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# Master Thesis

## Industrial Asset Management

*“Roadmap for upscaling operational capacity”*



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Stavanger, June 2020

## Preface

This report is a result of the final result for the master program “Industrial Asset management” at the University of Stavanger. The master thesis is written in cooperation with Olvondo Technology AS.

With this I would like to thank everyone who has contributed to the consultation and provided insight into the necessary information and relevant challenges related to the problem. I would like to thank my supervisor at the University of Stavanger, Kristin Engh, for a good collaboration throughout the project. Her discussions and thorough feedback have been of great help throughout this process. I would also like to give a huge thanks and appreciation to my external supervisor Stefano Vittor for giving me an exciting master's thesis in collaboration with the company Olvondo Technology AS. Both Stefano and the other employees have been very helpful in sharing their knowledge and thoughts on the issue and sharing useful internal information. They have also given me the opportunity to visit their partner company in Sweden, Astra Zeneca, to see HighLift in operation.

Working with everyone has been a joy and a purely positive experience, and I greatly appreciate their interest and dedication they have shown in my research during this period.

Rebekka Hansen

Stavanger, June 2020

## Summary

It has been evident to the market that there is a desperate need for environmental-friendly industrial heat pumps that could deliver heat above 150°C, as this is the highest temperature today's heat pumps can deliver. This is why Olvondo Technology decided to develop a high-tech heat pump that reduces emissions by using waste heat with electricity to create a high-temperature process steam up to 200°C. Olvondo is now looking at the opportunity to take the unique high-tech industrial heat pump one step out of Norway and Scandinavia and expand to the European market. This thesis will therefore explore how Olvondo can scale up its operational capacity to succeed in an international market. This research is divided into two parts; a PESTEL analysis that looks at drivers and barriers by entering the European market, and by looking at Olvondo's internal resources and how to steer the company towards growth. To succeed, a strategic business plan is required on how the company will evaluate the various activities in their value chain up to growth and what is needed from external resources.

The internationalization to a new country or market is influenced by several factors in the country/region's macro-environment. These factors can affect sales both positively and negatively, and it is important to be aware of these before entering the market. The study of the EU's macro-environment shows that several factors are helping Olvondo succeed in its sales in Europe. There are good trade agreements with Norway and HighLift is something that the industry needs for several reasons. Due to the EU's mandatory reduction of CO<sub>2</sub> emissions from industry, HighLift is an ideal product for industry firms to invest in to achieve this goal.

In a successful internationalization process, companies are required to have knowledge of the foreign market and insight into a particular country or region's market. This knowledge can be acquired through building relationships with local businesses in the target market. Forming a strategic alliance is a way of working with local businesses to gain regional market expertise and sell a product to a new market simply and effectively. For a faster and more efficient way of entering the European market, the research shows that Olvondo should form alliances with different distributors in Europe. Various tasks in Olvondo's value chain will then be outsourced to alliance partners depending on what resources they have to complete. This will contribute to a more efficient sales process where each party will each benefit from the cooperation in its own way. This thesis will also investigate how Olvondo should organize themselves to prepare for this cooperation through cross-border alliances.

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## Abbreviations

AZ	Astra Zeneca
CO <sub>2</sub>	Carbon Dioxide
EEA	European Economic Area
EIIs	Energy-intensive industries
ESO	European Standardization Organizations
ETS	Emissions Trading System
FAT	Factory Acceptance Test
FTI	The Fast Track To Innovate
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
GHG	Greenhouse gasses
HHP	Temperature heat pumps
kt	kilotonnes
IEA	International Energy Agency
MCP	Medium Combustion Plants
MCPD	Medium Combustion Plants Directive
MNE	Multinational enterprises
NO	Norway
OT	Olvondo Technology AS
PESTEL	Political, Economic, Social, Technological, Legal
R&D	Research and Development
RMC	Remote Manage Control
S/M	Sales and Marketing
SAT	Site Acceptance Test
SME	Small and medium-sized enterprise
WO	Westcon Olvondo
WTO	World Trade Organization



# 1. Introduction

The climate has changed a lot over the last few decades and the United Nations Climate Panel says that it is extremely likely that greenhouse gas emissions from human activity are the main cause of the temperature rise on Earth. These changes are very worrying and affect both nature and people around the world. To avoid these irreversible effects and stop climate change, we need to release much fewer greenhouse gases than we do today. In 2018 the industry accounted for 21% of the World's greenhouse gas emissions (Enova, 2017). Although European industries have improved their environmental performance in recent decades, they are still responsible for significant amounts of pollution to air, water, and soil, as well as the generation of waste (European Environment Agency, 2020). The industry is the largest heat consuming sector where industrial process heat is used for a wide range of things, as heating of space, the production, processing, and finishing of products. There is a significant need for industrial heat in the EU industry, where 20% of the heat demand is in the range of 100 to 400°C. Today, most of this useful heat comes from direct combustion of fuels, because no previous heat pump technology could reach temperatures above 150°C (Olvondo Technology, 2018).

In 2005 the founders of Olvondo Technology AS identified the gap in the high-temperature industrial heat market. They developed HighLift as a cost-and-energy-efficient high-temperature heat pump (HTHP), which reduces the environmental impact of energy-intensive industries. The technology pushes the upper boundary of output temperatures with help from electrical power and low-temperature waste heat. HighLift has already been sold to several industrial plants in Scandinavia and is now ready for commercialization to the European market. Their main target market is the process industry, the dairy industry, and the paper industry. The lack of market knowledge and contact networks has led Olvondo to want the escalation of the HighLift sales to be done through partnerships with international distributors. For Olvondo to have a successful market entry into a new global market, it is important to consider what opportunities they have and what risks this entails. I think the commercialization of new technology is an important and exciting topic in today's growing global industrial development.

## 1.1 HighLift: the technology and EU funding

HighLift is a technology based on a thermodynamic process that is functioning as a reverse Stirling engine. It consists of four reversible processes in series, where it uses electrical power

to drive the compression and expansion of helium gas in closed twin-cylinder circuits and drive a temperature lift as shown in Figure 1. HighLift generates high-temperature steam from low-temperature waste heat. Compared to other HTHPs on the market today, HighLift's technology is unique by delivering hot water or steam up to 200°C.

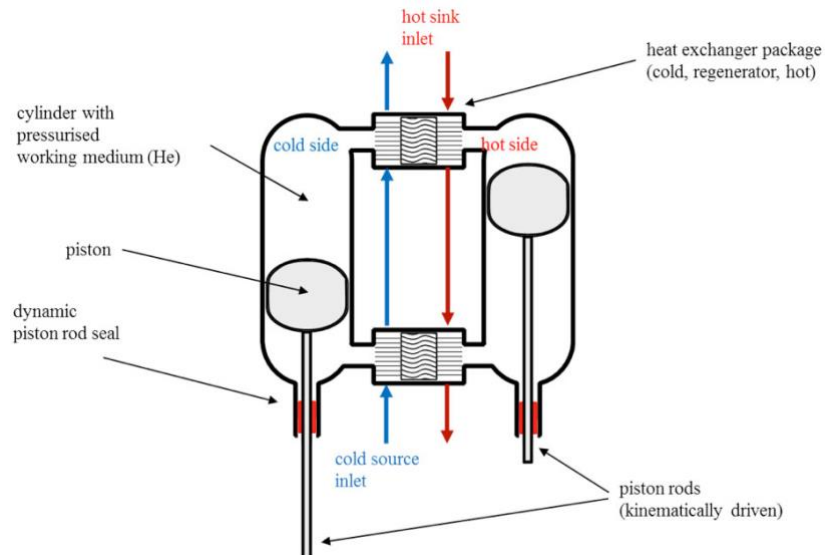


Figure 1: Schematic overview of the heat pump configuration. (Olvondo Technology, 2020a)

Olvondo Technology AS has been accepted to receive funding from the biggest EU Research and Innovation program, Horizon 2020 (European Commission, n.d.-j). The Highlift project fits strongly with the priorities for the support program The Fast Track To Innovate (FTI). The FTI program supports innovation technology activities that are close-to-market. The aim is to reduce the time from idea to market and to help the private sectors invest more in research and innovation (European Commission, n.d.-f).

### 1.1.1 Value proposition

Olvondo Technology has developed solutions for profitable energy recovery at a high-temperature heat pump, illustrated at Astra Zeneca facilities in Gothenburg in Figure 2. The heat pump is built on a single-phase-process which means that the temperature lift takes place in one phase. HighLift combines the waste heat and electricity to high-value steam instead of wasting excess heat from other processes. One HighLift heat pump reduces the environmental impact from steam generation with 70-96%, which equals to almost 600 metric tons of CO<sub>2</sub> per year. HighLift helps industries achieve their environmental target by reducing the CO<sub>2</sub> emission, replacing fossil fuel with waste heat, and optimizing energy consumption. For a company, that means they can get Eco-friendly label on their logo that shows that it meets high

environmental standards throughout their life-cycle (European Commission, 2020a). Unlike most other heat pumps the HighLift uses helium as a safe working medium. HighLift can recover up to 50% of energy emissions and energy is recovered in the form of steam.



*Figure 2: Illustration of a functional HighLift heat pump at Astra Zeneca's R&D facility in Gothenburg.*

## 1.2 Commercialize HighLift to the European market

Any industries with high-temperature processes linked to simultaneous cooling demand are attractive for HighLift. However, their main target market is regions where there is pressure on fossil fuel prices compared to grid power. When Olvondo is now ready to commercialize HighLift, they have divided their specific project objectives into three steps; final prototyping, piloting & validation, and commercialization readiness. Their third generation of HighLift is now undergoing technical maturation and final prototyping for market readiness level. OT will technically advance the system and qualify the service in real-life operations with industrial conditions and over 8000h of testing at Astra Zeneca's world-class pharmaceutical R&D facilities in Gothenburg, Sweden. The commercial and economic viability of HighLift has been confirmed. To enable rapid and successful commercialization of HighLift, OT has developed with Astra Zeneca and other industrial test users technical and commercial roadmap for international commercial scaling. OT has initially decided to start its market commercialization plan with industrial European states, and their primary sales targets are Sweden, Benelux, Switzerland, Finland, Denmark, and Germany. Several potential customers around the world have already been in contact with OT and shown interest and willingness to use HighLift.

The main objectives for OT in this process are to ensure the entire HighLift supply chain is prepared and optimized to handle increased sales when introducing HighLift to the European market. This includes a solid up- and down-stream value chain, including commercial partners enabling OT to bring HighLift from R&D to the global market for industrial HTHPs. So far, sales have only been in Scandinavia and have been done directly by their own specialized sales team. Based on their successful business model in Norway, downstream sales and support network will be expanded to meet the international plans and bring HighLift into the EU market. In the international market launch of HighLift they will adopt a 2-pronged commercialization approach; direct sales by either their own sales team, consultants & agents, or value-added resellers (e.g. district heating companies) or indirect sales via industrial steam equipment suppliers. Possible solutions for Olvondo to enter the international market is to establish a strategic alliance with European industry companies to gain regional market expertise or make collaboration with industrial distributors in Europe that will perform customer contracts and geographical market coverage for OT. They also need to implement internal changes within their organization for upscale strategy ready for execution and value chain prepared to handle sales and growth. OT, which is the coordination organization, will have to undertake changes with the market entry and international commercial scaling. Financial, material, and human resources needed to commit to the roll-out need to be estimated. Will they be able to meet these demands from their internal resources and will they have to seek financial help from outside the company? (Olvondo Technology, 2018)

This leads to the main question for the thesis;

*How can Olvondo upscale their operational capacity to succeed  
in an International market?*

To be able to answer this, three research questions have been formed:

1. “How does the macro-environment affect the opportunities for establishment/sales in Europe?”
2. “How does the organization and structuring of the company affect the opportunity for growth?”
3. “What significance can strategic alliances have on the opportunities for growth in an international market?”

### 1.3 Constraints

The scope of the report is limited to a possible size due to time and resource constraints. One limitation to the report is that the potential market entry is limited to Europe and the EU as a whole, and not some individual countries within the EU. In the section that examines the external environment's impact through a PESTEL analysis, this thesis has therefore focused only on regulations and factors related to the EU and the WTO. In the PESTEL analysis, limitations have also been made as to which factors one has chosen to investigate further, several macro environments could be investigated and one could go even deeper into those prepared to obtain a more complete analysis of Olvondo's future position in Europe. Another useful and possible way of looking at Olvondo's potential for growth in Europe is to understand the competitive forces of HighLift`s in the European industry through a "Porters Five Forces" analysis. Limitations have also been made to investigate all possible entry methods in depth, and rather chosen to focus on the most appropriate form throughout the report.

### 1.4 Structure of the Report

This thesis contains of five chapters. Chapter 2 will discuss the choice of theoretical framework that is used in answering the research questions for this thesis. The theory are split into a small part of PESTEL framework covering the macroenvironmental affections and a larger part covering the method of entering international markets. The chosen market entry focus has been on strategic alliance as a form of cooperation and its characteristics, benefits and risks as follows. Chapter 3 covers the methodology used, how the data is collected and used, as well as self-reflective criticism of what could have been done differently. In chapter 4 the various research questions are answered and discussed. This part also forms the basis for the conclusion in Chapter 5. In order to best answer the research question and main questions of the thesis, it is chosen to implement the results section in the discussion chapter. This section is based on the findings presented in Chapter 2.

## 2. Theoretical framework

The first research question “How does the macro-environment affect the opportunities for establishment and sales in Europe?” will be answered through a PESTEL analysis. When entering a foreign market and selling a new product to European countries, doing a PESTEL analysis can be useful for developing a sustainable competitive advantage. By assessing political factors in the EU, like regulations, policies and standards related to industry and trading of products, it will give the company a better understanding of their new market launch. This part will also examine their technology and how the economic situation in EU will affect the sales of a new product. What regulations must be taken into considerations before commercializing their product to the European market? How does HighLift help meet EU’s environmental targets to reduce carbon emissions in different sectors? And how do European companies focus on renewable products?

Research question number two, “How does the organization and structuring of the company affect the opportunity for growth?” will be answered by looking at what internal capabilities and resources the company has itself, and what will be more effective in outsourcing to a local distributor. When you enter a foreign market you often have a lack of local knowledge about the industry and potential customers. Which parts of the value chain will be decisive for Olvondo to carry out themselves and which activities will be most effective in obtaining assistance from a local distributor. This insight will also indicate what type of alliance partner they should choose and how to cooperate with them in the best way? What requirements should be made for any strategic alliance partners that Olvondo will need to succeed in a European market?

The third question, “What significance can strategic alliances have on the opportunities for growth in an international market?”, will be answered based on theory of how strategic alliances should work together and how this cooperation influences Olvondo's strategy. The differences between doing sales through agents and distributors will be addressed and what they will gain from forming strategic alliances with companies. This question will also be affected by technological factors like the role of internet in today’s global business growth. What responsibility will Olvondo still have and what will be placed on their partners? How will strategic alliances affect their organization structure?

## 2.1 PESTEL framework

When an organization plans to enter a new market, identifying and analyzing the factors that support the viability and legitimacy of organizations will be essential for its success (Glowik, 2016). These factors are Political, Economic, Socio-cultural, Technological, Environment and Legal, referred to as the macro environment. Glowik defines the macroenvironment as the set of external environment factors and forces, not controlled by the company, that has a direct impact on the business' success, strategies and decision making. The external uncertainties that are embodied in the firm's international target market can have an effect on their market entry strategy in a foreign target market. This uncertainty can be instability in the political system, legal restrictions about trading and exporting, as well as a country's protection of intellectual property rights. A well-known tool for scanning these macro-environmental factors to reduce the uncertainty for a business is PESTEL (political, economic, social, technology, ecological and legal factors) analysis (Sander, 2019).

