveness evaluation. Other authors like Papadopoulos *et al.* (2002) suggest starting from the screening method, where the initial selection is done by analysing the secondary sources using the various macroeconomic indicators or others related to the company's business. Market screening can be done on a country and segment level.

The interview helps to understand the business specifics and the author can make a conclusion that for shore power all three ways of market selection are applicable. Depending on the company lifecycle different approaches can be used. To better understand the logic behind it the following business-specifics of the shore power business need to be underlined. The most common customers of shoreside shore power systems are ports. There are countries with only a few ports meaning that in one country there would be few potential customers only. Most of the ports, especially big ones are state-owned companies, which is why they must organize the public tender. Privately owned ports select the suppliers directly. Ports are selecting their customers according to different factors. The main factor is a price and technical value. Technical value includes references or verified installations made by the supplier. References are playing a vital role because customers need to be aware of the company's expertise.

If the company is still in the development stage, the main goal for the company will be to gain as many references as possible. That means the company would most likely agree to get unsolicited orders and market selection would be unconscious. In a growth stage company will have a goal to

export to countries using as few additional resources as possible. During the growth stage, it is hard to manage the resources and eliminate the shortcut of capacity. In that case, neighbour markets are the best option, because it is always more convenient to work with markets with short geographical and psychological distances.

When the company is getting more mature the systematic approach can be the best choice. As was mentioned by suppliers, they are now operating only in the EU market, but the US market is a goal. The decision whether to export to America or Asia or other places at that stage can be done using the systematic approach proposed by the author in four steps. First, they need to make an initial market selection covering the Social/cultural, Technological, Economic and Political criteria. For the selection, the procedure company defines unique criteria based on the business field and particular product or service. In the case of the shore power niche, it can be market maturity and market regulations. The current thesis can be elaborated by proposing the approach to studying the cultural aspect. According to the 5 C Framework developed by Jarne & Tunbjer (2006), cultural factor plays a big role and need to be taken into consideration. Geert Hofstede is proposing the six-dimension study to draw cross country comparison (Hofstede *et al.* 2010)

Secondly, the macro-segmentation needs to be done. This would help to measure the market maturity and market potential. Marco - segmentation is based on pre-selected segmentation criteria covering the geographic, demographic, and socioeconomic variables. Segmentation process help to evaluate potential profit from segments and decide which segment to focus on. In case of shore power, the segmentation will mean the solutions for different vessel types such as cruise ports, container terminals, Ro-Ro terminals, etc.

The third step is defined as micro-level considerations including existing and potential competition, cost of entry, profit potential and reliability of the information. Other authors like Astbury & Lux (2017) are suggesting using Porter's Five Forces framework to understand the competitive landscape and assess the attractiveness of an industry and sector. The fourth step of market selection is market attractiveness evaluation. It can be done by using GE-McKinsey Matrix. The nine-cell grid measures business position against industry attractiveness and can help to determine whether to invest/grow, hold/select investment or harvest/divest.

Shore power suppliers can apply three described market selection approaches. The choice is depending on the company's capacities and resources because the systematical analysis requires

bid work with secondary sources. Currently, cable management system suppliers are relying on the agent's knowledge and feelings. However, the preliminary market selection can be done using the public secondary information and agent can give their own opinion on the reliability of the information. Agents' resources are also limited and need to be filled with other sources of information. The supplier of shoreside substations in making the selection according to the company's capacity. The company's capacities are limited but manageable. In the case of supplier Y, the strategy of selecting the market can help to release some resources. The author suggests to supplier Y investigate different market selection modes and adjust the strategy.

### **Market spreading strategy**

The theoretical part supports the decision of the supplier to choose market spreading as the main strategy. The choice of market strategy depends on a lot of factors and circumstances, but the main factors fall into four categories: product characteristics, company characteristics, market conditions and costs. Market spreading is suitable for the products with special applications and non-repeat purchases. Shore power products can be characterised as adjustable for customer needs and usually, the purchase can be repeatable but with a long-time gap. Spreading is also useful when competing mainly on price. Interview results showed that the price competition is the main one in that niche. The spreading strategy is suitable for early or mature exporters. It also helps to reduce the risk by having small shares on a bigger amount of market. Market conditions are also playing an important role in this decision. If the market is new, small, or unstable the spreading strategy is recommended. The use of a spreading strategy is possible in the case of the concave sales response function because the lower expenses on marketing will cause the biggest sales. The concave function assumes that the company can get a quick sales return on their marketing activity almost at the beginning. That is also applicable for the shore power field as the first installation on a new market will have the biggest attention and the marketing efforts will not be that big. That means, that the selected spreading strategy is suitable for the shore power suppliers. However, the shore power market, as well as the company, will also be changing. The market will be more mature and stable, and the company will reach the next level of internalisation. Therefore it is important to track the changes and adjust the strategy by possibly considering market concentration. Suppliers need to know existing alternatives and act accordingly.

### **Market entry mode**

Currently, both companies are considering direct exporting as the main business activity. A direct export is the most common approach which means that the manufacturer sells to a customer

without intermediaries at all or with intermediaries located in the foreign market. Export can be characterised by flexibility, low risks and minimal resource commitments. However, the author will recommend cooperative exporting which means that companies are sharing distribution networks, but still have control over their exporting operations. This would help to solve the problem of resource shortage and the information availability that was mentioned by responders. Shore power solution supply is divided between different companies. Currently, no one is handling the whole scope. This is why the non-competitive suppliers in different markets can cooperate and benefit from synergy.

For more mature suppliers author recommends evaluating other entering modes like licensing franchising, alliances, joint ventures or even wholly-owned subsidiaries. Probably that would be reasonable if a company will be considering a market concentration strategy. This is the opportunity to cooperate with domestic companies in different markets and as the research showed the local presence is very important for that business. However, if the company decides to choose a more advanced entry mode including the contractual agreements and equity investments then the exit barriers need to be taken into consideration. Exiting a market is often very costly because it is followed by substantial fixed costs. There are different other risks including the damage of reputation that are followed by exiting decisions.

### **Creating competitive advantages**

The next topic covered in the theoretical part described the creation of competitive advantages. The author suggests starting structuring the competitive strategy by defining the company's internal resources and capabilities. A resource-based view (RBW) can be chosen to understand the real drivers of the performance. In order to transform company resources into a sustained competitive advantage, resources must have four requirements summarised by the VRIO framework. Author suggests for shoreside shore power suppliers implement the RBV and VRIO framework to understand the real drivers of performance. This approach helps to determine the internal strength and to optimise the use of resources more effectively.

One of the suppliers mentioned that the company's resources and capabilities are identifying not only the exporting strategy and selection of the market but also the competitiveness. Both suppliers are currently positioning their competitiveness based on a SWOT analysis. Gürel & Tat (2017) in their study highlight that SWOT can be used to create a competitive strategy and define the competitive advantages. Kenyon & Sen (2015) are suggesting a classical approach for developing

competitive advantages. Structure-Conduct-Performance (SCP) paradigm help to understand the link between the structure of the industry, the conduct of the industry, and the performance of the firms within the taken industry (Kenyon & Sen, 2015).

