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MSc International Business

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MASTER THESIS

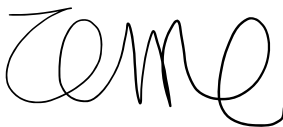
EXPORTING CHALLENGES DURING COVID-19 PANDEMIC FOR DANISH SMEs



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Abstract

Research Purpose:

This thesis aimed to look into the impact of the COVID-19 Pandemic on Danish small and medium-sized businesses that export to international markets. The paper's background focused on the Electrical, Energy, and Building manufacturing industries. The goal was to pinpoint specific export hurdles and reasons that stymie exporting and their impact on Danish SMEs' export strategies.

Methodology:

The primary method used for the thesis was semi-structured interviews with different managers of randomly selected Danish SMEs in their industries. The NVivo qualitative analysis program was used to establish a thematic approach to analysis.

Findings:

As a result of the COVID-19 Pandemic, the findings reveal that various export hurdles and factors impact exporting. They are related to customs clearance documentation, logistic hurdles, raw material shortages, and another country- and product-specific restrictions. Among the impediments to exporting are transportation providers, who offer limited services at higher prices because of disruption in the GVC brought on by the pandemic restrictions and the closing of borders. All these hurdles impact the growth of Danish SMEs, their existing consumers, and the costs of exporting. To diversify the risks and uncertainty associated with a crisis such as COVID-19, SMEs must strike a balance between choosing alternate suppliers, having a good stock, and planning a long-term export strategy to be able to react as fast as they can in an uncertain context.

Limitations:

The thesis' findings have several flaws. First, the results are limited to their country-specific context, Denmark. Second, the industry-specific context is essential and constraining, as Danish SMEs in other industries may have issues not addressed in this study. Finally, the phenomena of the COVID-19 Pandemic and its repercussions are relatively new and unexpected, and it may evolve into a different situation in which the business environment is more favorable to Danish SMEs or detrimental to them.

Keywords: COVID-19, SMEs, Exporting, Export barriers, Export hurdles, Internationalization, Strategy, Manufacturing SMEs, Danish SMEs, COVID-19, Challenges, Barriers, Obstacles, Danish context, Transaction Cost Theory, Resource Base View, Institutional Theory

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Table of contents

Abstract.....	3
Acknowledgments	4
Table of contents	5
List of Figures.....	7
List of Acronyms	7
1. Introduction.....	8
1.1 Problem Area	9
1.2 Problem Formulation	11
1.3 Thesis Structure	12
2. Literature Review	14
2.1 Exporting.....	15
2.2 SMEs Export Barriers	15
2.2.1 Macro and micro problems	16
2.2.2 Internal and external barriers	17
2.2.3 COVID-19 and Export Hurdles	18
2.3 SMEs internationalization.....	19
2.4 Resource Base View	20
2.5 Transaction Cost Theory.....	22
2.6 Institutional Theory.....	24
2.7 Covid 19 and Exporting.....	26
2.8 Conceptual Framework.....	29
3. Methodology	34
3.1 Philosophy of science	34
3.1.1 Ontology	34
3.1.2 Epistemology	34
3.2 Research approach	35
3.2.1 Qualitative research design.....	36
3.3 Data collection	37
3.3.1 Primary data	38
3.3.2 Secondary data	41

3.4	Research Reliability, Replicability, and Validity	41
3.5	Delimitations.....	42
3.6	Ethics.....	43
4.	Research Results and Analysis	44
4.1	COVID-19 Pandemic and Business Environment.....	44
4.1.1	Preparation for crisis	44
4.1.2	Customers and costs impact.....	45
4.1.3	Business Development.....	47
4.2	COVID-19 Export Hurdles	48
4.2.1	Resources Hurdles	49
4.2.2	Transportation Hurdles	50
4.2.3	Country-specific and Institutional Hurdles.....	52
4.3	Export Strategies Changes and Reformulation.....	53
4.3.1	Coping Strategies	53
4.3.2	Export Strategy Reformulation	54
5.	Discussion	57
5.1	Conceptual Framework Reassessment.....	60
6.	Conclusion	62
6.1	Managerial Implications	63
6.2	Future Research	63
6.3	Limitations	64
	References.....	65
	Appendix 1. Practical Information for Companies	71
	Appendix 2. Interview Guide.....	72
	Appendix 3. Interviews Transcriptions	73
3.1	Interview Transcription - Home Stairs ApS - Key Account Manager.....	73
3.2	Interview Transcription - Home Stairs ApS - Procurement Manager.....	80
3.3	Interview Transcription - Irrigation Systems ApS - Marketing and Export Manager	83
3.4	Interview transcription - Energy Solutions ApS - CSO	88
3.5	Interview Transcription- Energy Solutions ApS - Supply Chain Manager to	100

List of Figures

Figure 1. Thesis Structure (Own illustration)	13
Figure 2. Major Barriers for SME Exporters (Paul et al., 2017, p.331)	17
Figure 3. Overview on the Kinds of Transaction Costs in International Trade (Amelung 1990).	23
Figure 4. Stages of exporting (Belu, 2021).....	27
Figure 5. Conceptual Framework – Export hurdles due to Covid-19 influence on the export strategy reformulation for Danish SMEs (input).....	32
Figure 6. Capacity Maritime Transportation Shortage during 2021. Vespucci Maritime (2021)	51
Figure 7. Port Congestion in Maritime Transportation during 2021. Vespucci Maritime (2021).....	51
Figure 8. Conceptual Framework Input (Own Illustration).....	60
Figure 9. Conceptual Framework Output (Own Illustration)	61