## 2.2 Value chain

After looking at how receptive the external environment is to the product, it is natural to then look internally at the company's value chain activities to gather insight into product production from start to finish. A firm's competitive advantages arise from the attention to minute details that add to its relative cost position and produce a base line for differentiation (Porter, 1998). The value chain activities are a reflection of its strategy and includes the steps from when a good or service is designed all the way through production, marketing, delivery and aftersales support of its product. An examination of how each step is performed and how they each interact systematically with one another is key to analyzing where the firm's competitive advantage lies internally. Porter emphasize the value chain as a basic tool for doing so. The term "value chain" is defined as "a series of activities that directly creates value for the company" (Porter, 1998). A crucial source of competitive advantages are the differences in company's value chains. The value chain consists of value activities, the physically and technologically distinct activities a firm perform. To perform each value activity function, purchased input, human resources and some form of technology are used. In competitive terms, value is defined as the amount buyers are willing to pay for what a firm provides them, measured by total revenue. The goal of any generic strategy is creating value for buyers that exceeds the cost of doing so (Porter, 1998).



A firm’s value chain is embedded in a larger stream of activities, the value system, illustrated in Figure 3. In a firm's value chain, the used purchased inputs are also parts of their suppliers value chain (upstream value), and the finished product will eventually be part of its buyer’s value chain. The vertical linkages between a firm’s chain and the value chains of suppliers and channels, are referred to as the “supply chain” and affects the cost or performance of a firm’s activities (Porter, 1998).



Figure 3: Value system

Porter (1998) further explains that in an industry, the firms may have different value chains that are affected by the differences in various items in their product line or different buyers, geographic areas, or distribution channels. When only serving a particular industry segment, firms can lower their costs by tailoring its value chain to that segment. Competitive advantages can be affected by widening or narrowing the geographic markets served or competing in related industries. In these situations, a firm may exploit the need of a broader scope internally and chooses to form a type of coalition with other firms. The partners coordinate and share their value chains to broader the effective scope of their chain (Porter, 1998).

When a business decides to increase growth by selling goods or services internationally and expanding the business to new markets, the company must identify those value chain activities that form the basis of its competitive advantages (Jones, 2012). Its remaining noncore functional activities should be reviewed if they can be outsourced to a local company with the missing competence and knowledge to be performed more efficiently and effectively. When the strategy a company deploys to improve its competitive position in a market, is to outsource one or more of its value creating function, it is essential to finding the successful partner with local competency (Jones, 2012).

Upon entering a new foreign market, a company must identify value chain activities within their processes that can be outsourced to a local firm. The importance of utilizing a local firm lies with the experience and knowledge of the area that they bring. Without the support of a local business who is familiar with the marketing patterns of the area, a firm is left to the use of trial and error in entering a market they are not prepared to sell to. While some research and



analysis can be done digitally, there is no better source of knowledge on a culturally different environment than those groups who have learned to thrive within them. No amount of research can replace the first-hand experience local firms can bring to a foreign firm's value chain. Using a local firm as a distributor will allow the outsourced activities to be more profitable and effective.

### 2.2.1 Organizational structure

After looking at the various value chain activities and how they can be distributed between the company itself and a local distributor to have the most successful market entry, the next step is to examine how the organizational structure should prepare for global growth. Previously stated, Porter mentioned that value chain can be used as a tool for diagnosing competitive advantages and finding ways to create and sustain it. However, Porter further states how the value chain also can play a valuable role in designing organizational structure (Porter, 1998). He explains the connection between the value chain and the organizational structure “with organizational structure grouping value chain activities that have similarities, such as marketing or production, together under organizational units.” These activities are usually put together in the same department, which again are separated from other departments because of their differences. Organizational theorists call this separation of like activities for “differentiation”. Jones (2012) describes it as “the way in which a company allocates people and resources to organizational tasks in order to create value” (Jones, 2012, p. 228). The ability to and need to coordinate the organizational units, comes along with the separation, usually termed “integration” (Porter, 1998, p. 59). When it comes to integration, this mechanism is used together with control system to promote coordination and cooperation between functions and divisions. Differentiation and integration are the basic building blocks of organizational structure (Jones, 2012, Chapter 9).

A company's organizational strategy makes the foundation of its organizational structure. Organizational structure are used “as a vehicle for managers to coordinate the activities of a company's various functions, divisions, and business units to take advantage of their skills and competencies” (Jones, 2012, p. 228). Jones (2012) also mention that good organizational design increases profit and help coordinate activities and information in an efficient way. When a company expands from not having clear department divisions, to expanding with employees and geographical area, strategic managers faces two choices. These choices cover how to

differentiate the organization to create value, by using vertical and horizontal differentiations (Jones, 2012, Chapter 9).

*Vertical differentiation strategy*

Vertical differentiation choices are how the strategic manager choose to distribute decision-making authority in the organization to best control value creation activities. In vertical differentiation the appropriate number of hierarchical levels and correct span of control is chosen to link people, tasks, and functions at all levels of a company (Jones, 2012, Chapter 9).

*Horizontal differentiation strategy*

Choosing the appropriate form of horizontal differentiations is the next choice corporate managers must do. To increase their ability to create value, strategic managers divide people and task into divisions and functions (Jones, 2012, p. 228). This is done for ensuring the company’s strategies are met by strategically grouping objectives based on organizational tasks and activities (Jones, 2012, p. 234). Decisions about how much authority to delegate to managers at the divisional or functional level, and if there should be separate sales and marketing departments or they should be combined are done here. Jones further states that when a company grows, the range of tasks that must be performed expands and when the same person have responsibility for more than one organizational task, it could result in this person being overloaded. Functional structure is the form of activities grouping that for most companies is the most efficient way of handle the needs of the growing company at least cost. People with common expertise, experience or that are using the same resources are grouped together, as shown in Figure 4. An advantage of functional structure are that it gives managers greater control of organizational activities and people that perform the same task can learn from one another when they are grouped together (Jones, 2012, Chapter 9).

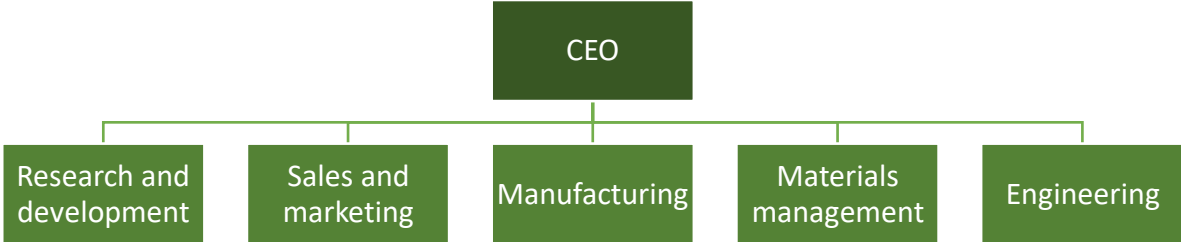


Figure 4: Example of functional Structure

When a company decides to follow a global strategy by entering new markets, managers must change the governance structure according to this change. Of course, entering into a partnership with a local company will affect the organizational structure of the original firm. Managers must build an organizational structure for managing the flow of resources and capabilities between the international divisions (Jones, 2012). The structure is influenced on what kind of tasks in the value chain the company has the resources to perform themselves and where they lack the knowledge and resources, and the local company will implement these.

### 2.3 Entering international markets - Sale channel structure

A firm's growth strategy is often realized by globalizing valued added activities and enlargement of its business through geographic expansion into foreign markets. Globalizing means that a product or service are sold to a market outside the country in which the major value-added activities take place (Glowik, 2016). The decisions concerning the firm's entry to foreign markets are among the most important a management will ever have to take. Time, effort and extensive market research must be devoted to the decision-making process (Rosenbloom & Larsen, 1992). Glowik (2016) points out that a clear formulation of the firm's objectives in the target foreign market is required in the strategic concept of international market entry.

A product can take many different routes to reach its final consumer. In business and industrial markets, different sales channel structures options are used for reaching foreign markets. Two different products can require very different distribution channels, and the marketers search therefore for the most efficient channel for its product from the many alternatives available. When a company introduces a new product to a global market, they face the tough question of what type of entry mode or channel structure to use (C. M. McDaniel, Hair, & Lamb, 2012). An entry mode is the organizational arrangement the firm chooses for reaching its foreign market targets (Bennett & Blynthe, 2002). Should they market and sell the product directly with their own salespersons or go through independent foreign intermediaries, such as agents and distributors? In order to successfully enter and operate in the chosen foreign market, the chosen channel structure a firm uses in developing its marketing channels will become a reflection of the function it needs to perform. After identifying the basic functions, it requires, an appropriate channel structure is developed based on that (Rosenbloom & Larsen, 1992).

The options of whether to choose exporting, using an agent/distributor, licensing, or entering into an alliance with a host country company should be considered carefully and, based on this, the company chooses the entry mode that relates most to the company's overall strategy (Bennett & Blynthe, 2002). The best choice of entry mode for a company is based on the strengths and weaknesses of their competency (Jones, 2012). The firm's available resources are crucial to the decision about how they should enter foreign markets (Glowik, 2016). Before searching for foreign market requirements, the firm's internal capabilities and competence is important to assess (C. M. McDaniel et al., 2012). Firms often seek experiential knowledge about institutional factors, such as how to deal with local laws, governments, and cultures, as well as knowledge about the markets (Glowik, 2016). Assessing which value chain activities, one lacks in comparison to a foreign market should dictate the choice of entry for that entity. By identifying areas, a company has to improve upon in their value chain and seeking the best resources in their new market to enhance those areas they are able to merge more effectively and strategically.

As mentioned previously, entering a foreign market could either be done directly to the customer or indirectly by cooperating with an intermediary (C. McDaniel, 2012). Direct channel sales are used when "the local subsidiary completely manages its own distribution to customers" (Skjøtt-Larsen & Schary, 2007). A product and/or service are then delivered from a firm to an importing company based on a contractual agreement. Exporting a product directly to its customer lets the firm undertake personal relationships with the importing customer abroad. But this requires more resources as traveling, managing the negotiations and contracts (Glowik, 2016). The differences between countries concerning languages and cultures and the lack of knowledge in international business also creates market uncertainty and could be an obstacle in the direct sales process (Glowik, 2016, Chapter 2; C. M. McDaniel et al., 2012). Cross-border trade barriers are also a major challenge for firms exporting a product on their own and when the manufacturing location is far away from the export sales market, the after-sales service will be more difficult and expensive to do (Glowik, 2016). A company having no or little experience in the business of foreign trade, indirect sales are desirable to use to initiate its first foreign engagement. A cooperative strategy allows you to improve your competitive advantages through cooperation with a local company (Child, Faulkner, & Tallman, 2019). Partnering with other organizations creates significant advantages for companies that lack significant competencies, resources, or opportunities. Collaborating between companies where one may have local market access, and the other a brand product and tacit knowledge of the

brand in other markets, will they benefit from the collaboration. It may also provide easier access to a new market with its local market knowledge, and reduce costs and risks related to new market entry. Child, Faulkner, & Tallman (2019) further describe that cooperative strategy can be realized through various forms of collaborations and partnerships between organizations, generally described as “strategic alliances”. Sometimes the only way for firms to enter into an industry or a national market, is through cooperation with a local firm that will offer you value competency and resources that the foreign company lacks. The flexibility of strategic alliances is an advantage over other modes of entry. This flexibility allows firms to respond to changing market conditions effectively, without changes in the ownership structure of participating firms (OECD, 2001). Commitment and trust are key attitudes in a successful alliance. After selecting to form an alliance, “the selection of an appropriate form is an important element in the design of the alliance” (Child et al., 2019, p. 104). This varies from technology-development coalitions, marketing, and distribution agreements to multi-country alliances. When a lack of local market information is the main reason for the formation of a collaboration, the alliance form is chosen based on this.

Once the entry method of collaboration has been selected, how this is implemented is significant for avoiding international marketing concerns. When entering new markets, uncertainty and risks are also involved. Risks involved with all the available options of entering foreign countries, costs, and possible loss of control need to be considered carefully. The chosen market entry method has to reflect the company’s overall strategy, goal, and what period they wish its objectives to be achieved within (Bennett & Blynthe, 2002).

### 2.3.1 International Strategic Alliance

A PESTEL analysis studies the external environment of the target market and the value chain is based on the company's internal assumptions. Based on this result, a decision is made on how to commercialize the product in the most successful way. By using independent foreign intermediaries, such as agents or distributors, to enter a new market by forming an alliance, it gives the company more control over the cooperation.

The industrial structure at a global level is reshaped by new trends and combinations of cross-border and globalization which are changing the patterns and scope of global business (OECD, 2001). Strategic alliances have become a common path to internationalizing operations, research, and markets, and increase the presence and influence of foreign companies in national

economics combining competition and cooperation. It is considered one of the most powerful mechanisms for industrial restructuring on a global basis and can be effective tools for outsourcing non-core business activities, streamlining, and restructuring (OECD, 2001).

It is common that strategic alliances arise due to deficits within partners that they are seeking to strengthen. When one partner is considered weak in an area of its resources or activities it is tactical to pair with an opponent who is stronger in that area to be able to learn (Child et al., 2019). Due to the economic and industrial change in the West since the end of World War II, it has led to the steady reduction of trade barriers and the increasing globalization of markets. This has meant that strategic cross-border alliances and other forms of collaboration between companies, has had a dramatic growth since the mid-1980s (Child et al., 2019). Strategic alliances are one way of cooperative market entry strategy and are established to strengthen the participating firms` competitive position in the markets. (Glowik, 2016) “Strategic alliance are cooperative agreements between two or more companies to work together and share resources to achieve a common business objective” (Jones, 2012, p. 215). Alliances can also be partnerships between firms across national borders in the same or different industries, and then referred to as an international strategic alliance (Jones, 2012).

By forming an international strategic alliance, the local firm gives regional expertise, market goodwill, and can help secure government and public approvals, that may help establish the business and facilitate entry into a foreign market for the focal firm (Glowik, 2016). Jones (2012) further points at an alliance between companies across national boundaries of being a way to bring together complementary knowledge and assets, like regional client data, that neither company could easily develop on its own. A strategic alliance is established for firms to implement different product branding strategies in the international markets, and includes all from informal agreements and short-term contracts to more formal contractual agreements, such as long-term outsourcing (Jones, 2012).

### *Types of alliances*

Researchers have not agreed on one set of classifications despite the interesting variety of taxonomies in cooperative forms. Inter-organizational cooperation has therefore been defined in a wide variety of ways in the literature with different terms (Child et al., 2019). Despite this, many researchers have agreed that the basic forms of alliances include joint ventures, minority equity alliances, and contractual alliances (Teng & Das, 2008). One way to classify is via legal

form, including minority equity exchange or joint ventures, even distribution agreements. Another way could incorporate the position in the value chain where the activity takes place, or the functions performed such as manufacturing, distribution, or sales (Child et al., 2019, Chapter 5). This means that alliances may link firms vertically or horizontally, where horizontal strategic alliances are characterized as cooperation at the same stage of value-added activities. Vertical strategic alliances are alliances between partners carrying out different activities in the value chain, like suppliers and buyers (Child et al., 2019; Glowik, 2016). The options available are illustrated in Figure 5.

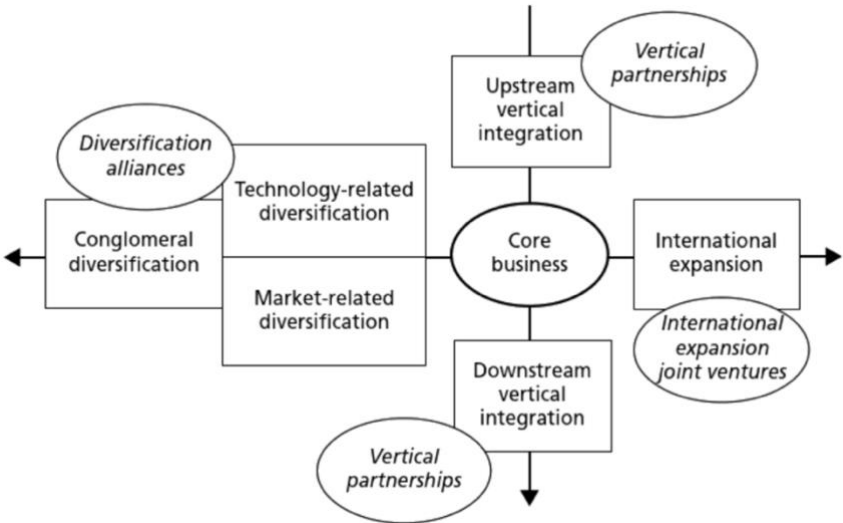


Figure 5: Expansion options and types of partnerships. (Child et al., 2019)(p. 115)

Alliances are divided between non-competing firms and competing firms. For various strategic purposes, firms agree on cooperative strategies with both competitors, suppliers, and customers from other industries or sectors (Jones, 2012). Alliances between non-competing firms have three divisions: international expansion, vertical integration, and diversification, and those are the once we will look deeper into throughout this thesis. A common motive for those is expansion. When companies decide to expand into new geographical areas, they use international expansion as a strategic move. Vertical integration alliances help firms secure its supply line or distribution outlets while diversification alliances may take a company outside its comfort zone (Child et al., 2019).