### **Key success factors**

Interviews with decision-makers helped to detect the factors that impact successful exporting to a selected market. Key success factors are formed by price, suitable product, adjustable product design, acceptable term&conditions, experience, service, local presence and timing. Those factors can also be analysed by the three-circle model described in the theoretical part. The three-circle model provides a method of explicitly identifying the customer value in a market and how a company can break it down and improve a firm's competitive position and profit potential. This framework is helping to understand the value company creates and its potential growth strategy. Price does not need to be used in this analysis as one of the values because the price is a consequence of the value created. The author suggests making a three-circle analysis for shore power suppliers to improve their competitive position and profit potential. This is a very valuable tool to identify uncovered customers' needs. However, this model requires a good knowledge of the positions of competitors and customer needs.

### **Pricing strategy**

Price competition was defined as most suitable by the shore power system suppliers. This is why pricing strategy is considered one of the most significant decisions. Companies can adopt different pricing approaches. In practice, companies do not usually use a single strategy. Three main pricing methods can be distinguished: cost-based pricing, customer-based pricing and market-based pricing approach. Cost-based pricing approach is one of the simplest pricing strategies where you add a certain percentage as profit to all costs. Cost-based pricing may seem preferable to a company in situations where the purchase decision is based on price, the market is unknown and the consumer is a public organization. Value-based pricing is focused on a customer's perceived value, so customers decide whether the product price is right. This approach is suitable for highly valuable products. The biggest assumption is the reliable customer feedback and complexity of getting the information. In the case of a market-based approach, an attempt is made to match the price as closely as possible to market demand. It is more practical to apply market-based pricing in situations where competitors are known, consumers are private companies and the organization has more resources for marketing activities. Taking into account the shore power business specifics

all three strategies are suitable. The best approach will be to use the appropriate strategy depending on the situation. Important is to be aware of the different approaches to selecting the right price.

Looking at the key success factors defined by end customers, companies need to pay attention to non-price competition as well. Non-price de-emphasizes price by developing a unique product, service and marketing support and allows for the sale of augmented products. Augmented products are enhanced with intangible benefits or added features. Big attention is paid to the references, or the experience company had in a related field of similar projects. Without references, suppliers will not be able to participate in the tender. It is very important to get your first reference and prove reliability. The second highlighted factor was the local presence, which also covers the local partner to operate in place, knowledge of local standards and proficiency in the local language. A company cannot be present everywhere at the same time even now when everything is digitalized. This is why the company needs to establish a network of representatives in different markets to cover the above-mentioned requirements.

It means that for the end customer both price and non-price values are important. And for the supplier, it is important to find a balance between those two strategies and manage it. In the case of a market spreading strategy, which is preferred by the suppliers, it is harder to play only on non-price bases. However, if the company will be moving into a market concentration strategy non-price competition will become more intense.

### **Communication strategy**

The non-price competition also helps to create hidden values using advertising, social marketing and branding. Those promotion tools are part of the promotional mix, which is used in communication strategy. The main goal of communication tools is to inform, persuade or remind the customers about the company and products provided. In other words, is to create awareness of the company and products. As was stated by customers company visibility plays a significant role, especially during the design and procurement phase. Customers prefer to purchase shore power-related equipment from known producers. Moreover, ports are inviting familiar suppliers to take part in a shore power project or suggest a technical solution. For the supplier both the digital and physical presence and activity are important. Customers meet the future suppliers at conferences, seminars, exhibitions or other types of events. This was also outlined by Astbury & Lux (2017), that trade show presence has great significance on a sales funnel. The company also need to utilize pre-arranged meetings with partners and customers. Physical presence and face to face

communication helps to build trust and reliability between suppliers customers and partners. Digital presence is also very important because customers can follow the company's news and updates on the website and LinkedIn. Astbury & Lux (2017) also highlights the importance of digital presence and suggests translating the website to other languages to shorten the physical distance between supplier and customer. According to the theoretical part, communication needs to be structured and adjusted to the company's strategies and goals. Kotler proposes eight steps for developing effective communication: identifying the target audience determining communication objectives, designing communication, selecting channels, establishing a budget, deciding on media mix, measuring the result and managing the integrated marketing communications. In the case of shore power, the target audience is ports, shipbuilders, electrical integrators, shipowners, terminal operators and other suppliers. Communication objectives depend on different factors, but the highest objective is a purchase. Communication needs to be designed in a way that the company behind the message is recognised. It is also important to note, that illustrations to the communication messages are playing a great role in creating and building the understanding of the product and increasing the reliability of a company. Suppliers need to use all free communication channels such as their own website, email marketing and social media. Big emphasis needs to be taken on personal communication, especially in the order closing phase. The author suggests implementing integrated marketing communication to be sure that customers received the „message“. This is especially useful for shore power suppliers as they work with a different market where different channels are preferred.

### **3.2.1. Theoretical and practical implications**

The discussion of the theoretical and practical parts helped the author to draw the research implications. Implications explained how findings may be important for suppliers of shoreside shore power solutions, for exporters in general and subsequent research.

Author suggests companies start their exporting with the strategy formulation. The export strategy will help to define the most suitable market or markets, sustainable competitive strategy, and effective communication strategy. A company needs to have a general export strategy and a specific export plan for each of the markets. The export strategy will help to be prepared for export plan writing and will make this process more efficient and structured. Export strategy can be based on companies' initial strategy. SWOT analysis can be used to determine internal and external factors and identify the strategies companies can use. Interviews showed that shore power

suppliers need to pay additional attention to the internal barriers like resources and bureaucracy to be able to provide a good service to customers.

Apart from reactive or neighbour, the selection of the market to export can be done using the analytical approach. The market selection process highly depends on data, which is why the author suggests paying attention to data reliability. The way of solving this problem is to use the local agents and their networks for the data collection. This is especially important for the primary data collection, but also the analysing of the secondary data on foreign languages. To decide which market to enter author suggests going through a systematic winnow process. It is important to pay attention to external barriers. In the market selection process market regulations and market readiness needs to be taken as a selection criterion. Companies need to track external in internal changes to be ready to react to them accordingly. Market and company will be getting more mature, so the approaches will be changing. For now, companies are using a spreading strategy, but probably a concentration strategy will be also useful in the future and companies will start to compete more on a non-price factor.

Currently, companies operating in a shore power niche are using direct exporting as an entry mode. The author suggests considering cooperative exporting which means that companies are sharing distribution networks, but still have control over their exporting operations. The suppliers of different parts of the scope or other companies in the domestic market operating in a similar field can cooperate and support each other's growth. At the same time, suppliers can cooperate with the local companies to be present in a market. Interviews with ports approved the importance of local presence. This would help to solve the problem of resource shortage and the information availability that was mentioned by responders.

The author suggests starting structuring the competitive strategy by defining the company's internal resources and capabilities. A resource-based view can be chosen to understand the real drivers of the performance. According to the end customers, key success factors are formed by price, suitable product, adjustable product design, acceptable terms and conditions, experience, service, local presence and timing. These factors can also be analysed by the three-circle model described in the theoretical part to identify the growth strategy and company's competitive edge. This is a very valuable tool to identify uncovered customers' needs. However, this model requires a good knowledge of the positions of competitors and customer needs.