Another researcher notes that the main motivation for alliances has shifted over time with now taking more advantage of the increased speed of technological changes and adjusting to the rapidly growing competitiveness of global markets. Faulkner (1995) has used the three



dimensions; scope, legal nature, and size of membership in his analysis of alliance forms, where scope represents "whether they have a focused objective or the relationship is a complex one involving many parts of the partners' value chains". For example, when a company is seeking to enter a foreign market with a given set of products, they may form a "focused alliance" with a local distribution company as its means of market entry. The focal firm then provides the product and promotional resources, while the partnering firm provides the sales force and local know-how (Child et al., 2019). One way of allying is by outsourcing its search for new resources in the marketplace through distributors.

### *Distributors*

In order to gain market access to business and organizational markets in other countries, manufacturers that enters foreign markets around the world often make use of industrial distributors. (Rosenbloom & Larsen, 1992) "A distribution channel is a chain of businesses or intermediaries through which a good or service passes until it reaches the final buyer or the end consumer." (Kenton, 2019) Distribution channels are part of the downstream process and can include wholesalers, retailers, distributors and agents. Industrial distribution is often used when companies are selling standardized items of moderate or low value. They are in many ways like a supermarket for organizations. The distributors perform important functions along the value chain. Providing foreign market information, customer contracts, technical support and geographical market coverage (Skarmas, Katsikeas, Spyropoulou, & Salehi-Sangari, 2007). When referencing literature from business and international marketing strategies, it is widely stated that the use of foreign industrial distributors being employed by manufacturers entering into foreign business markets is a fundamental strategy. Surprisingly however, there is not much evidence supporting if manufacturers have a favorable agreeable or disagreeable view of the industrial distributors part in their foreign marketing channels (Rosenbloom & Larsen, 1992).

### *Motivational factors*

The Brouters has identified various motivational factors that make an important contribution to the success of a strategic alliance. A successful alliance must have cooperative skills and compatible goals. When creating a thriving strategic alliance, choosing a partner with complementary skills is the most important aspect. Firms must be willing to give as much as they get and when it is not a two-way street the alliances are bound to fail (Brouters, Brouters, & Wilkinson, 1995). There are also some motivating factors for forming strategic alliances.



The challenge of entering new international markets are one particular motive for adopting a cooperative strategy and entering into alliances (Child et al., 2019). Other motives for the firm are the response to the changes in the external environment or their deficiency in certain areas of its operations. Getting adequate market access and the need for speed to take advantage of a short-term market opportunity are motivational aspects of forming alliances. The decision to use a cooperative venture form is often based on economic and organizational considerations, where the consideration of what kind of alliance form, they should choose, is often driven by strategic motives. An additional motive for choosing alliances is the flexible opportunities of being able to learn about the partners' capabilities and the challenges, while the uncertainties and risks inherent to new fields like countries and partners are reduced. Other motivating factors for forming alliances are the risk reduction that comes with the facilitation of international expansion of inexperienced firms. The links of the complementary contributions of the partners in a "value chain" in vertical integration also contribute to the formation of alliances. Another motivational factor is gaining market power in new international markets. Cooperation with an external local firm allows the focal firm to facilitate international expansion, compete more effectively against competitors and still maintain their competitive position in its existing market (Child et al., 2019, Chapter 8).

### *Drivers of alliance formation*

To provide a strong motivation for a strategic alliance, identifying the external and internal drivers for each potential partner is also necessary. Some emerging market governments require to form partnerships with local multinational enterprises (MNEs) firms to enter their markets. This shortens the product life cycles and globalization of technology or growing industry are some key external driving forces for alliance formation (Child et al., 2019). One can see that these forces are often interrelated. The recent years the globalization of markets and technologies and getting access to adequate resources and competencies have been some of the key factors.

When it comes to the internal needs, learning by each other and getting access to the other firm's assets and making sure this is not been shared unnecessary are some internal reasons of forming strategic alliances. Resource based motivation in alliances are used when a company alone have inadequate resources, skills or competency to achieve its identified objectives, but together the potential synergies from cooperation are leading to competitive advantage. Other internal factors that has been mentioned as motivating needs for establishing alliances is the

partners local knowledge, marketing skills, distribution channels and their managerial skills. A key internal motivator in forming an alliance, is a mutual understanding of resource-dependence where both partners are likely to have different, but complementary resource needs which they want their chosen partner to help them meet (Child et al., 2019, Chapter 8).

*Life-Cycle*

The alliance lifecycle is a process or structure approach for forming alliances. Most alliance life cycles are similar, so this process can be used as a roadmap to follow for creating successful alliances (Watenpaugh, 2013). Most companies have used the seven-step alliance lifecycle process framework shown in Figure 6, which is a combination of the best practices for alliance success from the members of the Association of Strategic Alliance Professionals (ASAP) (Simoons, 2012).

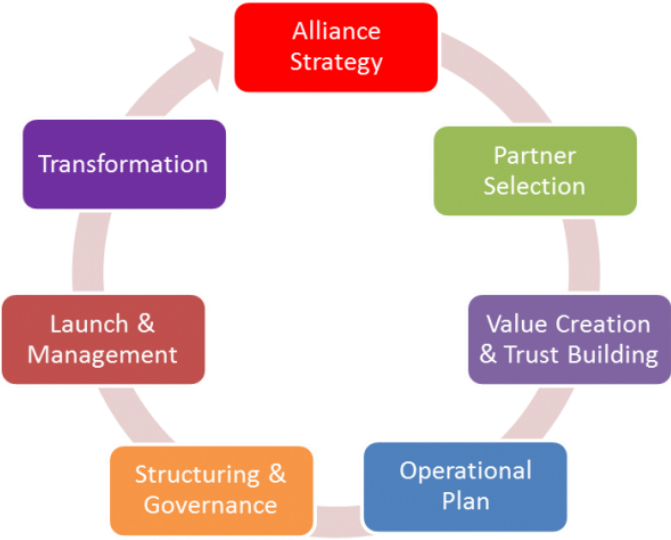


Figure 6: Alliance Lifecycle. (Watenpaugh, 2013)

In the first phase, you set the business strategy, and equally important as having the right strategy is having the right partner. (Watenpaugh, 2013) The key to developing an alliance strategy is by understanding your objectives in partnering, whether it is to gain access to markets, develop new technologies or products, or create a distribution channel. (Watenpaugh, 2013) After a partner selection has been made by the focal firm, the choice of contractual or equity alliance takes place. (Child et al., 2019, p. 185) Building trust and creating value is an ongoing process that continues throughout the life of the relationship. The operational planning phase leaves a day to day plan that breaks down the details of how the work of the alliance is to be accomplished. A review of the main phases of the alliance life cycle and factors in each

phase that are critical to alliance success will be reviewed in more detail. The Alliance Structuring and Governance phase focuses on creating the governance structure and the organizational and legal framework concluded with a contract based on the work done in the previous phases. The last phase is all about alliance operation, implementing work plans with clear roles and responsibilities (Simoons, 2012).

### 2.3.2 Alliance formation and partner selection

Firms' strategies are selected to improve their competitive postures and by gaining advantages over their competitors. The alliance formation should be based on how to overcome a lack of resources, how to manage environmental uncertainties, and how to manage their inter-organizational relations (Das, 2014b). To have a successful alliance, the right partner selection is of vital importance, and building a successful alliance partnership belongs to the most complex of management tasks (Glowik, 2016). Porter and Fuller (1986) have identified six criteria they believe may judge the appropriateness of an alliance partner (Child et al., 2019, Chapter 9). First, make sure that the partner has the requisite scale, technology, market access, or other contribution to give a competitive advantage that you don't possess alone. The second criteria are the need for the partners to be a complementary and balanced contribution, which means that they should be both complementary in their contributions, but also are roughly similar in size or strength. Also make sure that both partners have a compatible view of international strategy and accept the other's intents and attitudes to international coordination. The risk of your partner becoming a competitor must be low. Although this criterion is often ignored, it makes trust and commitment more important in cooperation. The last two criteria cover the partners' pre-emptive value concerning rivals and how their organizational compatibility is high due to that future problem concerning cultural conflicts is reduced (Child et al., 2019, Chapter 9). A good partner should help the company achieve strategic goals and help to gain market access and access to critical core competencies. The partner firm must, in other words, have capabilities that the company lacks and that it values. (Jones, 2012) They should not only complement each other but as important that they need each other. (Child et al., 2019) A good partner is also unlikely to exploit the alliance opportunistically and steal the company's technological solution for its purposes while giving little in return (Jones, 2012).

Identify potential partners in the first phase of entering into strategic alliances. The selection of strategic alliance partners is a critical aspect of successful alliance development. Being aware of what the purpose and motivation of the strategic alliance should be, is crucial for a firm, and

then identifying potential partners according to this (Cummings & Holmberg, 2012). Reviews of more than 40 studies showed that these three partner traits have a positive influence on alliance performance: partner complementarity, partner commitment, and partner compatibility or fit (Kale & Singh, 2009).

Strategic and cultural fit has been identified as an important precursor and qualities to alliance success. An optimal partner for an alliance is where both strategic and optimal fit is present. When identifying a partner, by assessing strategic fit you will make sure that the joint value chain of the partners will achieve sustainable competitive advantage for the partners. Complementary assets and potential synergies are aspects of the individual value chain that are necessary for success. For example, if the companies have complementary assets, like one have a good product and the other a good sales force, the competition is hard to beat if these strengths are not sufficiently synergistic (Child et al., 2019). Strategic fit is referred to the factors found to boost alliance performance in terms of available complementary resources, compatible business models, and alignment of strategic objectives. The successful integration of the partners' cultures or an accommodation of each other's culture in a mutually acceptable manner is defined as cultural fit. When partners continue to rely on their distinct frames of reference it can lead to miscommunication and misunderstandings and harm the success of the alliance (Das, 2014a).

We still know little about how implications of cultural differences between partners affect alliance performance. The firm's operations are shaped by an organizational culture that refers to a complex set of values, beliefs, assumptions, and symbols. To have a successful alliance, mutual trust, relational embeddedness, and relationship engagement must be present between the partner's interactions to make collaboration more effective and improve alliance performance. Relational embeddedness is referred to as knowledge exchange and facilitating the development of specialized knowledge to realize opportunities that may not have otherwise materialized. The partners' intent to establish enduring, reciprocal obligations in their alliance is described as relational commitment. These relational mechanisms promote coordination, conflict resolution, knowledge sharing, and resource investment, and are expected to enhance the performance of nonequity alliances. When there are organizational differences in an alliance, the collaborative relationship is likely to weaken. For example, if one partner in an alliance is open about information sharing while the other is not, mutual trust is less likely to emerge (Das, 2014a).

Alliances are formed to access needed capabilities, gain knowledge, and seek competitive advantages. Finding the best-fit alliance partners requires a comprehensive partner selection process. Successful alliances are affected by selecting the right alliance partner and effective alliance management. Alliance partner assessment and selection have received increased attention in alliance literature since it is important considerations for executives making alliance partner decisions (Cummings & Holmberg, 2012). Cummings and Holmberg present a new conceptual comprehensive partner selection framework that includes new perspectives on and analysis of four critical alliance partner selection criteria; task-related, partnering related, learning-related and risk-related critical success factors (CSFs). Most past alliance partner selection research has only focused on task and partner criteria, and research has shown that, in practice, managers often only consider task-related objectives, without giving risk and partnering ones any considerations (Cummings & Holmberg, 2012).

#### *Task related factors*

“Task-related CSFs refers to the specific tasks that an alliance would be formed to accomplish” (Cummings & Holmberg, 2012). This includes obtaining access to a comprehensive distribution system, help with local knowledge for marketing, and establishing a customer base with local suppliers/firms. Strategic alliances typically involve two or more individual firms that agree on sharing control and responsibility for a common product or project from which one or more of the partners derive strategic advantage. One of the main motivations and advantages that can arise from forming strategic alliances is gaining synergy advantages by blending their complementary resources and capabilities between the partnering firms. Alliances that are formed to obtain complementary resources, like fill a resource gap, strengthen a market position or enter new markets, are the most common form of alliance and identified as a “resource-sharing alliance”. Another advantage with resource-sharing alliances is that the partnering firms’ can focus on their capabilities and strengths and continue specializing in its business aspects rather than attempting to master and manage several business aspects at the same time (Cummings & Holmberg, 2012).

#### *Partnering related factors*

Partnering related CSFs focuses on the relationship between partnering firms and how to evaluate potential partners in any alliances. These factors focus on the most important relational aspects of firms in any forms of alliances. Partnering related factors also determine the role that

relational factors may have on the alliance outcome. As alliances are formed across borders and cultures, the various participants' interpretations and relationships will shape the alliance's processes and outcomes. All possible factors that may influence collaborative performance results must be considered because if one fails to establish a good relationship from the start, it is difficult to rebuild this later. Literature and collaborations about alliance point out the differences in national and corporate cultures, as well as strategic interests as relational factors that need to be considered for how well collaborators work together. Difficulties like bridging different cultures, lack of experience, trust, and implementing appropriate administrative systems can arise even if parties are positively disposed to work together in an alliance. Something as basic as setting correct expectations for your partner and lack of clear guidelines on who the different tasks are assigned to may lead to conflicts and relationship issues that may ultimately negatively affect alliance operations and outcomes. The partners' different capabilities can also affect alliance outcomes (Cummings & Holmberg, 2012).

#### *Learning related factors*

Most alliances also involve some degree of learning between partners as an important element in their design. The pace of changes in many industries is big, and having your alliance partnering firm help you with stay on top of important R&D, technology, customer, foreign market and distribution developments at the same time could be really helpful and important for a company that wants to globalize their firm. Using the resource sharing alliance as a coping mechanism to gain this knowledge can be too costly and cumbersome. Rather, in such situations, several firms choose to obtain necessary knowledge from other firms through learning through alliances. There is a difference between an alliance formed to leverage the knowledge of another company and a learning alliance. When forming a strategic alliance where the purpose is to get help with market entry in a foreign market, the focal firm often seeks to leverage another firm's market knowledge in a specific product market. In an alliance one firm will obviously have the possession of valuable knowledge that should be shared with their partner. Many alliances fail because of knowledge is not been shared effectively. All companies have undocumented knowledge about essential routines to follow to achieve superior process outcomes. When this knowledge is not transferred to the new firm it can result in poor operational performance. In other cases, the transferred knowledge may be hard to understand or relate to, especially in cases where there is too significant knowledge gap between the parties (Cummings & Holmberg, 2012).

### *The ideal partner*

The criteria for choosing alliance partner are often strongly related to alliance motives. By having clear motives about what you want from an alliance partner and what you want to achieve with the collaboration, makes finding the best suitable partner easier. In the face of an increasingly global market, companies find themselves inadequacy in some fields, such as lack of resources and skills. The motivations for setting up alliances are when prospective partners have complementary assets and can supplement those skills and resources in order to supply each other's deficiencies, because their own skills and resources are perceptibly less than those required to meet a challenge. Forming alliances with those of similar size is often preferable in order to minimize the risk of the bigger partner using its power to take advantage of the smaller partner. Looking up the potential partners' reputation and status would be an additional important criteria to considered (Child et al., 2019, pp. 198–199).

#### 2.3.3 Trust building

Trust is the basis of success in alliances (Child et al., 2019, Chapter 4). Trust exists in all level of cooperation and can mainly be separated into two different dimensions; goodwill trust and competence trust. Goodwill trust covers the expectations of moral obligation that others in the social relationships puts their own interest aside for demonstrating a special concern if necessary. Competence trust refers to the expectation of a certain expertise to be performed. Organizational cooperation creates a mutual dependence between them which requires trust to succeed (Das & Teng, 2001). Most managers involved in alliances are aware of the significance of trust. Establish trust between people representing different companies is challenging, especially for international strategic alliances, who cross the boundaries of the cultural and institutional systems. Factors that also can affect partners' willingness to rely on trust is the differences in partners' nationalities and the contexts in which they are embedded, like "high trust" countries show a higher willingness to rely on trust in cross-border alliances, whereas those from "low trust" countries. Trust between the partners is required to help overcome the threat of one taking advantage of the alliance for its own benefit by combining elements of cooperation and competition, or try to form common goals that are not in the best interests of both parties. Trust ensure that partners communication is effective and consistent in sharing information and making decisions, it allows both parties to feel confident that neither is taking advantage of the other (Child et al., 2019).



### 2.3.4 Operational plan

After selecting the partner, they then decide how the work of the alliance is to be accomplished. This is done by setting an operational plan. “The plan describes the roles, responsibilities of the partners, the resources and people who will assigned to the collaboration and the activities, tasks, and timelines” (Watenpaugh, 2013). Most companies are very good, or at least competent, at operational planning. In alliances with at least two different firms these plans are developed jointly between the partnering firms. Setting up an environment built on trust is therefore crucial to the forward success of the alliance (Watenpaugh, 2013). During the operation of a project, it is important to building fair contracts with its partner, and making strategic and operational decisions leaves a smooth operation of the strategic alliance. Being able to work together by agreeing on goals and policies is essential for the survival of the alliance (Das, 2014b).

### 2.3.5 Preparation of governance structure

Once a partner has been selected, the governance form chosen for an alliance relationship is important in influencing the success of the alliance (Das, 2014b). Governance is the formal structure of the alliance which identifies the different ways of working and decision making. Who is to be responsible for the distribution that is set up is determined in the governance structure (Skjøtt-Larsen & Schary, 2007, p. 143). “Alliances are governed by a particular combination of structural and relational governance mechanisms” (Das, 2014a, p. 56). Das explains the use of contracts and monitoring as part of structural governance, whereas relational governance relies more on managing the relationship based on trust and loyalty.

During the design phase of the alliance life cycle, how the alliance governance is constructed is crucial to alliance success. The governance of alliances intends to ensure that the activities are directed toward the achievement of the partners’ objectives by combination of structures and processes. Effective governance means having adequate control over the alliance’s policies and operations while also ensuring that requirements are met. Forming successful alliances requires managers to have a better understanding of what really underlies this success and how they can manage them in a proper way (Kale & Singh, 2009).

The choice of alliance governance is influenced by a number of situational factors. Alliance governance has to satisfy criteria such as the combination of coordination, control, and motivation. Collaboration alliances where there is no separate company created between the



cooperative firms tend to have two common governance characteristics. Collaborations usually don't have an elaborate management structure, but information exchange and processing could be key functions of collaborations. The coordination mechanisms assume high impotence. The partners normally establish each role that will help ensure accurate communication, control the alliance by monitoring its implementations, and keeping partner top managers informed of progress. A friendly and forbearing attitude, as well as develop a high level of trust is vital for these role being successful (Child et al., 2019).

The second characteristic is control, which should ensure coordinated adjustments between the partners. Protecting the partners assets by preventing information transfer beyond that agreed, is one way of control collaborations may have to focus on. An alliance formation requires each partner to share some control (Child et al., 2019, Chapter 11). Insufficient control can limit a partner's ability to efficiently utilize the resources it provides to the alliance. In alliances we divide the level of control into strategic control and operational control. Strategic control includes control of all from the means and the methods to the external relations with suppliers, competing organizations, and government agencies. Operational control covers the work done within an alliance. These two levels of control are largely dependent on each other. Which means that strategic control is facilitated and depends on the ability to exercise control at the operational level within an organization. Despite the growing interest of control mechanisms, the biggest choice in alliance governance structure have been whether to choose equity or contractual governance structure. A study of US alliance partners shows that equity-based governance structures are usually used by alliances having the objectives of joint R&D and/or joint marketing, or where there is a tendency of uncertainty between the partners. On the other hand, one saw that if the partners had experience with managing alliances, they were more open to contractual governance structure. Protecting against risk that can arise in cooperation is the primary aim of alliance governance. Due to cultural differences and different preferences of governance regulations, alliances between partner firms from different countries is likely to be more exposed for risks and uncertainties (Child et al., 2019, Chapter 11).

One mechanism to address governance issues in an alliance is setting contractual provisions in the alliance agreement. Contracts will help prevent the risk of abusing exchanged information and will manage exchange hazards in a variety of ways. The partners mutual rights and obligations will be clearly set in a contract by specifying each firm's inputs to the alliance and expected outputs from the relationship. Another mechanism, referred to as "relational governance", is self-enforcing governance, relying on goodwill, trust and reputation. Reducing

transaction costs enhances the likelihood of alliance success. Contracting costs and costs related to complex adaptation are minimized because the partners are willing to be flexible and trusts their partner to behave fairly (Kale & Singh, 2009).

Alliance partners must realize the benefits of their relationship and coordinate their action to manage their interdependence. But lack of sufficient knowledge about how one's actions are interdependent with the others or how information should be handled and mediated, can cause severe coordination problems (Das, 2014b). To manage coordination successfully, alliance partners can adopt different classic mechanism methods. One mechanism is programming, which involves developing clear guidelines on what specific tasks need to be carried out by each partner, who exactly is accountable for each task, and a timetable for implementing them. This results in facilitate coordination by improving clarity and predictability of partner actions, reducing frustration, and increasing decision-making speed. Another mechanism used to coordinate the partners actions better is the use of hierarchy. Hierarchy includes the creation of a formal role or structure with authority and decision-making ability. The purpose is to oversee ongoing interactions between partners and to facilitate information and resource sharing. Finally, feedback mechanisms and being able to communicate regularly with partners to inform each other of their respective actions or decisions. Establishing joint teams or collocation are helpful for periodically being able to evaluate of the evolving nature of their interdependence and in order to quickly process pertinent information (Das, 2014b).

Alliance structure and hierarchies are significantly different from formal organizations (Das, 2014b). Many differences in management style are attributable to cultural differences, managers need to therefore be sensitive to these in dealing with their partners (Jones, 2012). Governance is characterized as an exercise in balancing trust and control with risk (Kale & Singh, 2009). Building trust between partners and learning from each other is also an important ingredient of success and maximizing the benefits from an alliance (Jones, 2012). Coordination, communication and personal bonding is three broad challenges management needs to address in the post-formation phase of an alliance. Because of the physical, cognitive and cultural distance, and a divided authority structure between partners is good coordination essential. Communication is important for building joint understanding, working together effectively, transferring information and to avoiding misunderstandings. As mention before is trust between alliance partners is essential for a successful cooperation. By foster personal bonding, it lays the foundation for establishing trust between the partners and their personnel.

## 2.4 Risk related to Strategic Alliances

Though forming alliances allow firms creates a competitive edge over competitors by combining resources and capabilities, agreed upon alliances can pose risks along with their benefits (Child et al., 2019). A strategic alliance has many significant advantages, but several potential disadvantages may arise (Jones, 2012). Alliances are a risky strategy because a certain uncertainty follows with all alliances. In strategic alliances, control and trust jointly determine one's perceived total risk. The overall total risk is of two primary types; relational risk and performance risk. "Relational risk is defined as the probability and consequences of not having satisfactory cooperation" (Das & Teng, 2001). This risk arises because of the potential of firms not cooperating in good faith and intention, by having their interest that is not the same as their partners. Performance risks are the probability and consequences that alliance objectives are not achieved. Factors that adversely affect alliance performance are among others intensified rivalry, new entrants, or lack of competence of the partner firms. A partner firm's perceived level of relational risk in an alliance is reduced by goodwill trust, the trust the companies have for each other to achieve compatible goals. Performance risk is linked to competence trust, the firm's various capabilities and resources like capital, human resources, market power, technology, and others. Firms tend to build a reputation for competence if they have been successful in previous alliances. By using both task-related and partner-related factors when selecting partners, performance and relational risk can be reduced (Das & Teng, 2001). The risk of the partnering firm not cooperating in good faith and intention comes in addition to the usual risk of business performance. The risk of resource transfer and give access to valuable client data, such as marketing, manufacturing, and technological knowledge, to the partner firm, may provide a company's competitors with a route to gain new technological and market access (Jones, 2012). The probability and consequences of not having satisfactory cooperation in a strategic alliance are defined as relational risk. This risk can arise when firms have hidden private agendas and have their interest in the alliance that is not congruent with those of their partners. Performance risk is the probability and consequences that alliance objectives are not achieved. These factors account for intensified rivalry, new entrants, demand fluctuations, changing government policies, a lack of competence of the partner firms, and sheer bad luck. Even though learning-related CSFs are considered, and their desire to learn is present, partner firms often fail to achieve effective learning and knowledge transfer in alliances (Das & Teng, 2001).

### 3. Method

As this thesis's main purpose is to investigate how Olvondo can commercialize their heat pump, HighLift, to the European market, I decided to use this as a case study method. After researching and gathering information on various methods to enter a new market, the choice fell to delve more into international strategic alliances.

The method chapter will describe the procedure used to generate knowledge to answer the problem and research questions for the assignment. This chapter will therefore describe how this knowledge is obtained, a justification for the choice of method, and describe the strengths and weaknesses of the method. The purpose is to explain how the work has been carried out and to give the reader an understanding and insight into the choice of method and research design. The method is defined as the process of producing knowledge and the method is the tool in the face of something, we want to investigate (Dalland, 2012). "Research methodology is a way of systematically solve the research problem" (Kothari, 2004, p. 8). The method can be seen as a recipe for how research can be conducted. It should also help to ask critical questions about choices that are made in a systematic way, as well as the consequences these choices can have (Jacobsen, 2015). "It is of vital importance that the research question guides the choice of methods and not vice versa" (Glowik, 2016, p. 6).

Inductive and deductive strategy distinguishes between which strategy is best suited to map reality (Jacobsen, 2015) Deductive approach is based on first creating expectations and then collecting data (empirical data) to see if the assumptions hold or must be rejected. The opposite, inductive approach is when researchers start with an open mind by gathering relevant information and then establishing a theory from this data. As for this thesis, I want to look at how Olvondo will organize its value-chain activities into a strategic alliance to effectively enter the European market. A deductive approach is thus most suitable for this thesis.

#### 3.1 Case study method

After the problem has been clarified, the study program that is most suitable for the specific problem should be chosen. Research programs are systematized according to whether the studies go wide (extensive) or in-depth (intensive) and whether the studies are descriptive or explanatory (causal). Depth describes how we want to study that phenomenon while breadth

tells how many units the survey should cover. In the desire to study how the interaction is between a specific context and a phenomenon, case studies are best suited (Jacobsen, 2015).

The case study method is a very popular form of qualitative analysis that investigates a contemporary phenomenon more in-depth rather than in breadth (Glowik, 2016). A case study is an empirical inquiry that includes identifying a problem/challenge for a social unit, development of initial research questions, and then researching by gathering information through careful and complete observations. The strength of case studies is that it contributes to developing solution scenarios by connecting the student or researcher to social phenomena and real-life situations (Glowik, 2016). In a case study, a full analysis is made of a limited number of events or relationships, and the process taking place in their interrelationships. This research method examines the particular unit that is being intensively evaluated, where the purpose is to locate the factors that explain the behavior-patterns of the given unit (Kothari, 2004). Researchers use a variety of data collection and approaches for collecting their detailed information. A case study is mainly based on a deep and solid literature review but also depends on several sources of evidence such as market research data, interviews, and observations (Glowik, 2016). The disadvantage of studying a phenomenon using a case study is that one can forget to look at important other aspects that deal with the phenomenon because they do not relate to the specific case unit. The strength of the intensive design is that it produces relevant data for the particular device one chooses to investigate, but by relating only to a particular context or a few study objects (units), it is difficult to generalize the findings and claim that it also applies to other cases and devices. On the other hand, the empirical findings are of high relevance to the case object because they are detailed and nuanced (Jacobsen, 2015).

In this thesis, the research object is Olvondo Technology and its strategy for entering the European market. The case study will describe how international strategic alliances will influence their sales in foreign markets. Using a case study method, I gain a deeper understanding of a particular event, namely Olvondo's plan to sell HighLift to the European market. The focus is only on this case and it provides an opportunity to link the theory to Olvondo's wishes and requirements. In a case study method, the result has a risk of being subjectively interpreted by the researcher. It is therefore important to always have a reflective viewpoint of the study. To give me an outside perspective of the situation, it was important in the beginning to create a profound understanding of the subject matter in the case study, as well as their company, technology, and industry. The objectives are not only to study what alternatives are available to enter a foreign market but the overall benefits of Olvondo and how

they affect the entire organization and value chain activities. Using the case study method as research allows me to collect data and history of strategic alliances and fully understand past companies' behavior pattern in this alliance formation.

### 3.2 Quantitative vs Qualitative method

After it has been decided how the study design should be, the method is used to obtain the desired information. The problem and research questions of the thesis again determine which method is chosen. Methodological approaches can be either qualitative or quantitative. Quantitative and qualitative data are two basic research methods where the researchers gather and analyze empirical data. Qualitative data are based on words, while quantitative data are empirical in form of numbers (Glowik, 2016). The fact that researchers systematically collect and analyze empirical data and carefully examine the samples in them is common in both qualitative and quantitative research methods (Glowik, 2016). Qualitative and quantitative methods are equally good but are suitable for elucidating various questions and issues (Jacobsen, 2015, p. 125).

Quantitative methods aim to shape information into measurable units (Dalland, 2012). A quantitative approach is chosen when the problem is about describing the extent or frequency of a phenomenon that can be easily structured (Jacobsen, 2015). The purpose of the quantitative method is to obtain easily systematized information that can analyze several units together. The main point is to categorize and clarify key concepts before the empirical investigation can be conducted. Quantitative methods often use primary data in the form of a questionnaire. It is then common for the investigator to have defined the response options and that the device can only respond within the specified frames. Quantitative methods also use secondary sources in the form of available statistics or surveys. The disadvantage of quantitative research is that it can give a superficial impression to the survey. You must know what you are looking for and want to find the answer to before starting the survey. Since the method aims to reach many units, it is difficult to go into depth and the questions cannot be too complex. The researcher, therefore, makes a strong guide for what information the respondent can give out, and thus there is no room for other information that is not included in the questionnaire, although it should be more interesting than what we ask for (Jacobsen, 2015).

Qualitative research methods describe and interpret a research object if a reasonable amount of qualifying data is not available (Glowik, 2016). It therefore aims to capture, to a greater extent,

opinions and experiences that cannot be quantified or measured (Dalland, 2012). Qualitative research brings out the nuances of data by going into depth and is thus open to contextual matters (Jacobsen, 2015). Therefore, a qualitative approach is chosen when the aim is to describe how people understand and interpret a situation, and when exploration of an unclear problem is needed. Therefore, a qualitative approach is chosen when the aim is to describe how people understand and interpret a situation, and when exploration of an unclear problem is needed (Jacobsen, 2015). The biggest challenge with a qualitative method is that it requires resources. Collected data is also very complex and can be difficult to interpret. It is a method that provides rich information so the individual investigator must manage to relate to the richness and complexity.

In this thesis, it has been most natural to use the qualitative method in research. Since the issue deals with assessing which method is most suitable for entering the European market, as well as how this affects the firm's value chain, it has been natural to use a qualitative approach by examining the various methods of internationalization. In the starting point, the problem was broad and unclear, and a lack of knowledge about the problem made it easy to choose a qualitative method to investigate this more closely. The phenomenon of Strategic Alliance has been investigated in depth by looking at the relationship between individual and context, and how people have interpreted and acted in such situations in the past.