As price is one of the main success factors it is important to select the pricing strategy right. Exporters need to be aware of the different approaches to selecting the right price. Non-price competition also needs to be considered as a great tool to get the customer's attention, as it helps to provide a unique product, service and marketing support and allows for the sale of augmented products. The big attention was given to local presence, which also covers the local partner to operate in place, knowledge of local standards and proficiency in the local language. A company needs to establish a network of representatives in different markets.

Interviews with end customers showed how important for companies it is to be visible on a market. Author will highlight the importance of digital presence, especially the website and professional social media. At the same time exporters need to be present at the conferences, seminars, and exhibitions relevant to the customers. Big attention needs to be drawn to personal communication, especially in the order closing phase. The author suggests implementing integrated marketing communication to be sure that customers received the information.

## CONCLUSION

Shore power is a very attractive market, where industry growth is supported by related regulations that obligate ports to use given solutions. The biggest target group for shore power suppliers are ports. Ports are interested in shore power solutions for different reasons, but mainly because it supports the port green strategy. Moreover, shore power projects are getting financial support from different programmes. The shore power market is a very specific field, which requires special knowledge and technical competencies, but even if you have good technical solutions, you need to be able to sell them to different markets.

The thesis aims to identify the most important factors that need to be considered in exporting shore power systems. This study is primarily relevant for shore power suppliers and for companies who are willing to export strategically. This study suggests different approaches to be used for different purposes identifying key factors for export strategy development.

Results of the study show that export strategy is frequently used term by the supplier and considered to be a business-level strategy. SWOT analysis helps to determine the company's general strategy that can be considered as a base for export strategy. The general aspects of the strategy are similar for both shoreside substation and cable management systems providers as they are operating within the same markets for the same customers. The specific market strategy will also differ from market to market mainly by culture, evaluation criteria, local market dominance and special market regulations. Market selection mood is highly dependent on a company's development stage. The main criteria for market selection are market maturity and the existence of regulations. For the market selection process, the main topics will be social, cultural, technological, economic and political criteria, market potential, existing competitors, cost of entry and market attractiveness. Market selection process requires the availability of reliable primary and secondary information. As the market is still immature and the price is a very important success factor, the spreading strategy is the most preferable. However, the company needs to track the external and internal changes and react accordingly. Currently, suppliers are using the direct export as a market entry mode, however, cooperative exporting may be a strategic alternative, as

it solves the problem of resource shortage and the information availability. The author suggests starting structuring the competitive strategy by defining the company's internal resources and capabilities. In order to identify real drivers of performance, the resource-based view and VRIO framework can be used. Interviews with end customers helped to detect the factors that impact successful exporting to a selected market. Key success factors are formed by price, suitable product, adjustable product design, acceptable terms & conditions, experience, service, local presence and timing. Those factors can also be analysed by the three-circle model, which helps to improve a firm's competitive position and profit potential. Price competition was defined as more suitable by the shore power system suppliers. This is why pricing strategy is considered one of the most significant decisions. Moreover, the company needs to have verified installation. It is also recommended to be present on a market or at least have representatives that can support the customer in a local language and knows the local regulations. Last, but not least, the company needs to be visible, because customers prefer to work with known suppliers. In addition to this, sometimes ports are using the existing solutions as a base for the tender documentation. Important is to maintain a digital presence, by keeping the website and LinkedIn up to date. Physical presence is key, especially at conferences and exhibitions, because it helps to improve reliability and trust between the company, customers and partners.

Finally, the aforementioned results and discussions were summarized into a set of implications for shore power suppliers:

- Export strategy can be based on a company's strategy formulated by SWOT analysis.
- In addition to reactive or neighbour, the selection of the market to export can be done using the analytical approach.
- Author suggests considering cooperative exporting which means that companies are sharing distribution networks, but still have control over their exporting operations.
- The sustainable competitive advantages can be defined by the resource-based view and VRIO framework as it helps to keep the company's capabilities and resources in focus.
- Company's competitiveness and growth strategy can be identified by the three-circle model.
- It is important to be present or at least have local representatives in a market to provide localized service to the customers.
- Company needs to be visible by maintaining active usage of a webpage and social media and at the same time physically attending related conferences and exhibitions.

The biggest limitation of this study was the primary data collection. The limited sample did not allow to find out patterns between the origin of the customer and the preferred suppliers' selection approach. For further development, one possibility will be to create quantitative research to define the patterns and also to formulate a more specific and adjusted strategy according to the market. Another possibility will be to conduct more interviews or even use the mixed research method. At the same time, it will be very complicated to reach at least 50 ports around the world as ports are big organisations and it is hard to reach a decision-maker. Moreover, it would have been interesting to interview electrical integrators to get more insight information regarding their strategy in choosing the cable management supplier.

Current study would be welcome to become an auxiliary material for companies in the export strategy development process. Intending to develop the theme of the thesis, the author proposes an initiative to closely study the link and relation between export strategy, product lifecycle stage, company lifecycle stage and market maturity.

## KOKKUVÕTE

Kaldaelektriturg muutub atraktiivseks, kuna tööstuse kasvu toetavad sellega seotud regulatsioonid, mis kohustavad sadamaid kaldaelektri lahendusi kasutama. Kaldaelektri tarnijate suurim sihtrühm on sadamad. Sadamad on huvitatud kaldaäärsetest kaldaelektrilahendustest erinevatel põhjustel, kuid peamiselt seetõttu, et see toetab sadama rohelist strateegiat ja lisaks need projektid saavad rahalist toetust erinevatest programmidest. Kaldaelektriturg on väga spetsiifiline valdkond, mis eeldab eriteadmisi ja tehnilisi kompetentse, kuid isegi heade tehniliste lahenduste olemasolul tuleb neid osata müüa erinevatele turgudele.

Magistritöö eesmärk on välja selgitada olulisemad tegurid, millega tuleb arvestada kaldaäärsete kaldaelektrisüsteemide ekspordimisel. See uuring puudutab eelkõige kaldaelektri tarnijaid ja ettevõtteid, kes on huvitatud strateegiliselt ekspordima. See uuring pakub välja erinevaid lähenemisviise, mida kasutada erinevatel eesmärkidel, tuvastades ekspordistrateegia väljatöötamise võtmetegurid.

Uuringu tulemused näitavad, et tarnija kasutab ekspordistrateegiat sageli ja seda peetakse äritasandi strateegiaks. SWOT analüüs aitab välja selgitada ettevõtte üldise strateegia, mida võib pidada ekspordistrateegia aluseks. Strateegia üldised aspektid on sarnased nii kaldaalajaamade kui ka kaablihaldussüsteemide pakujate jaoks, kuna nad tegutsevad samadel turgudel samade klientide jaoks. Samuti erineb konkreetne turustrateegia turgude lõikes peamiselt kultuuri, hindamiskriteeriumite, kohaliku turu domineerimise ja turu eriregulatsioonide poolest. Turuvaliku meeoleolu sõltub suuresti ettevõtte arenguetapist. Peamised turuvaliku kriteeriumid on turu küpsus ja regulatsioonide olemasolu. Turuvaliku protsessi peamiseks teemadeks on sotsiaalsed, kultuurilised, tehnoloogilised, majanduslikud ja poliitilised kriteeriumid, turupotentsiaal, olemasolevad konkurendid, sisenemiskulud ja turu atraktiivsus. Turu valikuprotsess eeldab usaldusväärse esmase ja sekundaarse teabe kättesaadavust. Kuna turg on veel ebaküps ja hind on väga oluline edutegur, on kõige eelistatavam levitamisstrateegia (*spreading strategy*). Ettevõtte peab aga jälgima väliseid ja sisemisi muutusi ning vastavalt reageerima. Praegu kasutavad tarnijad

turule sisenemise viisina otseeksporti, kuid eksport ühingute kaudu (*cooperative export*) võib olla strateegiline alternatiiv, mis lahendab ressursipuuduse ja teabe kättesaadavuse probleemi. Autor soovib konkurentsistrateegia struktureerimist alustada ettevõtte sisemiste ressursside ja võimete määramisest. Tõeliste jõudluse juhtide tuvastamiseks saab kasutada ressursipõhist vaadet (*Resource based view*) ja VRIO raamistikku. Intervjuud lõpptarbijatega aitavad välja selgitada tegurid, mis mõjutavad edukat eksporti valitud turule. Edu peamised tegurid on hind, sobiv toode, kohandatav tootekujundus, vastuvõetavad tähtajad ja tingimused, kogemus, teenindus, kohalolek ja ajastus. Neid tegureid saab analüüsida ka kolme ringi mudeliga (*three circle analysis*), mis aitab parandada ettevõtte konkurentsipositsiooni ja kasumipotentsiaali. Kaldaelektrisüsteemide tarnijad hindasid hinnakonkurentsi oluliseks. Seetõttu peetakse hinnastrateegiat üheks olulisemaks otsuseks. Samuti on soovitatav, et igal turul oleks kohalikud esindajad, kes oskavad klienti kohalikus keeles toetada ja tunnevad kohalikku seadusandlust. Viimaseks, kuid mitte vähemtähtsaks, peab ettevõtte olema nähtav, sest kliendid eelistavad koostööd teha tuntud tarnijatega. Lisaks sellele kasutavad sadamad mõnikord hankedokumentatsiooni aluseks olemasolevaid lahendusi. Oluline on säilitada digitaalne kohalolek, hoides veebilehte ja LinkedIni ajakohasena. Füüsiline kohalolek on võtmetähtsusega, eriti konverentsidel ja messidel, sest see aitab suurendada usaldust ettevõtte, klientide ja partnerite vahel.

Lõpuks võeti ülaltoodud tulemused ja arutelud kokku soovitude kogumina kaldapoolsetele kaldaelektritarnijatele:

- Ekspordistrateegia võib põhineda SWOT analüüsiga sõnastatud ettevõtte strateegial.
- Lisaks reaktiivsele või naaberturule saab eksporditava turu valiku teha analüütiliselt.
- Autor teeb ettepaneku kaaluda eksporti ühingute kaudu, mis tähendab, et ettevõtetel on ühised jaotusvõrgud, kuid samas kontrollitakse oma eksporditegevust.
- Jätksuutlikud konkurentsieelised saab määratleda ressursipõhise vaate ja VRIO raamistikuga, kuna see hoiab ettevõtte võimeid ja ressursse fookuses.
- Ettevõtte konkurentsivõimet ja kasvustrateegiat saab tuvastada kolme ringi mudeli järgi.
- Oluline on olla turul kohal või omada vähemalt kohalikke esindajaid, kes pakuvad lokaliseerimist
- Oluline on olla turul kohal või omada vähemalt kohalikke esindajaid, et pakkuda klientidele lokaliseeritud teenust.
- Ettevõtte peab olema nähtav, säilitades aktiivse veebilehe ja sotsiaalmeedia kasutamise ning samal ajal füüsiliselt osaledes seotud konverentsidel ja messidel.

Selle uuringu suurim piirang oli esmane andmete kogumine. Piiratud valim ei võimaldanud välja selgitada põhimustrid sadama päritolu ja eelistatud tarnijate valiku lähenemisviisi vahel. Edasiseks arendamiseks on üheks võimaluseks luua kvantitatiivsed uuringud mustrite määratlemiseks ja ka konkreetsema strateegia sõnastamiseks vastavalt turule. Teine võimalus on läbi viia rohkem intervjuusid või kasutada isegi segauuringumeetodit. Samas on väga keeruline jõuda vähemalt 50 sadamani üle maailma, kuna sadamad on suured organisatsioonid ja otsustajani on raske jõuda. Lisaks oleks olnud huvitav intervjuerida elektriintegraatoreid, et saada rohkem teavet nende strateegia kohta kaablihalduse tarnija valimisel.

Praegune uuring oleks teretulnud saama abimaterjaliks ettevõtetele ekspordistrateegia väljatöötamise protsessis. Lõputöö teema arendamiseks pakub autor uurida seost ekspordistrateegia, toote elutsükli etapi, ettevõtte elutsükli etapi ja turu küpsuse vahel.

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## APPENDICES

### Appendix 1. Description of a systematic approach to market selection

The first step is an initial country selection – research regarding general market potential. For the elimination procedure, the STEP model can be used. According to Brassington *et al.* 2000 STEP model includes Social/cultural, Technological, Economical and Political criteria. For the selection, the procedure company defines unique criteria based on the business field and particular product or service. The second step is macro-segmentation on a country level according to the branches of economy and production. Macro - segmentation is based on pre-selected segmentation criteria. Segmentation process help to evaluate potential profit from segments and decide which segment to focus on. For macro - segmentation geographic, demographic and socioeconomic variables are used. This analysis will help to measure the market size and development as well as current and prospective market potential, market demand and requirements for exporting companies. (Gaston-Breton & Martín, 2011)

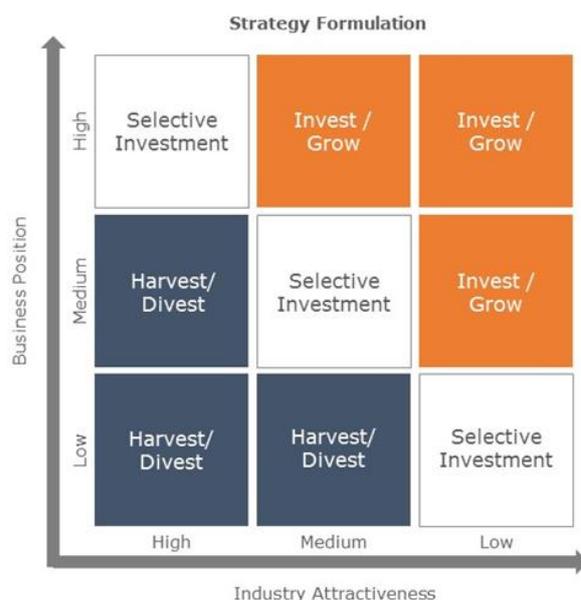


Figure 14. Industry Attractiveness and Competitive Strength GE McKinsey Matrix.