### 3.3 Primary and secondary data

The information collected (data) is the basis for the answer in the report. These data are collected through two types of sources: primary sources and secondary sources. Primary sources are those which are collected and observed afresh and for the first time directly from the primary source. When the data have already been collected by someone else, and the knowledge is based on information collected by others, are categorized as secondary sources (Jacobsen, 2015). In this thesis, I have used both primary and secondary sources to collect and obtain knowledge. Primary data, in the form of conversations with the company, has been used to gain more knowledge and better insight into the company's value chain and the challenges they now face. The knowledge about market entry strategies and strategic alliances are based on secondary sources. Several books and articles have been studied with describing and evaluating various companies' previous experiences with strategic alliance. Secondary sources have also been used to study the macroenvironmental factors in the EU.

### 3.4 Reliability and validity

For results to be usable, the reliability and validity of the thesis are important. Reliability and validity are two different concepts to define that the conclusion one obtains is valid and to be trusted. Reliability reflects the accuracy of the research (Dalland, 2012). Information is reliable if the data is consistent over time (Samset, 2014). Critically discussing validity and reliability shows that one is trying to relate critically to the quality of the data collected. Studies should try to minimize problems related to validity and reliability (Jacobsen, 2015). The reliability of information can be tested by the same person repeatedly doing the same survey, with the same boundaries and assumptions. Regardless of who does the survey, one should then get the same result time and time again if the data is consistent. It can then be said that the research is reliable.

Validity characterizes the goodness of the information and implies that there is a correspondence between reality and interpretation. The validity of the information cannot be verified, but must in principle be based on discretion (Samset, 2014). Validation involves questioning whether we have used the right methods and sources to answer the questions (Jacobsen, 2015).



## 4. Discussion

This chapter will present and discuss how Olvondo Technology AS should progress in their desire to sell HighLift in Europe. The chapter is divided into different sub-chapters to answer the various research questions and lays the foundation for the conclusion. The first part deals with how macro environments affect Olvondo's entry into the European market. The next section looks at Olvondo's value-chain activities and discusses how this is affected by an expansion and which market entry method is best suited for Olvondo. It also considers what the governance structure of Olvondo should look like to best handle international growth. The final section looks at how the choice of forming a strategic alliance will affect Olvondo's opportunities for growth internationally.

### 4.1 PESTEL analysis

In this part I will discuss how the macro environment affect Olvondo's opportunities for sales in Europe. Through a PESTEL analysis, the big picture of their external environment will be investigated and used as a tool to gain a better understanding of the opportunities and threats Olvondo now faces. Olvondo should enter into cross-border strategic alliances with other local firms in their sector to cut costs, streamline operations and concentrate on their core activities while outsourcing the rest.

With the industry being the backbone of European economy and the world is standing on the brink of a new industrial revolution, the commitment to supporting the digital and green transformation of EU industry is necessary (European Commission, n.d.-g). EU is therefore taking action to maintain their industry global competitiveness, reach climate-neutrality by 2050, and make Europe fit for the digital age. The EU Commission is doing various actions to help industry take advantage of the twin green and digital transformations, which will be introduced in this chapter (European Commission, n.d.-g). Before OT can bring HighLift to a successful market launch they must overcome some market barriers, like European standards and certificates, and market acceptance. For HighLift, the main market drivers are to reduce emissions and the cost of energy. These drivers will be address in more detail through the PESTEL analysis. I have chosen to disregard legal factors in this thesis.

### 4.1.1 Political factors

EU have set specific product safety, health and environmental requirement for international trade (European Commission, n.d.-h). Since Norway is not part of the EU, the EU's political regulations are not necessarily the same for Norway. It is important for Olvondo to understand what regulations applies to exports from Norway to the rest of Europe. Before being commercialized, HighLift must obtain approvals and certifications.

#### *4.1.1.1 Legal issues and Government/Policy regulations*

Businesses trading goods in Europe can benefit from certain trade arrangements with other European countries. In the EU, there are free movements of goods mean that most goods can move freely within this territory without any extra costs or quantitative restrictions (European Union, 2020b). To safeguard consumer and environmental rights along with human and animal health, the EU sets critical requirements for businesses to ensure their products meet these requirements before exports. Because of this differentiation, companies need to ensure they comply with the rules that are specific to the EU country they intend to launch a product in (European Union, 2020b).

European Standardization Organizations (ESO) have developed the European Standards which can be used to support EU legislation and policies (European Commission, n.d.-e). These standards are technical specifications defining requirements for products, production processes, services, or test-methods. Standardization is a powerful and strategic tool for improving the efficiency of European policies, and standards can influence most areas of public concern such as the competitiveness of the industry, the protection of human health and the environment (European Commission, n.d.-e). Adhering to these specifications is optional, but it will ensure security, reduce costs, and facilitate companies' integration into the value chain and trade. It may be a good idea for OT to find out which standards are relevant to their part and try to follow them as best they can. The standardizations also lay the foundation to improve the efficiency of European policies.

The International Energy Agency (IEA), has developed several major programs on industrial heat pumps. The main goal of these programs has been to carries out a strategy to accelerate the use of heat pumping technologies in all applications where they can reduce energy consumption and increase the use of renewable energy sources for the benefit of the environment (International Energy Agency, n.d.). HighLift enables emission savings of 70-

96% for industries with high energy consumption and thus facilitates industrial compliance with several EU emission programs, regulations, and targets, including the EU 2030 Energy Strategy and several phase programs of the International Energy Agency (IEA).

#### *4.1.1.2 Safety regulation*

CE marking is a way to indicate that your product has been assessed by the manufacturer and deemed to meet EU safety, health, and environmental protection requirements (European Union, 2020a). It is only obligatory with CE marking for products where EU specifications exist and require the affixing of CE marking. As some products are subject to multiple EU requirements at the same time, it is your responsibility to ensure that the product meets all relevant requirements before affixing the CE marking to the product. Having CE marking on your product is almost an industry requirement to show that the product has been assessed by the manufacturer. The CE marking must consist of the initials "CE" and be visible and legible (European Union, 2020a).

Olvondo Technology is working on getting the CE certification fully completed for sales of HighLift to show that it meets the requirements laid down in one or more of the new method directives/regulations (Standard Norge, 2019). Olvondo is working on having “all HighLift’s components designed according to current standards and best practices that are used for similar machines” (Olvondo Technology, 2018). Partnered with performing a deep analysis of all components needing to be certified, it is also important for Olvondo to review standards and regulations which might hamper, or indeed aid, their post-project commercialization strategy and the rapid market launch of HighLift solution. However, showing a guarantee that all requirements made for the product in the relevant directive/regulation are considered to be fulfilled can contribute to a more credible and safer product for the buyer when it comes to international sales (Standard Norge, 2019).

It is my stance that showing that HighLift is manufactured and built according to CE requirements will have a major impact on the import of the product into the EU. It gives a safe feeling to those who invest in the fact that the heat pump has been prepared under EU safety, health, and environmental requirements. I feel getting CE certification will benefit OT’s sales in a positive way showing that the heat pump is a product that meets the EU safety, health, and environmental protection requirements.

#### *4.1.1.3 Environmental regulation/ protection legislation*

By 2050 the EU is projecting to be classified as a climate-neutral economy with net-zero greenhouse gas emissions (European Commission, n.d.-b). This objective is at the heart of the European Green Deal and in line with the EU's commitment to global climate action under the Paris Agreement. All parts of society and economic sectors will play a role in this transition that is both an urgent challenge and an opportunity to build a better future for all. It is required by all EU Member States to develop national long-term strategies on how they plan to meet their commitments under the Paris Agreement and EU objectives by achieving the greenhouse gas emissions reductions needed (European Commission, n.d.-b).

The EU Commission's goal of climate-neutral competitiveness requires transformation efforts from all sectors, perhaps especially the industry, which is responsible for 15% of EU emissions. The industry should reduce emissions while being competitive and utilize the global market for low-emission technologies and services (European Commission, n.d.-d). Energy-intensive industries (EIIs) produce goods and materials that enable emissions reduction. Though the extent of the transformation is challenging, they recognize the opportunities it brings. A masterplan with recommendations to build the policy framework needed to manage this transition while keeping our industry competitive is developed by the High-Level Group on Energy-Intensive Industries. This masterplan contributes to Europe's 2050 climate-neutrality ambitions with its recommendations for the industries and focuses on the need to ensure a just transition (European Commission, n.d.-d).

Since the demands for the industry requires companies to replace their energy source with more environmentally friendly alternatives to reduce emissions, I credit this can contribute to an increase in the sale of HighLift heat pumps, where their main market drivers are reducing emissions. As a contribution to the Paris Agreement, HighLift addresses important sustainability and climate change issues by reducing energy consumption to supply high-temperature process heat, e.g. can a company save 9.4GWh of power worth €280k with 4 HighLift's at a single plant. HighLift also cuts industrial CO<sub>2</sub> emission to produce high-temperature steam, up to 377 tons per year, depending on the type of fossil fuel that is replaced and the source of electricity for HighLift (Olvondo Technology, 2018). For large enterprises that are continuously dependent on process heat, this will mean big differences. Another advantage is that HighLift is cheap to operate once you have invested. Companies may have previously spent large sums on purchasing power to do the same job for which HighLift now

uses available waste heat. My thoughts are that this will be a significant economical difference for a large industrial plant. Being the first in an international market that can offer process heat or steam up to 200°C in an environmentally friendly way can help increase their competitive edge among competitors. Olvondo must enter the market before new or existing competitors come up with a similar solution.

#### *4.1.1.4 Tariff and Trade regulation/restrictions*

Currently, several free trade agreements and regulations exist through the EFTA, EEA, and WTO that dictate conditions under which services or goods can be sold. Norway's foreign trade must adhere to these agreements including custom duties and taxes that may apply (Utenriksdepartementet, 2019a). EU supports businesses wanting to imports into their countries by committing to freer trade. This is done by reducing import tariffs and removing non-tariff barriers as far as possible (European Commission, 2017, 2019a). As the EU economy is already one of the most open to trade, it may be a good move for OT to start their international expansion here. Imports from EU prices for industrial products rank amongst the bottom in comparison to costs throughout the globe (European Commission, 2019a). Since Norway is not part of the EU, they have established their trade agreements with EU countries through the European Economic Area (EEA) (European Economic Area (EEA), n.d.). The EEA Agreement is Norway's main foundation in cooperation with the EU and the agreement mainly governs their economic and trade relations with the EU (European Commission, 2020b; Utenriksdepartementet, n.d.). The EEA Agreement guarantees equal rights and provides for the inclusion of EU legislation covering the four freedoms: the free movement of goods, services, persons and capital, throughout the 30 EEA States (EFTA, n.d.). I believe such an agreement with the EU with facilitated free movement of goods and services makes it easier for Olvondo Technology to export of HighLift to European countries, which in turn affects their choice to start with the EU as a new market. Through the EEA has Norway built up a good trade relationship with the EU. The agreement that allows goods, capital, services, and people to circulate freely throughout the whole EEA area facilitates easier export of HighLift for OT.

Norway is also a member of The World Trade Organization (WTO) as the successor of the General Agreement on Tariffs and Trade (GATT), representing 98% of world trade (World Trade Organization, n.d.-c). The organization covers international trade in goods and their goal is to ensure that trade flows as smoothly, predictably and freely as possible. Since this membership entails equal rights that protect against unfair discrimination and duties such as

reducing tariffs, this will also contribute to an easier export of HighLift to EU countries. I agree Norway has made good export agreements with potential exporting countries around the world. The WTO also contributes to cheaper exports for products that can contribute to the environment. Therefore, I do not think Olvondo will face major challenges in exporting the heat pump from Norway to a country in Europe, on the contrary. There are good facilities for easy trade and flow between the countries.

#### *4.1.1.5 Technical regulations and standards*

Technical regulations and standards are important but having too many different standards makes life difficult for producers and exporters, and can become obstacles to trade (World Trade Organization, n.d.-b). Due to environmental protection and consumer information security, the WTO has created Technical Barriers to Trade Agreement (TBT) to ensure that regulations, standards, tests, and certification procedures do not create unnecessary barriers to trade (European Commission, n.d.-i; World Trade Organization, n.d.-b). The agreement allows countries to adopt the standards they deem appropriate. For manufacturers and exporters to avoid adhering to a myriad of regulations, governments should apply international standards. The agreement also pinpoints that procedures used to decide whether a product conforms with relevant standards must be equitable. Any method that would give domestically produced goods an unfair advantage is discouraged. To avoid that product must be tested twice, first by the exporting country and then by the importing country, the agreement encourages countries to recognize each other's procedures (World Trade Organization, n.d.-b).

Before commercialization, HighLift must obtain the necessary approvals and certifications. Olvondo Technology has therefore set a goal of a quality threshold that exceeds both EU requirements and ISO conditions to be on the safe side. It is always also important that OT carefully assess all relevant regulations and standards to verify HighLift compliance. I believe it will be of great importance to the credibility of the product to be able to demonstrate that it is approved and certified according to EU requirements. As of today, all of HighLift's parts are being tested before assembling. The finished product is also tested before sent to the customer's facilities with a Factory Acceptance Test (FAT). Exporting to countries outside Scandinavia might require other testing routines and qualification for approval. Therefore, it is likely that the receiving company will have to run a new test according to its test routines and qualifications, a Site Acceptance Test (SAT). I feel that companies can save a lot of time here in testing if one is better at following the same requirements and routines.

All WTO member governments are required to establish national inquiry points and to keep each other informed, so manufacturers and exporters are informed what the latest standards are in their prospective markets (World Trade Organization, n.d.-b). Olvondo Technology should focus on monitor, assess and review national, regional, and international standards and regulations to secure their commercialization strategy and the rapid market launch of HighLift. It is important to be aware of any amendments to regulations and standards, so HighLift can be adjusted for these specifications. It is also necessary for OT to analyze trade regulations for their target markets.

Certain WTO members, including both the EU and Norway, have joined the Information Technology Agreement (ITA) to provide duty-free access to IT products covered by the agreement (European Commission, 2019a; World Trade Organization, n.d.-a). ITA now represents about 97 % of world trade in IT products, which also focuses on stimulating more innovation and spreading new technologies (Tang & Lascari, 2017). The WTO has developed a mandate to safeguard the interests of developing countries better than before. One result the mandate has achieved is the extension of the ITA agreement. The agreement aims to ensure full duty-free clearance from 50 members on a selection of technology products (Utenriksdepartementet, 2019b). I think this deal could be an opportunity for OT to secure cheaper exports with its HighLift HTHP product, which is a high-tech development for the industry.

#### 4.1.2 Economic factors

The supply of and demand in cross-border alliances are influenced by the macroeconomic environment. In a country where the economic expansion increases earnings and equity prices, investment abroad is easier and more available. On the other side, countries with slower economic growth have tends to work against cross border alliance (OECD, 2001).

##### 4.1.2.1 *Tangible vs intangible assets*

The focus of most international strategic alliances is to seek access to tangible assets such as production facilities and distribution networks (OECD, 2001). Alliance agreements, like customer-supplier agreements or vertical relationships in the value-creating chain, mainly seek to minimize net costs. These alliances may increase profits, but rarely increase the value of the company in the longer term. Access to intangible assets, such as managerial ability, technical knowledge, or brand names, is also a reason why companies want to implement strategic



alliances. This gives you the benefit of increasing the value of the firm's assets over the long term, rather than simply cutting costs in the short term. Intangibles are one way several companies are defining their value on. Having in-depth knowledge of particular markets and customers is something foreign companies see as a valuable asset (OECD, 2001). Tangible and intangible assets also contribute financially to the company in each way. For Olvondo Technology, their needs from the alliance partner will mainly be access to intangible assets in the form of market knowledge for easier and more efficient market entry abroad. This knowledge is something you cannot put a specific value in terms of money, but it is an asset that is difficult for OT to acquire to the same degree on its own. Gaining access to this knowledge through local collaboration will help increase sales for OT. This will create a more well-known brand name internationally, which in turn will generate a financial gain in the future. With HighLift's unique technology as the foundation, OT's internal intangible assets are also important for international sales growth. Having a product and solution no competitor has in Europe, gives them a competitive advantage and the opportunity for more long-term economic growth at an international level.