Source: Saxena (2021)

## Appendix 1 continued

The third step is defined as micro-level considerations including existing and potential competition, cost of entry, profit potential and reliability of the information. (Miečinskienė *et al.* 2014) The fourth step of market selection is market attractiveness evaluation. It can be done by using GE-McKinsey Matrix. (see Figure 14) The nine-cell grid measures business position against industry attractiveness and can help to determine whether to invest/grow, hold/selective investment or harvest/divest. (Miečinskienė *et al.* 2014) That matrix can be used to analyse the strengths and weaknesses of a company in a different market. That is allowing to identify the most attractive markets and determines the strategy that the firm will be using in those markets. (Decuseară, 2013) The best position is to find the market where it is possible to implement invest or growth strategy. That market can be characterised by a high business position and high industry attractiveness.

## **Appendix 2. The characteristics of market spreading and concentration strategies**

The strengths of market concentration include the specialisation of a chosen market, scale economies, and growth by market penetration. It may enhance profitability by reducing the costs and need for advertising and promotion from zero. Market concentration level can be measured by market share, which is used as a basic factor to consider the market power of a company. (Cooper & Nakanishi, 2010) High market shares are associated with high profitability (Littler, 2015). Market share is calculated by dividing the company's sales over the period by the industry's total sales over the same period. Market share is showing the percentage of total sales in the taken industry created by the taken company. The company with the largest market share is the market leader. The degree or level of market concentration could be defined by the number of participants and their shares on a market. (Trabold, 1995) Market competitiveness can be measured by the Herfindahl-Hirschman Index (HHI), which is calculated by squaring the market share of each company competing in a certain market and then summing those numbers, so HHI can range from close to zero to 10,000. If the HHI is less than 1,500, then the market is considered competitive. If the HHI is between 1,500 and 2,500, then the market is moderately concentrated. And the market with an HHI greater than 2,500 is considered highly concentrated. HHI of 10,000 is indicating the monopoly. This model is quite simple, so it fails to measure competitiveness in complicated market fields. (Rhoades, 1993)

The selection of the market needs to be based on market research. Unwisely choosing the market on which to concentrate and increasing the company's dependence on the chosen market. By choosing the concentration strategy and aiming at a high market share, exporters need to consider competition level and customer loyalty level. International and local competitors are likely to fight off threats from importers. Furthermore, local companies can achieve support from the government. Moreover, the strong competition means that the big companies would fight for leading positions and higher market shares. Usually, there is one market leader and only a few companies with a large market share. In some circumstances, the smaller companies may find the spreading strategy more valuable by accepting low market shares in several markets and gaining the desired export volume. (Piercy, 2014)

## **Appendix 2 continued**

Market spreading strategy can be characterized by flexibility and less dependence on export success in a particular market. The greatest advantage of the market spreading strategy is the opportunity to take low market shares in markets with high competition and higher shares in a low competitive market. Market segmentation can be paralleled with undifferentiated marketing, which means that the company will create one message for all markets and will try to reach as many customers as possible. To the point, that is the main weakness of this strategy – the lack of specialisation on a problem or trying to sell the same product/service to customers with different needs. Another weakness is losing the opportunity to get a bigger market share and develop a strong position in a particular market. (Piercy, 2014)

### Appendix 3. Market concentration vs market spreading strategy and factors

<b>Factors:</b>	<b>Market concentration</b>	<b>Market spreading</b>
Product characteristics	<ul style="list-style-type: none"> <li>• Competing on non-price bases</li> <li>• Personal selling and after-sales service requirements</li> <li>• Repeat purchase goods</li> </ul>	<ul style="list-style-type: none"> <li>• Competing on price</li> <li>• Product/service with special applications</li> <li>• Non-repeat purchase goods</li> </ul>
Company characteristics	<ul style="list-style-type: none"> <li>• The middle level of internationalisation</li> <li>• High-risk acceptance</li> </ul>	<ul style="list-style-type: none"> <li>• Early or mature exporter</li> <li>• Risk reduction</li> </ul>
Market conditions	<ul style="list-style-type: none"> <li>• Mature, large, and stable market</li> <li>• The S-shaped sales response function</li> </ul>	<ul style="list-style-type: none"> <li>• New, small, and unstable market</li> <li>• The concave sales response function</li> </ul>
Costs	<ul style="list-style-type: none"> <li>• High incremental fixed costs (marketing costs)</li> </ul>	<ul style="list-style-type: none"> <li>• Low incremental fixed costs</li> </ul>

Source: compiled by the author based on Katsikeas, Leonidou (1996)

Price or non-price competitiveness affects the choice of strategy. If the product is competitive on a price basis the biggest profit will come with the spreading approach. Same works for the product or service designed with special applications. The achievement of low sales volume will require reaping the benefits in a bigger number of markets. On the contrary, competing on a non-price basis, which requires good sales service and preferably owns marketing and service on a target market, supports the concentration strategy. (Katsikeas & Leonidou, 1996)

In the early stages, firms tend to explore a few markets and after choosing an appropriate strategy, that is why the approach depends on the company's internalization level. Having a bigger market share includes higher risk, so the loss of one market means the essential loss in total export volumes. That means that companies, which tend to reduce risks will prefer a spreading strategy.

Market conditions are also playing an important role in this decision. If the market is new, small, or unstable the spreading strategy is recommended. These conditions involve unstable profit, bigger risks, and fast reactions in management. Mature, stable, and large markets are supporting the concentration strategy, but while means that they are attractive to a larger number of exporters. High competition provokes increased marketing efforts and costs, which in turn means increased high incremental fixed costs. The response of sales to marketing activities falls into two categories – s-curve or concave function (Kotler 1971). (see Figure 15)

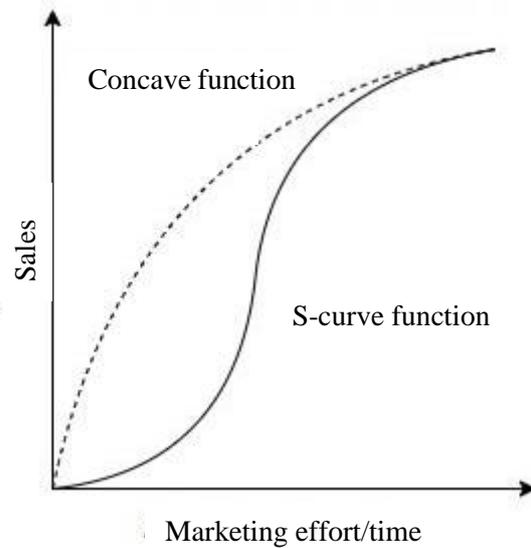


Figure 15. Response of sales to marketing activities  
Source: Zif (2020)