#### *4.1.2.2 Economic growth in Europe*

The economy of a country affects the ability of companies to invest in new products and services both nationally and internationally. Economic expansion in the home country can increase earnings and share prices and thus available capital for investment. If the host country gets a financial boost, it can increase the short-term profitability of Olvondo Technology and it will be easier to get potential customers (OECD, 2001). HighLift is not a product that industrial companies must have, as they are likely to have a working solution today. HighLift is rather an investment that gives them benefits, and the company's financial situation will determine if this is something, they want to spend money on and invest in. I believe countries that have high economic performance are more likely to be able to invest in such a product, than countries that are performing poorly financially.

The GDP in the EU, which measures the economic activity, has for the two last decades been quite volatile. In the EU, usually, investment and consumption follow the same phases as GDP, just with larger fluctuations. After the financial crisis investment and consumption grew steadily between 2015 and 2018. This means that when the GDP of a country increases, the desire and opportunity to invest in new products also increases. From 2014 to 2018 the economy has progressively increased, with annual growth rates around +2 %. If the European economy



continues to grow at this level, I think it will have a major impact on OT and its potential for future expansion in the EU (Eurostat, 2019a).

The investment rate of corporations shows the businesses' investments as a share of their gross value added. This is a key indicator for the business sector. The investment rate of non-financial corporations has remained relatively stable around 23% until 2017. The profit share for non-financial companies, which is an indicator of business profitability, has also been quite stable in the EU fluctuating around 40 % in the period 2000 to 2017. This shows that companies in the EU are relatively profitable even if they invest in new products. I imagine EU companies will be forced to focus on more investments that contribute to the environment in the future (Eurostat, 2019b).

#### *4.1.2.3 Energy and gas prices*

HighLift is an industrial heat pump designed to cut environmental impact by replacing fossil fuels with electrical power (Olvondo Technology, 2018). In the decision of which EU country, it would be most efficient for Olvondo Technology to start investing in, the country's energy and gas prices play a sufficient role. Their target market in Europe is regions with a low power/fossil fuel price ratio. For OT, it will also be beneficial to target industries in countries that set requirements for reduced CO<sub>2</sub> emissions from industries and where the difference between electricity prices and fossil fuel prices is minimal, or that the former is the lowest. Olvondo Technology will target industry players with high energy costs and high-temperature process steam requirements (Olvondo Technology, 2018).

Companies must see the value in investing a relatively high cost for HighLift, to save the environment and their costs in the long run. The price of energy in the EU are affected by a range of different supply and demand conditions (Eurostat, 2020). To offset this difference in electricity prices between EU countries, the EU is working to create a fully integrated internal energy market by building a common power market share on renewable energy sources (European Commission, n.d.-c). The goal is for energy to flow freely between the EU without any technical or regulatory barriers. Then there will be greater competition between the energy suppliers and they will be able to offer the best energy prices. This increases Olvondo's opportunity for further growth and selling HighLift in several European countries. Countries that today have very high electricity prices and low fossil fuel prices do not see a need to invest in a product they have to pay more to use than their alternative solution.

#### *4.1.2.4 Foreign exchange rate affection on export/import*

In countries where exports exceed its imports, their goods and currencies are in greater demand than in countries which import more than they export. Thus, prices and currency will rise when demand in the country is high (Lioudis, 2019). A country's exchange rate can be adversely affected if its imports increase. If the domestic exchange rate weakens, it will make exports easier but imports more expensive. Conversely, a strong domestic currency will prevent exports and make imports cheaper (Kramer, 2020). In today's global economy more choices are provided to the consumer and products from every corner of the world are more or less available if desired. When a product is priced in one currency but sold to a country with another currency, the price is affected by the present value of the exchange rate in the country to which it is exported. Olvondo Technology has estimated a total cost for the heat pump based on a detailed analysis of cost breakdown for each unit from current test partner projects. If the euro currency rise, OT should adjust their prices to compensate for currency exchange rate shifts to avoid losing customers (Kass, 2019). Trading between countries with different currencies can therefore entail a form of risk that influences the sales.

#### *4.1.3 Social Studies*

##### *4.1.3.1 Sales of sustainable trends in Europe*

The International Trade Center (ITC) has done a recent survey in five EU countries, France, Germany, Italy, the Netherlands, and Spain (Taimasova, 2019). They have investigated the sourcing strategies among retailers to explore their perspective on market demand for sustainable products. The debate on EU trade policy that has taken place in recent years has resulted in demand for international trade to go hand in hand with social, economic, and environmental sustainability. Almost all retailers interviewed by ITC expect demand to grow for sustainable products over the next five years. For retailers in key European Union markets, sustainable products have become a top priority and most expect that this will increase significantly in the next five years. Presented in Figure 7, the survey shows that within the next five years, 92% of the retailers expect sales in sustainable products to increase. An overwhelmingly positive response (Taimasova, 2019). HighLift is a sustainable solution that will play a major role in reducing industrial emissions in the future. All countries in Europe have companies that need high temperatures or steam for industrial processes. The fact that the focus is on a shift towards becoming more environmentally conscious in their processes will

increase interest in HighLift and give Olvondo Technology a greater opportunity to launch their product.

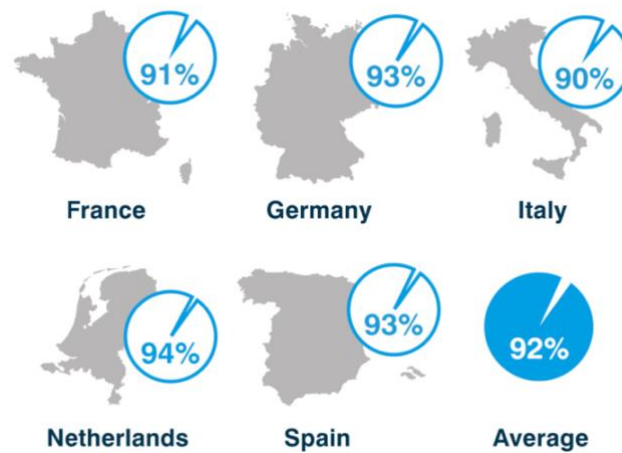


Figure 7: Expect sales growth of sustainable products in the next five years (Taimasova, 2019)

The EU's trade strategy can create decent jobs, promote sustainable development, and raise our awareness of fair and ethical trade schemes. This means that when they buy goods from outside of the EU, they are making sure to do so from sustainable sources. Many retailers commit to source more sustainable products by documenting their strategies publicly. These strategies include buying products that benefit the environment and the people along their supply chains. This involves cutting waste, using renewable inputs, and ensuring safe working conditions for the manufacturers (Taimasova, 2019). I think it is the right time for OT to capitalize on this trend by marketing HighLift to the European market. Companies' adoption of HighLift promotes a safer working practice and better conditions for workers compared to the current state of the art in industrial HTHP technologies. HighLift uses helium as a safe working medium and features of the Stirling design reduces the risk of explosion and potential for lower noise operation. OT must take advantage of this trend by using Highlift's environmental advantage as a selling point to sell to EU countries. Highlift supports Europe's "Sustainable Development Goals" to promote safe and secure working environments for all workers (Sustainable Development Goals, 2019).

#### 4.1.4 Technology factors

The pace of technological change encourages the formation of strategic alliances. The growing ease of communication, the high cost of research, and the need for international standards is

reflecting several ways the technology is driving the formation of strategic alliances at the international level.

#### *4.1.4.1 The level of innovation*

Factors such as the level of innovation of a product can influence the decisions to enter or not to enter a particular market. Being informed about what is going on in technology in the industry is crucial to your market position and success. In selling and developing a unique technology, it is important to be aware of what is going on otherwise, to prevent your business from spending a lot of money on developing a technology that will soon become obsolete due to disruptive technological changes elsewhere. Olvondo Technology has managed to develop a unique technology in HighLift as the world's first industrial HTHP near-market based on a reverse design of the Stirling engine. OT has utilized the latest technologies to make HighLift a key commercial player worldwide. To solve the dilemma of achieving the industrial potential of HTHP in an environmentally sustainable manner while remaining safe and economical, they have applied a variety of engineering designs and thermodynamic methods. Olvondo Technology has analyzed its competitive situation in the international market and compared to other available competitors and competing solutions, the HighLift is the only HTHP that reaches temperatures near and above 180°C. Of their competitors, only one heat pump in addition to HighLift is using single-phase technologies with free choice of a safe and environmentally friendly working medium.

Being the only one on the market with this competitive advantage so far will strengthen OT's market position in the international market. Their technology has taken years to develop, meaning their competitors are a step behind in their development and it will take much needed time before they are on par with OT. This makes it strategically important for them to think tactically in their commercialization in which markets they enter first, and make their brand known at an international level. As is well known, technology is always evolving, so it is important to always be up-to-date and aware of what the competitors are doing, to ensure that they do not unprepared to compete HighLift.

#### *4.1.4.2 The role of ICT*

Cross-border collaborations have become far easier and more practical with the emergence of new information and communication technologies (ICT) such as the Internet, electronic mail, and electronic data interchange. Recent developments in ICTs enable expansion of corporate

control so that companies can share know-how, information, distribution networks, and other assets in different locations simultaneously. MNEs can expand and strengthen their global market position through alliances with local businesses while maintaining effective and flexible governance through ICT systems such as electronic mail and the Internet. This has changed the manner of doing business in many sectors. The recent developments in ICT have made an optimal firm size larger than was previously possible (Kang & Kentaro, 2000). Olvondo Technology's choice to enter into a partnership through a strategic alliance with local retailers depends on good digital communication to succeed to collaborate across national boundaries, it is important to always inform each other about the progression of the individual's work for the best overall result. I feel the opportunities to always be connected and informed about what happens at any given time are crucial and a driver for better collaboration across geographical locations. This will contribute to easier collaboration for OT with its alliance partners. In ICT systems, they can have continuous dialogue, be informed about what the partner is thinking, and working with, and be available for help. Being easily accessible to each other can prevent a lot of irritation, insecurity, and stress by being resolved into unresolved issues as they arise. I believe that good ICT systems will make all cooperation easier for both parties.

#### *4.1.4.3 Government expenditure on sustainable technology*

In the sale of HighLift in Norway, all companies have been granted funding support from the Norwegian company Enova, who works to support companies' transition to the low-emission society. Enova support businesses out to the market that develops good solutions where greenhouse gas emissions are reduced and contribute to new energy and climate technologies (Enova, n.d.). During the last twelve months, they have supported innovative companies with a total of 4,34 billion NOK which has led to a total energy reduction of 1,638TWh. This financial support from Enova has been crucial to the opportunity to invest in HighLift with all Olvondo Technology customers.

As the requirements in Europe for choosing more ECO-innovation solutions are different, it can also be crucial here for companies to have the opportunity to apply for financial support for the investment of HighLift. I wanted to investigate whether the EU had a similar scheme for their countries as Enova. In my research, I did not find a similar company that only worked on supporting environmentally conscious innovation projects. Instead, I found various programs funded by the EU and The European Commission. As far as evidence suggests, most programs are intended for companies that want to develop an eco-innovation, and not for companies that

want to invest in an environmentally friendly product that has already been developed (European Commission, 2020c). One of them is the LIFE Programme for the Environment and Climate Change 2014-2020. This EU program fund projects that respond to Europe’s challenges of climate change by the development of innovative solutions. Another financial institution is the European Investment Bank. They have one part called the European Investment Fund that is specialized in finance for small businesses (European Investment Bank, 2019). However, it also looks like both funding’s are meant for SMEs that are looking for finance to start-up or expand their business, not cases where companies want to invest in preexisting products (European Investment Fund, n.d.). Having seen how important financial support has been to Norwegian companies to invest in HighLift, I think it will be an important factor in getting the same sale in Europe.

4.1.5 Environmental factors

The rising world temperature will greatly increase the risk of large-scale, irreversible changes in the global environment and an agreement on the need to keep global warming below 2°C has been made within the international community. It is both technologically feasible and economically affordable to prevent this global warming from exceeding this threshold. But the world needs to take strong action shortly. Clean technologies such as renewable energy and energy efficiency build the low-carbon global economy that is needed to prevent dangerous climate change (European Commission, 2015). The business environment for sustainable growth, innovation, and job creation should be optimized to create a coherence between industrial, environmental, climate, and energy policy (European Commission, n.d.-g). Around 9% of the world's GHG emissions come from the 28 EU member countries, and as shown in Figure 8, of that 9 %, the industry polluted 7.82% (European Parliament, 2019b).

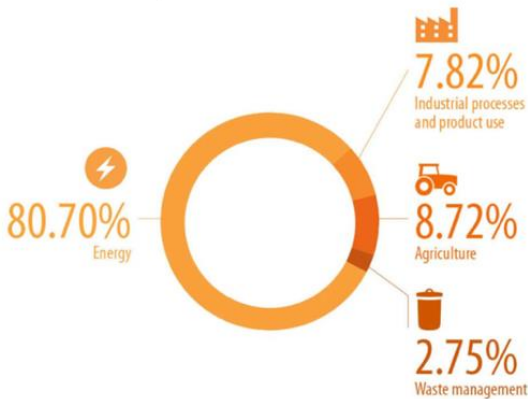


Figure 8: Greenhouse gas emissions in the EU by sector in 2017

#### *4.1.5.1 EU targets and measures for global warming and climate change*

Greenhouse gases emitted by human activities are causing changes in the global climate. Since 1990 the greenhouse gas emissions in the industry have decreased by 35%, equals to 476 000 ktCO<sub>2</sub> equivalents (European Environment Agency, 2019). To prevent dangerous climate changes and meet targets to reduce carbon emissions in different sectors the European Union has come up with ambitious legislation to reach its climate goal (European Parliament, 2019a). The 2030 climate and energy framework are a set of legally binding targets applicable to the entire EU from 2021 to 2030 (European Commission, n.d.-a). Under the Paris Agreement, EU states have agreed to move towards a low-carbon economy by cutting greenhouse gas emissions at least 40% below 1990 levels by 2030. The EU has set a binding target for at least 32% of final energy consumption by 2030 to be renewable energy (European Commission, n.d.-a). With the EU's goal of reducing greenhouse gases, there is a great need for HighLift in the industry. 40% of global energy production is steam-based, which to date has largely depended on heat sources from fossil fuels. With consideration of what energy source used to power HighLift, it is a game-changing solution that can unlock savings between 285 and 377 tons CO<sub>2</sub> (eq.) per user. This results in an emission savings potential of 70-96% regarding industries with high energy consumption (Olvondo Technology, 2018). It is estimated that the widespread of HighLift will contribute to reducing the EU's industrial emissions by 49,600-65,600 tons of CO<sub>2</sub> within five years.

HighLift meets the EU's demands to reduce emissions from industrial companies in several ways. By using waste heat with electricity to create high-temperature steam, they use excess heat from other processes and prevent companies from using fossil fuels for the same process. Also, unlike most other heat pumps, they use helium as a working medium, which is a non-toxic, non-flammable, environmentally friendly natural gas, with excellent characteristics for the transport of energy (Olvondo Technology, 2020b). By meeting HighLift's EU requirements to reduce emissions from industrial companies in several areas, I believe this is a big helping factor in Olvondo Technology's business opportunities in the EU.

Another way of achieving this target and reduce the CO<sub>2</sub> emission from the industry is an Emissions Trading System (ETS) for the industry the EU launched in 2005. The ETS aims to reduce the industry's carbon emissions by obliges more than 11,000 power plants and factories to hold a permit for each tons of CO<sub>2</sub> they emit. The permits are bought through auctions and the price is affected by demand and supply. This means that; the less you pollute, the less you



pay (European Parliament, 2018). For industrial companies, it will be even more important to change their heat source from fossil fuels to renewable energy. This system can also provide a financial benefit to the company by investing in HighLift which helps them to pollute less.

HighLift also addresses several of the Sustainable Development Goals (SDGs) regarding the intensity of industrial energy consumption related to greenhouse gas emissions illustrated in Figure 9. This proves that HighLift is a product that helps protect the planet by reducing greenhouse gases and thus hopefully will contribute positively to their sales to European countries.