S-curve function shows that the initial efforts in marketing are not generating an immediate sales response until some point. There are different reasons for the weak response: the timing of entering the market, the time needed for customer education, responsive competition, and even the competency of the marketing team. (Zif, 2020) Concentration strategy is supported by an s-curve sales response function because the increase in sales comes slowly and is only boosted after a substantial amount of money and resources is spent on marketing activities. The concave function assumes that the company can get a quick sales return on their marketing activity almost at the beginning. That effect can be explained as the product/service company provide can easily or immediately solve the customers' problem. It can also be a spill-over effect from freshly entered markets, so customers are interested to investigate more about the company and the provided product as you are new on a market. There can be other reasons for that kind of response to marketing efforts. (Zif, 2020) The use of a spreading strategy is possible in the case of the concave sales response function because the lower expenses on marketing will cause the biggest sales. Exporting activities are creating additional costs including fixed costs. For choosing the strategy exporter needs to understand whether the fixed costs are independent of the number of export markets, or they are increasing with the number of markets served. Usually, additional costs arise then product adaptation is required as well as hiring a sales representative or creating a local sales department. In that case, low incremental fixed costs support the spreading strategy. (Piercy, 2014)

## **Appendix 4. The most common reasons for market exit**

The most common reasons for market exit are the following (Kotabe & Helsen, 2010):

1. Sustained losses. If the immediate payback of the investment is not reasonable then management may prevent future losses. That is a strategic decision, which needs to be supported by reliable calculations.
2. Difficulty in cracking the market. If the contribution of the investments is not sustainable then management may decide to exit the market. That can be reasonable for companies who have chosen the entry mood with a higher resource commitment.
3. Volatility. Sometimes economic or political risks of the countries are underestimated. That is especially significant concerning emerging countries. Countries with high growth potential are usually very volatile.
4. Premature entry. The timing of entry is a very significant decision. Entering the market too early or too late can lead to great losses. As an example of early entry, the company can face low buying power or underdeveloped distribution channels that will dramatically reduce expected payback time. A company can also enter too late and face strong competition.
5. Ethical reasons. Different circumstances may interrupt stable business activity on a market. Sometimes companies decide to sacrifice profits instead of ruining their reputation that is why they exit the market.
6. Intense rivalry. Attractive markets attract a lot of competitors. Sometimes it is more reasonable to exit the market and relocate the company's resources instead of spending them on a loss-loss competition. That is especially right when the competitors are more advanced in price and non-price matters.
7. Resource reallocation. Exporting activities and expansion is a way of boosting company profitability, but it is not a rule. It is important to constantly measure and analyse the result. In some, cases reallocation of the resources to more promising markets can define a winning strategy.

## **Appendix 5. Description of three main pricing methods**

Historically, successful price was calculated by a cost-based pricing approach. This is one of the simplest pricing strategies where you add a certain percentage as profit to all costs (Nagle & Müller, 2018). Cost-based pricing may seem preferable to a company in situations where the purchase decision is based on price, the market is unknown, and the consumer is a public organization. The biggest problem of this approach is that it takes into consideration only internal cost concerns, ignoring customers willing to pay more. Moreover, in some cases, the unit cost cannot be determined before setting its price, because unit cost varies with volume. Since unit cost is changing with volume, price will affect how much you sell. It is important to understand that the sales volume depends on the price, that is why the cost-based pricing approach is not working in all cases. Value-based pricing is focused on a customer's perceived value of the product or service. The profitability can be maximized by extracting the most value from customers by selling at the price they are ready to purchase the company's product or service. Customers decide whether the product price is right. Companies providing unique or highly valuable products are taking advantage of the value pricing model. The assumption for this method is reliable customers feedback on the pricing and the complexity of getting this feedback. (Dolgui & Proth, 2010) If the prices are higher than customers' perceived value, the company is not getting enough profit because of a lack of sales or too low margins. If the price is lower than customers perceived value, the company is not maximizing their profit. In the case of a market-based approach, an attempt is made to match the price as closely as possible to market demand. To determine the right price, the company must have a very accurate idea of the customer's buying habits. It is more practical to apply market-based pricing in situations where competitors are known, consumers are private companies and the organization has more resources for marketing activities (Sammot-Bonnici & Channon, 2015). The market-based approach is affected by competitive market conditions. In the case of a competitive approach becomes decisive in determining the price of a product from competitors' price. The share-driven pricing view is a tool to achieve the biggest market share. This strategy has no long-term benefits unless the company have good reason to believe that the competitors cannot cut the prices. (Nagle & Müller, 2018) It does not try to find and maintain a definite relationship between price and production costs, and it is not based on the intensity of demand in the market. It is also important to note that getting information about the competitors' prices in some industries can be complicated and unreliable.

## Appendix 6. Summary of the theoretical framework with explanation

Export strategy development process	Suggested approach	Result	Explanation
Strategy formulation	SWOT + SFAS+TOWS	The base of the export strategy (company strategy) is defined.	Strategy formulation is a process of finding a strategic fit between the external opportunities or threats and internal strengths or weaknesses. Analysing the process of strategic factors can be made using an advanced SWOT analysis.
Market selection	4 Steps approach: initial market selection; macro-segmentation; micro-level consideration; market attractiveness evaluation	Strategic approach to the market selection process. Market selection is done by using step by step winnow.	The first step is an initial country selection – research regarding general market potential. For the elimination procedure, the STEP model can be used (Social/cultural, Technological, Economic and Political criteria). The second step is macro-segmentation on a country level according to the branches of economy and production. For macro - segmentation geographic, demographic, and socioeconomic variables are used. This analysis will help to measure the market size and development as well as current and prospective market potential, market demand and requirements for exporting companies. The third step is defined as micro-level considerations including existing and potential competition, cost of entry, profit potential and reliability of the information. The fourth step of market selection is market attractiveness evaluation. It can be done by using GE-McKinsey Matrix.
		Decision made -market concentration or market spreading	The choice of market strategy depends on a lot of factors and circumstances, but the main factors fall into four categories: product characteristics, company characteristics, market conditions and costs.
		Market entry mode selected	The choice of entry mood is affected by business-specific, product, environment, and company's strategy. The entry modes may be arranged along four dimensions: control, resource commitment, flexibility, and risk.
		Market exit barriers defined	Ignoring the existence of exiting barriers may have strong consequences. Exiting a country is often very costly because it is followed by substantial fixed costs, it can also deteriorate the corporate image or damage a reputation.

## Appendix 6 continued

Creating competitive advantages	Resource-based view + VRIO framework	Company's internal resources and capabilities are defined. The base for competitive advantage is created.	This approach is focused on a company's internal skills, resources, and capabilities as a starting point of strategy development. After defining the company's unique skills, affordable resources and internal capabilities, the best suitable product market can be determined. To transform company resources into a sustained competitive advantage resources must have four requirements summarised by the VRIO framework
	Three-circle model	Value created by a company is analysed	The three-circle model provides a method of explicitly identifying the customer value in a market and how a company can break it down and improve a firm's competitive position and profit potential.
		Pricing strategy decided	Companies can adopt different pricing approaches. In practice, companies do not usually use a single strategy, but they use a balanced approach. Three main pricing methods can be distinguished: cost-based pricing, customer-based pricing, and market-based pricing approach.
		Non-price factors are detected	The company is not competing on a single factor like price or quality, but the total package offered to the buyer matters. Non-price de-emphasizes price by developing a unique product, service, and marketing support.
Developing an effective communication strategy	8 Steps approach: identifying the target audience; determining communication objectives; designing communication; selecting channels; establishing budget; deciding on media mix; measuring result; managing IMC	Communication strategy is selected	Marketing actions need to be accomplished within a specific target audience at a specific time with a specific goal. Marketing communications is defined as a tool to inform, persuade, or remind the customers about the company and products provided.