Figure 9: Sustainable Development Goals, with markings on those that HighLift meets (Sustainable Development Goals, 2019)

4.1.5.2 Air pollution from the Industry

EU has created a directive on restricting Medium Combustion Plants’ (MCPs) allotment of certain pollutants being pushed into the air (EUR-Lex, 2016). MCPs are applied for an array of applications, notably providing heat or steam for industrial methods. There are estimated to be around 143 000 MCPs in the EU (European Commission, 2019b). This directive, known as the Medium Combustion Plant Directive (MCPD), dictates rules to regulate air emissions resulting from MCPs, alongside rules to watch carbon monoxide (CO) emissions from certain plants (EUR-Lex, 2016). The goal is to diminish potential harm to the health of humans and the environment (EUR-Lex, 2016). One of the rules in the legislation sets out emissions limit values by fuel category. This means that the operators of plants must monitor their emissions, which must be kept in a publicly available register in each EU country (EUR-Lex, 2016). In areas where there is a need to improve local air quality, Member States may need to apply stricter



emission limit values. MCPD is designed to have good emissions control, as well as be affordable for SMEs. More innovation and contributing to new pollution technology solutions in the fast-growing global market are still important for the EU industry (European Commission, 2019b).

With the industry being the largest heat-consuming sector and the requirement to cut emissions, there is a need for a product that uses renewable energy as a source for generating industrial heat and steam. MPS are parts of Olvondo Technology’s target market. With their high emissions and requirements to reduce this, HighLift can certainly be the solution for several factories. HighLift generates high-temperature steam from low-temperature waste heat, replacing gas-powered steam generators. They use industrial waste heat as an input to force a temperature lift to output steam for a wide range of essential industrial processes and thus save pollutant emissions. By operating 4 HighLift heat pumps to generate process steam at 180°C, a company can avert over 1500 tons of CO<sub>2</sub> emissions per year. HighLift supplies significantly high output temperatures that are required for a myriad of industrial processes in a manner that is independent of fossil fuel sources.

### 4.2 Olvondo’s Value Chain Activities

This chapter will answer how Olvondo Technology's organization and structuring will affect their potential for growth. It will explain how to best allocate the various tasks in the value chain to achieve efficient growth in Europe. The chapter will conclude by summarizing the implications of a strategic alliance on OT's growth in Europe. A value chain divides the value creation process to companies in different value activities to identify the company's competitive advantage. OT’s value chain is divided into four main activities: *Sales and Marketing*, *Delivery*, *Operation*, and *Commercial administration*, as shown in Figure 10.



Figure 10: Olvondo’s value chain activities.

Until now, when the sale has only been in Scandinavia and it has been done directly with the customer by OT themselves, one person has been responsible for several tasks in the value chain. The steps from contacting a customer until they receive the finished product have been definite and clear and follow a certain established process. After a department is completed, a

handover is provided containing all the necessary information for the next department to take over the responsibility of the project. When something does not work or insufficiently completed, it is clearly stated in which department this has happened.

So far, Olvondo Technology's organizational structure has had a few locations that have kept internal communication efficient. But at this stage, with increasing demand and production, today's organization is unable to handle the flow of information. In preparation for greater growth, OT has formed different working teams to cover one specific area each, led by a management group that is responsible for the flow of information further down the organization. In the phase that OT is in now, with the main sales in Scandinavia and handling all sales and production itself, one has seen that these do not work optimally, and should be optimized for further growth.

To take a product from design to a finished product at the customer, they have to go through different processes. These activities help create their competitive advantages and are required to be done most profitably and effectively to safeguard Olvondo Technology's position in the international market. When OT intends to commercialize its industrial heat pump, HighLift, by expanding their sales to the European market, they must carefully consider which method is most suitable for them. Some knowledge is required to enter a new market to find potential customers and complete the entire sales process, as well as follow-up after the product is installed at the customer. Choosing to export the heat pump directly to the customer may be the most profitable, but requires a greater job by OT in finding customers and taking care of sales. It also requires them to get familiar with the differences in countries concerning language and cultures. When sales reach larger geographical areas, direct sales can also be challenging and risky in terms of after-sales services. It won't be as easy for OT to travel around to all destinations to fix unexpected problems that arise at all times.

Olvondo Technology has decided to internationalize the downstream value chain by building a partner network supporting its internationalization objectives and helping to bring HighLift to the EU and global market. I consider it as most profitable and efficient to enter markets outside Scandinavia through indirect sales channels by forming a strategic alliance with a distributor partner that can support certain value chain activities. OT should get help from a local partner with those value chain activities they do not have the capacity and capability to carry out themselves. Outsourcing certain value chain activities through formalizing a strategic alliance can be profitable if done correctly, but also very risky if the cooperation with the partner is not

good enough. To relinquish such a great responsibility requires trust and commitment from both parties, and the choice of partner is therefore an important part of successful market entry. Although the strategic alliance provides easier market access to an unknown market with a local partner, there is also some risk involved in OT's part. Barriers such as language, geography, corporate culture, and the economy will affect the value chain of OT's future international organization.

#### 4.2.1 How and why should Olvondo form strategic alliance

For Olvondo Technology, a lack of local market knowledge and the need to be physically present to the customers is the main reason for wanting to form a strategic alliance. But forming an international strategic alliance will also be a beneficial way to establish contacts and create a larger global network while retaining much of the control themselves. The desire for such commercial agreements is that the alliance partners can act as commercial partners in the identification of new customers. The goal is to enter into a reseller agreement by outsourcing their non-core value chain activities, the tasks they have no resources for themselves, to a local company. According to the theory, have strategic alliances become a common way of implementing this form of collaboration. The local company, with its local knowledge and established local customer and business network, will be a distributor that will facilitate easier access to OT's target market. Their alliance partners will also help to secure political requirements and approvals that are specific to the country or EU in question.

The goal of forming an alliance is for Olvondo Technology to continue to focus on their capabilities and specialty areas and to avoid using resources to become familiar with and manage the business in a new market area. With OT's high-technological, environmentally friendly product and with the partner's local expertise and knowledge of potential customers, the collaboration will lead to a competitive advantage for both parties. The theory explains knowledge as another motivational factor that may be useful to OT in collaboration with a local distributor. Knowledge of the various macro environments in Europe and the changes in the external environment is not as easy for OT to control, but through a collaboration with a local partner, they can acquire this knowledge more easily and credibly. This knowledge, presented in the PESTEL analysis earlier in the thesis, is natural for the local partner to have good insight into and areas in where they naturally feel informed in.

In collaboration, it is important that the partners not only complement each other but also need each other. By entering into a partnership, OT wants the partner to experience the benefits of the alliance, a win-win situation. Partners who choose to take HighLift as part of their portfolio will benefit from this by having more products to sell, as well as reaching a hopefully larger market. The plan is for the distributor to "own" the customers and handle a large part of customer support such as pre-work of the infrastructure, installation of the heat pumps, and service work.

#### 4.2.2 What type of alliance should Olvondo form

In the theory, alliance forms are described differently based on their legal form, where it happens in the value chain, what the purpose is, etc. Olvondo Technology needs to choose the form(s) that are most appropriate for their purpose. This can be one specific form or combination of several, depending on what they need help with and wants to achieve with the alliance. For OT, it is not a desire or requirement to establish a separate company with a new partner, but rather to build a partnership based on contracts, trust, and commitment.

After looking at what needs OT has in their foreign investment, there are several forms of alliance suitable for them to follow. Since their motive is to expand and grow into new geographical areas, as well as collaborate with a local non-competing partner to get help on multiple tasks in their value chain without any extra cost, I think both "International expansion alliance" and "vertical integration alliance" will be descriptive based on their desire and needs. Based on the theory's description of "focused alliance" I think this is also an appropriate description of what OT wants to achieve of the alliance formation. OT's desire and purpose can be related to this form of alliance as they have a product, they want help to market entry into Europe through a local distributor.

One type of alliance form theory describes is a joint venture, where each partner takes an equity stake in the venture. Olvondo Technology does not want to form a legal agreement that restricts the cooperation, but rather a distribution agreement between the parties based on agreements and contracts. This is often a more long-term plan, wherein several cases a separate joint venture is established between the parties. The challenge with the joint venture, and why I think this is not suitable for them, is that the collaboration for OT is on a more short-term plan where it is not worthwhile to set up a separate company to carry out the tasks, they need help with. There

will also then be challenges related to the questions of what to do with earnings. Who of the companies should receive this, or should it be reinvested in the company?

I do not think the very formality of which alliance structure one chooses is always the most important thing, but that it satisfies the desire and need one has for the alliance, and that the distribution of tasks between the parties is implemented in an orderly and efficient manner.

#### 4.2.3 How should Olvondo choose an alliance partner

Olvondo Technology needs to do thorough preparation for finding the right company to cooperate with. In choosing a potential partner, they differentiate between local and national partners. To help identify potential customers operating in each region, local partners may be producers of auxiliary system manufacturers such as steam generators, steam circuit components, and water pump suppliers or firms who already supply products to their target industries. OT will then offer them an opportunity to extend their product portfolio with an additional product and do business with a win-win deal. The latter can be companies that supply steam solutions to dairies, breweries, etc. in these countries. National distributors are suppliers of entire dairy factories that can implement HighLift as part of their total delivery.

The theory refers to various criteria that judge how appropriate an alliance partner is. In OT's case, one of the criteria is that the partner is well known in his local market, often already established with customer contacts, and has easy access to their potential customers. In selecting alliance partners, the first starting point is finding potential partners in countries where there is a high probability that companies will invest in high-temperature industrial heat pumps. The partner they choose must have access to the right market or with contacts in the right industry, as well as knowledge of local prospects, political rules, requirements, and conditions in countries, knowledge of the culture, language, and national norms and rules that OT lacks. According to them, finding the right partners in their field is not very challenging. They feel they already have a good idea of who can work as their alliance partner in certain European countries. But even if OT have already made up a picture of who they can ally with, they must be carefully reviewed so that one does not overlook potential weaknesses with the company in favor of their desired strengths. Another criterion the theory describes is the need for partners to be complementary and balanced contributions. This means that they may want to find partners that are about the same size and strength so that each other's contributions are complementary. If they cooperate with a partner much larger than themselves, there may be a

risk that the partner will not focus and prioritize OT's cooperation as much as the companies of equal size that are about as interdependent.

They may also encounter undesirable situations in their choice of sales channels. If they cooperate with several companies simultaneously across Europe, such as a distributor responsible for a specific country in Europe, and a company that works more internationally across the EU countries, they may have issues over who is responsible for some customers. Collaborating with companies that already supply similar products to Olvondo Technology's target industry can also pose a risk. If other competitors in the market offer a better deal than OT, the partner can look at the opportunity to partner with them and instead become a competitor to OT.

In Olvondo Technology's choice of alliance partner, I think task-related criteria will be the most important criteria in the alliance partner selection criteria. The purpose of the alliance is to ally with a local partner who will perform specific tasks that OT does not have the ability or knowledge to do themselves. The local alliance partner should be able to provide access to a comprehensive distribution system and establish a customer base with local suppliers and companies.

After assessing partner-related criteria I would also like to highlight this as an important criterion for them for forming a good and successful collaboration. As the alliance will be formed across borders and cultures, it is important to find a partner they can trust and create a good relationship with from the start, as it will be difficult for OT to be physically present to control what is happening. A challenge they can meet is that firms may have different interpretations of the same issue, due to cultural differences. It is important that the partners to be clear on each other's expectations of the alliance so that there is no misunderstanding of what the purpose and expected results are. Having a local partner who can help OT stay updated on necessary and important information about customers, foreign markets, and distribution systems while developing their product further will be helpful and important for their globalization. It is therefore important to develop a communication system and routines for sharing both internal and external information effectively. If communication fails, it is difficult to follow up on what the partners are working on and to be informed on how one is different in the process. The ideal partner is a company that can meet these requirements while helping OT market, sell, and carry on HighLift in its local market.

After a partner has been selected, an operating plan must be prepared with good, binding contracts. Both OT and their partner must develop clear guidelines on who will do what and who exactly is responsible for the various activities being carried out, and a timetable for implementing them. Each partner's skills and resources are assessed and tasks are allocated based on what it is natural and most effective for each to take responsibility of. Alliances are more or less based on trust between partners. One has to trust that the partner is doing the right thing and that it has good intentions with the alliance cooperation. When it comes to competence trust, this means that Olvondo Technology must rely on the partner to have the expertise and knowledge it has put forth to possess, that they have a network of potential customers for HighLift they want to contact and negotiate with.

The next sections will describe how each value-chain activity has been implemented in today's direct sales structure in the local market, and how the activity should be implemented through the formation of a strategic alliance with a local player.

#### 4.2.4 Sales and marketing

The sales and marketing part will probably be the one Olvondo Technology will need the most help with from a local distributor to carry out at an international level. Initially, it was a big challenge for the sales team to get to know which industries needed a high-temperature heat pump and locate potential customers. The product was not known in the market and customers were not aware that such a product existed. Contacting customers was something that took longer than originally expected. When OT is to market and sell its product outside Scandinavia in a larger international market, they do not have the corresponding contact network and knowledge about this market that they have established locally. By making contacts and collaborating with the right companies in Europe through strategic alliances, who may already have well-established contacts in the right industry, the partner can take care of their sales and marketing activity in their region. It will then be easier to get in touch with potential customers, and the marketing and sales process will go more effectively. Today, the S/M process, which is illustrated in Figure 11, has started with establishing contact with the customer through a prospecting process. A physical visit by one of OT's employees is done to the factories, then when customers show interest to move on, a pre-project is sold with a mapping of all necessary information. The plant is being reviewed to see that they have access to some form of excess heat, that the heat pump fits into the infrastructure with available power and piping connections. When the company agrees to move on with the sale, a contract is then signed and a handover



with the project order is sent to the delivery/manufacturing department. The handover should describe what is included in the contract and what, where, and when it should be delivered. The sales team are responsible for the customer and the project until the handover is complete and accepted.

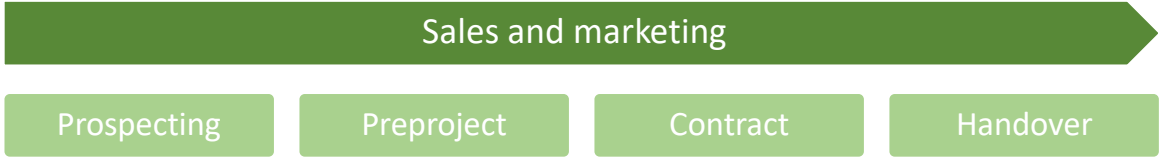


Figure 11: Sales and marketing activities

When OT expands their sales to Europe, this is one value chain activity which according to theory the alliance partner, for the most part, should cover. This process is carried out differently depending on the type of partner they are working with. As mentioned before, OT has here suggested three different options of alliance partners; companies who already deliver a product to HighLift's target industries, companies who are auxiliary systems manufacturers, and companies who would take HighLift as part of their delivery package.

Regarding the first one, the alliance partners have established contracts in the target industry. Offering an additional product that is also of interest to their customers will be attractive to them, without incurring extra marketing. The alliance partner will have the opportunity to conduct an inspection of the facility and ensure that the infrastructure is adapted for the installation of the HighLift, as well as ensure that the customer has some type of waste heat, they can use to make steam. When allying with partners who are auxiliary systems manufacturers, they will use their network to help OT identify potential customers with whom they can create direct contact with. It will be OT's choice to decide and plan who will go out to visit the company to check the facilities for the installation and supply of district heating. In some cases, it may be most convenient for them to take this part themselves, but it will also be possible to use the alliance partners' knowledge for this. Their advantage is that they also have the expertise to offer installation together with the pumps. Negotiations and contract signing take place between OT and the customer. Partners who integrate HighLift as part of their delivery, such as delivering a dairy, will have no extra work to establish contact with customers. It is the partner's responsibility to ensure that the customer has facilitated the energy supply and infrastructure for the installation of the pumps. The partner thus takes care of the entire sales and the preparation for the heat pump, while OT will install the finished product.



Olvondo Technology has through the marketing of HighLift gained personal experience in the field. In their transition to internationalization and expanding sales through alliance partners, it comes with a risk that the companies are not as familiar with the product, and will not cooperate in good faith and with the right intention. Gaining OT's trust is required to relinquish this responsibility. OT must trust that the alliance partner positively promotes the product and does not downgrade it over their product and services. It is important in a strategic alliance that both parties feel that they benefit from the cooperation. For some companies, adding a product that the same customers need can affect the demand for other products in their product range. Offering financial gain from sales can also motivate the alliance partner to establish the alliance. For OT, the goal is for an alliance partner to facilitate faster international expansion by enabling a faster entry to the market and access to partner's knowledge of local market conditions. Then, OT does not have to spend more resources on sales and marketing and can instead concentrate on the areas of responsibility for which they have the best resources.

#### 4.2.5 Delivery

The delivery is divided into two parts as shown in Figure 12. Part one includes building the heat pump, one physical machine. Part two is building a custom plant at the customer.

After new customers have signed a contract, delivery with the order is sent to Olvondo Technology's production facility at Rubbestadneset in Norway, which can start production. In the long term, Westcon Olvondo will take care of all production, while OT will continue to be responsible for all production and delivery of finished heat pumps. The process of transferring a contract from the sales department to production has so far gone by itself as the flow of information here has taken place within the same company. When they now seeks help with sales and marketing in the European market but retains production itself, communication between the parties is an important factor in continuing this flow.



Figure 12: Delivery activities

Olvondo Technology plans in the future to have a production of 50 machines a year. It is estimated to take three weeks for two people to assemble one machine. When sales reach a

significantly larger geographical area it must be considered whether it is more efficient to move production near the customers than to export the heat pump. Until then, OT considers it most effective to keep production with those with the most experience and knowledge of the product. This allows them to have the control that the heat pumps are manufactured and functioning as desired.

OT is also responsible for ensuring that the surroundings of the customer's factory are ready for installation so that the heat pump physically fits into the infrastructure there when it is sent to the customer. This includes everything that should be around the pump from water circuits to steam generators to power. So far, it has not been unclear how this responsibility should be shared between OT and the customer. The goal is to standardize deliveries so that it is delivered throughout modules ready for installation. In the three different alternatives of alliance partners, the responsibility for the infrastructure will be different. When the partner takes HighLift as part of their portfolio, it will be most natural for the local distributor to also take care of physically visiting customers and making sure the infrastructure is ready to receive the heat pump. For the alliance partners who help them get in contact with their customers, OT will mostly be responsible for sales, contracts, and delivery. Partners who take HighLift as part of a larger delivery are themselves responsible for implementing HighLift in their deliveries and placing necessary connections in relation to the heat pump.

As mentioned, the responsibility for ensuring that the infrastructure of the customer's facilities is ready for the installation of the heat pump is planned to be transferred more to the local distributor. To outsource this activity, it is important and necessary that the distributor has knowledge and insight into what is needed to install the heat pump. It is also important to know everything that is placed around the heat pump, such as pipes, water circuits, and steam generators, etc. The distributor makes everything ready with pipes, power supply, etc and then OT arrives with the delivery of the heat pump and gets it installed in the factory.

#### 4.2.6 Operation

After the heat pumps are delivered to the facilities, Olvondo Technology is still responsible for parts of operation and maintenance. Their operations consist of three different areas as shown in Figure 13; *digital monitoring*, *service work*, and *inventory management*. The operations and maintenance part of internationalization will also be shared differently between OT and the alliance partner. OT has built a digital monitoring system that continuously "tracks" the

operation activities to the heat pumps through a Remote, Management, and Control (RM&C) system to control their use and technology. This system is built to prevent wear and tear and avoid unwanted stops. The system will record when maintenance is needed and build statistics on their operations so that both OT can have control of the pumps for Predictive Maintenance (PM) and customers can check status reports when desired. The pumps are built autonomously so that if anything happens it should turn off without causing major consequential damage. This RM&C system is meant to be an extra service the customer pays for, which will give OT ongoing recurring income to the company.

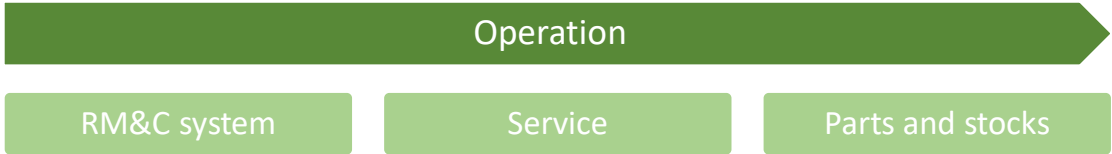


Figure 13: Divisions within operational activities

With increasing sales in Europe and the number of heat pumps to monitor at the same time increases significantly, Olvondo Technology should create a dedicated internal team that has continuously control over all heat pumps digitally with 24-hour monitoring. Continuously monitoring the heat pumps should also be an additional service that customers get benefits from and appreciate in sales. It can help avoid major stops and unnecessary wear and tear that can affect the customer's overall production. OT is the only one of its competitors that has developed its own monitoring system for this type of industrial heat pumps. This service also is important as a value for the future valuation of Olvondo Technology.

Even with the remote management & control system (RM&C), regular service and maintenance of the heat pumps will be required. It is estimated that each pump needs an annual service that will take one week for two people to complete. OT is working on creating automated service assignments on tablets with drawings and descriptions of simple maintenance on the pumps. Some services are small and easy to perform, and it may be possible to create a guide with pictures and explanations so that the service workers in the alliance company can do these. That more maintenance work can be done by their alliance partners may help increase their desire to ally with OT, as it could provide the distributor with additional revenue in the future.

Part of the operation is also handling of parts and stock. As long as production will be retained in Norway, handling of stock and parts will be Olvondo Technology's responsibility.

#### 4.2.7 Commercial governance structure

Olvondo Technology is a relatively small company with a total of 12 employees divided into three locations; Rubbestadneset, Holmestrand, and Åbo, Finland. The theory describes the functional structure as a way of separating departments on a horizontal level. Departments are distinguished by the activities within the value chain they work with and have common expertise. Until now, OT has worked out of a more or less horizontal structure, where they separate departments based on their task area and expertise. This is illustrated in Figure 14. So far, this distinction has not been as clear as they still has few employees with small departments. It has been easy to inform and communicate across the divisions about what the company is working on.

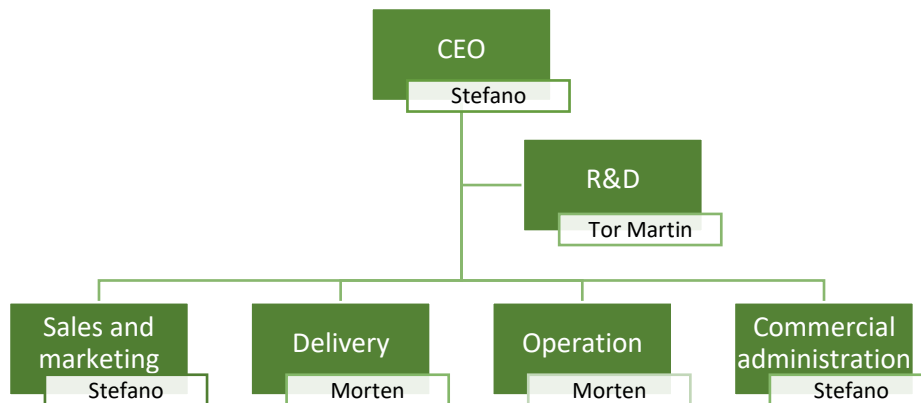


Figure 14: Current governance structure

In this transformative phase, as Olvondo Technology plans to grow and new unprepared tasks and responsibilities are formed, important information can be lost between employers if they are not adequately prepared for this change. With increasing production and global expansion, how OT now decides to structure themselves is crucial for running a successful business going forward. The theory describes how the organization's strategy sets the foundation of its organizational structure. Their strategy is to take HighLift to the European market with the help of an alliance with a foreign industrial distributor. The distributor is to carry out the value chain activities where OT lacks capacity and resources. Their governance structure will of course be affected by the implementation of a third-party resource. There will now be both employees internally and distributors internationally working in the same area. The need for resources in each department will increase with growth, both locally and internationally.

After OT has entered into a strategic alliance with a local foreign company, the decision on how this alliance should be structured is important to determine early to avoid misunderstandings and unnecessary conflicts later. The theory points out that in the alliance's life cycle, how the alliance's governance is constructed is critical to alliance success. The governance structure identifies how the alliance should work together and who's responsible for each task. To best carry out this alliance cooperation, I believe OT should continue to use the same structure internally in their international growth. Maintaining the functional structure where those within the same area and with the same expertise works together will be an effective way for OT and their partners to collaborate. As sales increase both locally in Scandinavia and globally, more resources will quickly be needed within each division.

Eventually, divisions will grow and there will be a need to divide them into smaller groups, as Figure 15 illustrates. Although OT's major commitment is to increase sales to several countries in Europe, they will continue to do direct sales to potential companies in Scandinavia. Their current sales team will thus continue to handle this section. As part of their in-house sales department, it may be appropriate to have an area of responsibility following up on the distributors in that area. The management team will take care of the actual operation of the company to ensure that everyone cooperates as planned.

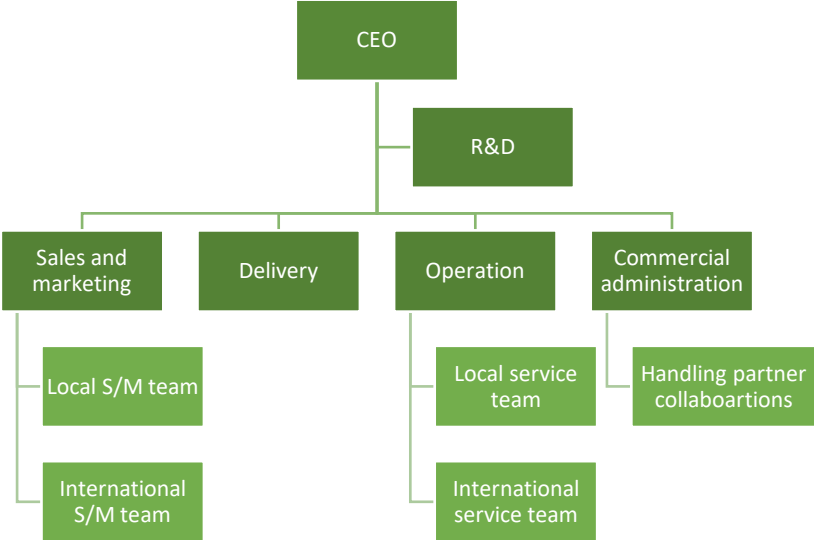


Figure 15: Proposed commercial governance structure

As the value chain activities from international sales will now be distributed between OT in Norway and a local distributor in Europe, the coordination of responsibilities is important to have clarified. There is a mutual dependency between Olvondo and its distributors to make the process run as efficiently and risk-free as possible. They must work well together, do the agreed

work, and are clear on what they need from each other to complete the job. The theory also describes how alliances are governed by a particular combination of structural and relational governance mechanisms. In this kind of strategic alliance where both parties are independent companies, the cooperation is built more on trust, control, and contracts than legal legislation. The governance of alliances should ensure that the partners' activities are directed towards the achievement of OT's internal strategy. Structural mechanisms mean that their manager governs the alliance effectively with a combination of control, coordination, and motivation between the partners. Since OT and their partners work separately, both parties will still retain their internal sewing structure, where communication and information sharing will be crucial to the collaboration. One way to solve this is to establish a role that helps ensure accurate communication with the partners, control the alliance by monitoring the implementation, and keeping top executives informed of the progress. A friendly and patient attitude, as well as develop a high level of trust between the partners are crucial to success.

The theory differs at the level of control of alliances, where both strategic and operational control will be important for OT's part in their European launch. Strategic control includes to always be up to date on new political regulations related to export/import, to be up-to-date on which customers their alliance distributors are in contact with, and to be informed of what is happening around their competitors. It is also important for OT to have operational control which covers control over the work done within the alliance. This control is essential to ensure a successful alliance and that the planned job is done by their partner. There is a nice balance to the extent to which collaboration should be controlled. It can have a negative effect and limit the partner's ability to effectively utilize the resources it provides to the alliance if OT becomes too intrusive and does not trust them to do as they should.

#### 4.2.8 The strategic alliance's impact on Olvondo's growth in Europe

This part will discuss the last research question of what significance strategic alliances can have on Olvondo Technology's opportunities for growth in an international market. OT has developed a unique product in HighLift with a technology that will also be useful for several companies in Europe to invest in. Now, they want to expand the business by taking HighLift to the European market. This is a fairly new and unknown market for OT, and they do not have the same market knowledge and insight of companies that they have in their local market in Scandinavia. Forming a strategic alliance on a horizontal level with a local distributor will provide OT with the knowledge they lack for the successful commercialization of HighLift.

The distributor also contributes local knowledge of macro-environmental factors such as political approvals or trade rules. Getting help from a local company to get in touch with potential customers will streamline the sales process for OT.

Customer contact and market knowledge about a new geographical area are not always easy to acquire in a short time, it is usually something companies spend a long time building up through relationships based on trust and experience. For OT, acquiring the necessary contacts in Europe will be a time-consuming and costly process. Getting help in acquiring this knowledge will have significant benefits for their establishment in Europe. OT can then continue to concentrate on their local market in Scandinavia, as well as take care of the value-chain activities for which they have the best knowledge and resources. Collaboration with an external local company allows OT to compete more effectively against current and future competitors and still maintain its competitive position in the existing market.

## 5. Conclusion

The purpose of this thesis has been to investigate how Olvondo Technology should enter the European market and commercialize HighLift in the most cost and time-effective way. The findings are primarily based on European legislation, as well as a comprehensive literature study. The research was done by examining OT's possibilities for HighLift as a case study. Quantitative secondary data is obtained to identify their most successful market entry.

The findings show that the launch of HighLift is positively influenced by the European macro-environment, which means that it is a good choice for OT to start its internationalization in the EU countries. This is partly since Norway has established its trade agreements with the EU through the EEA Agreement, which guarantees equal rights to trade as the EU throughout 30 EEA states. The EU has also developed various standards to support EU legislation and guidelines that HighLift should comply with. The IEA's focus on renewable technology in industrial heat pumps will also have a positive effect on the launch. The fact that the focus on the environment has increased in recent years, and the EU places more demands on reduced emissions from industry, will also affect the demand for HighLift as it can help companies to achieve their goals with their renewable solution. Retailers are also stating that they will give priority to focusing on buying sustainable products in the future. As HighLift replaces fossil fuel with waste heat and electricity, it is most profitable for OT to launch the product in countries where the price difference for electricity and fossil fuel is not too great. The situation we have been through with the corona pandemic will probably affect companies' ability to invest in new products in the future. Due to Corona, the exchange rate of the euro has changed. How this will continue to change can also have an impact on their sales in Europe. The development of digital communication and ICT will also have a positive effect on alliance formation and make cross-border collaboration easier and more effective for Olvondo Technology.

The finding also concludes that the most effective way for OT to globalize HighLift is to formalize "vertical strategic alliances" with local distributors in EU countries. Through a distributor, OT will be able to outsource its non-core activities while they can continue to focus on their capabilities and specialty areas. They will acquire local market knowledge and establish customer contact through their partner's corporate network without any legal obligation. This will give them the broad expertise they need to succeed in a new market in the best possible way. The results also show that sales and marketing will be their most important and necessary



part of outsourcing to alliance partners. OT should also find a good balance on how much maintenance work they can place on their distributors to relieve their own technicians. According to OT, they will be able to handle the growing production itself but should expand their local team that monitors the RM&C system following the growing sales. As OT proposes three different types of alliance partners, they need to establish clear guidelines for how the different types should be created and implemented. Outsourcing various activities and delegating responsibility to a new and perhaps unknown company also brings with it a form of risk, where trust and obligations help to reduce this risk to OT. Finding the right partners and building relationships based on good trust bands and clear agreements through contracts prevents uncertainties and disagreements between the parties. It is difficult to decide exactly how Olvondo Technology should structure itself, as it will vary based on the type of alliance partner they use and how they are structured themselves. The governance structure and how they formally collaborates with their partners will also help determine how effective their market entry will be. With expanded functional groups and greater activity, OT must make good systems so that they can follow up sales in Scandinavia while being updated on the progress of their alliance partners.

As mentioned initially, there are more factors than those addressed that will have an impact on OT's potential for success in the international market. Many European macro environments will affect commercialization in different ways. A complete examination of their competitive situation and how it is developing is also needed to determine the most appropriate and successful strategy.

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