Source: compiled by the author based on the theory part

## **Appendix 7. Questions from a structured interview with end customers**

The research aim of the master's thesis is to develop a strategy for exporting shore power solutions in EU and US markets. The author will fill the research gap by defining points, which need to be taken into consideration on a company level to ensure an efficient export experience of shore power technology in a particular case. The obtained framework can be used by companies in general, but especially by those operating in an innovative niche. The central research question is - What are the most important factors in developing an export strategy for shore power systems?

### **Questions:**

1. Why did your port decide to implement shore power?
2. How is the shore power solution purchasing process organized? Do you purchase it directly or do you make it through a tender system?
3. What are the most important requirements of choosing the shore power solution supplier?
4. How much does the price of solutions matter in choosing the supplier? What else matters?
5. How do you assess the company's reliability? What are the checkpoints for you?
6. How much does the awareness about the suppliers matter to you? How do you get to know about the supplier?
7. What does “great service” mean for you? How important is the local presence for you?
8. How does the experience in shore power implementation of neighbour ports affect the choice of supplier?
9. Do you have any additional requirements for foreign companies?
10. Do you have any further comments/remarks/suggestions for my research?

Thank you for your participation and contribution!

## **Appendix 8. Questions from a structured interview with shore power solutions suppliers**

The research aim of the master's thesis is to develop a strategy for exporting shore power solutions in EU and US markets. The author will fill the research gap by defining points, which need to be taken into consideration on a company level to ensure an efficient export experience of shore power technology in a particular case. The obtained framework can be used by companies in general, but especially by those operating in an innovative niche. The central research question is - What are the most important factors in developing an export strategy for shore power systems?

1. Can you shortly describe your business area? What are you selling/exporting? Who are your customers? What does the selling process look like?
2. How can you summarize the company's attitude to exporting? Export is just an additional activity to home sales or export is a main source of business?
3. Do you use the strategic approach for your export activities? Do you have an export strategy?
4. How do you decide where to export? What does the selection process look like? What are the main criteria in a selection process? Which method of entry in foreign markets do you use?
5. What does the process of formulating the export strategy look like in your company? Who is taking part in that process?
6. How big is the role of different stakeholders in your export strategy formulation? The role of the state, management, customers, competitors, and employees?
7. Is the market strategy of the company market concentration or market spreading? Are you selling to many country markets, or you are penetrating a few ones?
8. What are the key success factors in the shore power business?
9. What are the main competitive advantages of your company? Is the price the most important factor for exporting in your field? What are the non-price factors you are using to compete (ex. 24/7 service, after-service)?
10. What internal and external barriers exist to prevent companies from exporting activities?
11. What is your export marketing strategy? Do you need to adapt your product according to exporting market requirements? Do you have an agency network? What are the additional marketing costs for exporting? Which tool of promotion mix are you using?

## **Appendix 8 continued**

12. Do you have exporting activities in the EU and US? Why did you decide to export to the EU and US? What did the selection process look like?
13. What are the most important factors in developing an export strategy for shore power solutions aimed at US and EU markets?
14. Do you have any further comments/remarks/suggestions for my research?
15. Do you think CMS and shoreside substation providers can have a similar export strategy?
16. Is it possible for the integrator to decide about the CMS supplier independently, without the consultation with the port?
17. Do you think that your export strategy differs a lot depending on the market where you export? What differs? Do you have some key aspects that are constant?

Thank you for your participation and contribution!

## **Appendix 9. Air emission regulations by countries**

In 2021 US Department of Transport (USDOT) announced federal grant and funding opportunities for US ports. INFRA (Infrastructure for Rebuilding America) and RAISE (Rebuilding America's Infrastructure with Sustainability and Equity) are the programs that help ports to carry out projects with significant environmental impact and local economy support. (MARAD, 2021)

China's Ministry of Transport (MoT) has also supported emission control initiatives by releasing an action plan for domestic areas. This regulation is applicable for container, bulk, cruise and ropax vessels. MoT requires shore power or alternative measures usage while berthing over three hours in seaports. Shore power technology should be planned for new vessel construction projects. (Mao, 2019)

The Shore Power Technology for Ports Program (SPTP) will cover up to 50% of implementation costs at Canadian ports. It SPTP is a governmental effort to decrease air emissions levels and reach new living standards for a local community in Canada. (Transport Canada, 2020)

OPS MASTER PLAN for Spanish ports is part of the national action framework, which aims to draft a master plan for shore power projects. The project is promoting OPS usage by providing some advantages for the members, one of them is up to 50% port fees reduction to ship using the OPS facilities. (Santander *et al.* 2018)

Norwegian innovation project Enova is the biggest driver of shore power ideas in the shipping industry. Enova covers not only installation expenses, but also supports startups and other companies in design-related equipment and technology to contribute to emission reduction initiatives. (GCF, 2019)

## **Appendix 10. Main obstacles in developing shore power projects**

Even though shore power technology has existed for more than 10 years, it is still not widely used. Some obstacles are hard to overcome. The main one is the cost of infrastructure and equipment. However, there are different opportunities if getting the financial support, which comes from governments, investors and in Europe from European funding entities. The United States has also proposed supporting policies for shore power deployment. Although the benefits of shore power installation are clear, there are some business case limitations. The first barrier is the difference between state and private-sector port ownership. For the private-owned ports, it is harder to obtain state funding and investment programs. And due to the high capital costs, privately-owned port authorities are less motivated to invest in shore power without state support. The cost varies from project to project, depending on numerous factors. In order to recover the capital costs, port operators need to sell electricity to the ships at a higher price than they buy it. The profit depends on several factors: demand, vessel type, cost of reinforcement, alternative fuels price accessibility, cost of grid electricity and environmental tax. (Bullock, 2020) Moreover, ships can manipulate the port by shifting the routes or switching back to engines if the price is higher than expected. It is very hard for the port to predict the potential costs and revenues. However, the payback period would be long in most cases due to the small volumes of sold electricity. (Lu & Huang, 2021)

Another concern stands over alternative fuels and the development of innovative technologies. As the payback time is long, it is important to be sure that in more than ten years shore power would not be replaced. It is important to note that alternative fuels like hydrogen and ammonia are produced using some amount of electricity, so possibly it can be cheaper to use electricity directly without a “three-step process”. (Steen & Borgø, 2019) Generally, most of the port and ship operators are considering the shore power as a no-regrets move, notwithstanding that not all of them are ready to face the complexity and necessity of negotiations with various actors. COVID has also limited the stakeholders' investment capacity. (Bullock, 2020)

## **Appendix 11. Existing financial initiatives and subsidies**

The whole shore power solutions, which would power one vessel can cost around 1-2 million euros, depending on the ship type. Ports usually need to offer more than 1 connection point, so these are huge investments. Another important issue is the “chicken and egg” dilemma. Ports need to be sure that the shipowner will invest in onboard installation to be ready to connect to shore power on land. Shipowners need to know whether the ports would be ready to offer them electricity supply before investing in it. What needs to be done first: port shall be ready to offer a solution or vessels shall be ready to receive the power from the shoreside? (Wu & Wang, 2020)

Correspondingly, financial initiatives and subsidies play a vital role in supporting shore power installation. Financial initiatives can come from governments, investors and in Europe from European funding entities. The United States has also proposed supporting policies for shore power deployment. The most noticeable funding agencies in Europe are (Baig & Tariq, 2021):

1. The EU Green Deal programme aims to support the aviation and maritime sector. Funds, which were created under this program finance implementation of environment-friendly technologies. Shore power installation can be also covered by grants.
2. The CEF (Connecting Europe Facility) provides support for building shore power infrastructure.
3. The EU Horizon 2020 programme covers both feasibility study and installation of the shore power.

Moreover, banks and other financial institutions are also offering loans at low-interest rates for shore power installations. For the ports, shore power infrastructure is a source of revenue with a long payback period, which is highly dependent on electricity and fuel price, port stay time and vessel type. As the shore power technology is a promising one, some companies are ready to invest in the charging stations. They will develop, build and operate facilities covering all the costs and getting all the profit. (Ballini *et al.* 2022)

## Appendix 12. Codes from the interview with end customers

Theme /Responder	Port A (Europe)	Port B (Europe)	Port C (USA)	Port D (Europe)	Port E (USA)	Port F (Europe)
<b>Decision reason</b>	EU Fit for 55 strategy	EU Directive	Port internal vision to be sustainable	EU Directive	Port internal green strategy	Port internal sustainable strategy
<b>Purchasing process</b>	Tender or direct purchase.	Tender (as it is a Governmental Subsidized company)	Tender	Tender	Tender	Tender
<b>Requirements for supplier</b>	Suitable adjusted solution	<ul style="list-style-type: none"> <li>• Time to market</li> <li>• Reliability</li> <li>• Price</li> </ul>	<ul style="list-style-type: none"> <li>• Price</li> <li>• References</li> </ul>	<ul style="list-style-type: none"> <li>• Price</li> <li>• References</li> <li>• Suitable technical solution</li> </ul>	Price	<ul style="list-style-type: none"> <li>• References</li> <li>• Financial capability</li> </ul>
<b>Price competition</b>	Technical part is more important	Price matters a lot in a procurement process	Price is very important but also experience, local, prompt support	Price 60%, technical value 40%	60% of the total value is the price	The main criterion is price
<b>Reliability indicators</b>	<ul style="list-style-type: none"> <li>• Experiences</li> <li>• Knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Balance sheets</li> <li>• Customer references</li> <li>• Engineering references</li> </ul>	Experience	<ul style="list-style-type: none"> <li>• Economic capacity</li> <li>• Technical capacity</li> </ul>	References	<ul style="list-style-type: none"> <li>• References</li> <li>• Financial capacity</li> </ul>
<b>Awareness of supplier</b>	Investigation starts with the already known suppliers.	Matters most	Presence at conferences	Important	—	Important

## Appendix 12 continued

<b>Non-price competition</b>	<ul style="list-style-type: none"> <li>• After service and training</li> <li>• Fast, reliable, quick reactions</li> </ul>	<ul style="list-style-type: none"> <li>• Timely delivery</li> <li>• Local presence (at least partners)</li> </ul>	Local presence	<ul style="list-style-type: none"> <li>• Timely delivery</li> <li>• Service (Regular support)</li> </ul>	Service	Local presence (while the general construction phase)
<b>Neighbour experience</b>	Feedback from other ports matters	It does not matter	Easier to schedule maintenance (it is not crucial)	Does not affect the choice of supplier	Important point to assess in a tender process	It does not matter
<b>Requirements for foreign companies</b>	No additional requirements	Local presence (partner to operate in a place)	<ul style="list-style-type: none"> <li>• Local presence</li> <li>• Knowledge of local standards</li> </ul>	Local language while tendering	No additional requirements	No additional requirements

Source: compiled by the author

### Appendix 13. Codes from the interview with shore power solution suppliers

Themes/Answers	Supplier X (Cable management system)	Supplier Y (Shoreside substation)
<b>Export as activity</b>	Main source (internal market is very small)	Main source (internal market is also covered)
<b>What is an export strategy</b>	Organisational strategy	Shooting from all the cylinders
<b>Market selection</b>	Market is ready and mature in short term and long term. Sales agents as a source of knowledge.	Company capacity
<b>Strategy level</b>	Business strategy (focus is on being competitive within our industry and our market area)	Combination of corporate and business strategies
<b>Differences in strategy depending on a market</b>	<ul style="list-style-type: none"> <li>• Yes, it may differ depending on continent and country</li> <li>• Key elements remain the same</li> <li>• Additional market regulations</li> </ul>	Key aspects are mostly the same. The points that would differ are: <ul style="list-style-type: none"> <li>• Mentality</li> <li>• Evaluation criteria</li> <li>• Local market dominance</li> <li>• Offer to detail</li> </ul>
<b>Process of strategy formulation</b>	Sales manager is creating the strategy CEO and board is approving it	Joint venture (due to the company size)
<b>Role of different stakeholders in strategy formulation</b>	Company initial strategy (formulated by CEO)	External factors (state rules and regulations)
<b>Market strategy</b>	Market spreading	Market spreading
<b>Key success factors</b>	<ul style="list-style-type: none"> <li>• Product (attractive)</li> <li>• Aesthetic product portfolio</li> <li>• Focus on sustainability</li> <li>• Green products (without the use of oil, fuel etc)</li> </ul>	<ul style="list-style-type: none"> <li>• Product</li> <li>• Experience</li> <li>• Price</li> <li>• Being in the right place at the right time</li> <li>• Contacts</li> <li>• Activities</li> </ul>
<b>Competitive advantages</b>	<ul style="list-style-type: none"> <li>• Price</li> <li>• Acceptable terms and conditions</li> <li>• 24/7 service</li> <li>• Adjustable design</li> </ul>	<ul style="list-style-type: none"> <li>• Price</li> <li>• Responsiveness</li> <li>• Service</li> <li>• Experience</li> </ul>
<b>Barriers of exporting</b>	External: state rules, regulation, market readiness, corruption Internal: bureaucratic organisational processes	External: state rules and regulations Internal: capacity
<b>Communication strategy</b>	Agent Network, digital media tools	Direct digital communication

## Appendix 13 continued

<p><b>Key success factors in developing export strategy both in EU and US</b></p>	<ul style="list-style-type: none"> <li>• Right local partners (knows local rules and regulations)</li> <li>• Correct product portfolio</li> </ul> <p>Internal resources</p>	<ul style="list-style-type: none"> <li>• Studying the market and its opportunities</li> <li>• Right local partners (knows local rules and regulations)</li> <li>• Creating a local agent network</li> <li>• Being active at all times</li> <li>• Gathering information about competitors</li> <li>• Right pricing</li> <li>• Respecting regulations and applicable standards</li> </ul>
<p><b>Procurement process</b></p>	<ul style="list-style-type: none"> <li>• Always different process</li> <li>• Ports can purchase directly or through integrators</li> </ul>	<p>—</p>

Source: compiled by the author

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