List of Acronyms

CSO Chief Sales Officer

CSR Corporate Social Responsibility

EMM Export and Marketing Manager

DAP Deliver At Place

DDU Delivered Duty Unpaid

EU European Union

GDP Gross Domestic Product

GVC Global Value Chain

INVs International New Ventures

IT Institutional Theory

KAM Key Account Manager

OECD Organisation for Economic Co-operation and Development

RBV Resource Base View

SCM Supply Chain Manager

SME Small- to Medium-sized Enterprise

TCT Transaction Cost Theory

UK United Kingdom

WTO World Trade Organization

1. Introduction

One of the oldest and most repeated issues in international business (IB) studies is "globalization." The term refers to the expansion and diversification of a country's global economic exchange links with all other countries across the globe, as defined by trade, foreign direct investment (FDI), and different sorts of exchanges (Hopkins, 2002; O'Rourke and Williamson, 2002; Jones, 2005; Verbeke, Coeurderoy and Matt, 2018).

Globalization has been portrayed as an irreversible process in previous decades. Nevertheless, globalization processes and their unequal effects, particularly income distribution, are increasingly under fire and do cause dissatisfaction (Stiglitz, 2002, 2017), and several "deglobalization" forces have acquired significant traction around the globe (Coeurderoy et al., 2017). As a result, we are witnessing persistent conflict and competitiveness and a fundamental shift away from the globalization concept (Marinov and Marinova, 2021).

However, history shows that the international economy has experienced a cyclic phenomenon of globalization and deglobalization. The concept of free trade seeks to encourage international trade and business, while opponents want to preserve resources and safety from the challenges and risks of globalization. Global shocks have varying degrees of impact on different places. Some locations are heavily harmed by global shocks, whereas others are only impacted by smaller ranges or seem unaffected (Van Bergeijk, 2017; Hag-Min, Ping, and Yea Rim, 2020). From Brexit to President Trump's international economic policy, the argument between globalization and free trade and deglobalization with trade barriers continues (Hag-Min et al., 2020).

The COVID-19 pandemic caused the world's largest and fastest drop in the stock market in recent times, affecting trade, international investment, and overseas travel. Only in the first quarter of 2020, information provided by the United Nations Conference on Trade and Development (UNCTAD, 2020) suggests a 3% reduction in the value of global trade. Foreign direct investment (FDI) has also plummeted. The most optimistic forecasts from the Organization for Economic Cooperation and Development (OECD, 2020) were a drop of more than 30% by 2020 (Marinov and Marinova, 2021). Nevertheless, the degree to which they are subject to these hurdles is heavily influenced by industry characteristic (OECD, 2021).

More specifically, COVID-19 has impacted global exports by restricting travel and closing borders. Overall, the number of service exports in OECD nations fell by 16.7 percent in 2020, more than twice as much as the value of goods exports, which fell by 8.2 percent. The COVID-19 pandemic has created hurdles and induced changes in the commerce structure in a single year compared to those witnessed over a period of 4-5 years (OECD, 2022). Hence, it is worth mentioning that this thesis makes a difference between hurdles and barriers. In the literature, the time before the pandemic, everything that represents obstacles to exporting is addressed as barriers. In contrast, hurdles are present under certain conditions where another event arises, such as COVID-19 in this particular case.

For the whole international economy, the time between 2008 and the emergence of COVID-19 was significant. The major participants in the world economy's global institutional framework have dealt with the unprecedented COVID-19-related hurdles, which have forced them to develop new systems and implement measures to deal with the effects. However, such institutions are being questioned, and proposals for their reorganization are becoming more common, putting globalization to the test (Marinov and Marinova, 2021).

Moreover, the COVID-19 crisis resulted in changes in how activities specific to export-import operations are conducted, such as export decisions, market prospecting, creating business partnerships, negotiating, contracting, and the way acquires for export-import transactions are executed (Belu, 2021).

As constructed by academics over the last few decades, the current international business theory is built on the assumption of a secure and transparent global business landscape, only occasionally disrupted by governmental trade negotiations or protectionist attempts to restrict international business operations. The current worldwide pandemic demonstrates that international business theory, including preliminary strategy formulations and processes, has been stated in the past without regard for massive future major hurdle such as a global pandemic (Tesar, 2021).

1.1 Problem Area

The outbreak of COVID-19 occurred in a context of weakening world trade that has dragged on since the financial crisis of 2008-2009. The rapid spread of COVID-19 and the measures adopted by governments have had severe consequences on the major world economies. Much of the productive activities have been interrupted, first in Asia and later in Europe, North America, and the rest of the world. There have been widespread closures of borders. In this context, in 2020, the world product would register their most significant contraction since the Second World War.

Moreover, the pandemic impacted, and in many cases disrupted, the source of foreign value-added throughout global supply chains and enterprises' decisions about their chosen intermediate inputs mix. Export limitations and, in some cases, export bans caused manufacturing patterns to be disrupted, exposing the fragility of global supply chain interdependencies in various industries (Kulina-Dimitrova and Rueda-Cantuche, 2021). In this situation, in May 2020, the volume of world trade in goods fell by 17.7% compared to the same month in 2019. EU goods exports declined by 10%, while EU service exports decreased by 22%. In 2020, EU exports fell by 14% on average. COVID-19 had a substantially more significant impact on EU trade and GDP than on worldwide GDP and employment, according to these statistics (Kutlina-Dimitrova and Rueda -Cantuche, 2021).

More specifically, the pandemic has had severe implications in Denmark, particularly for SMEs, as the initial lockdown comprised a variety of measures, including the closing of educational institutions, public workplaces, international borders, and a variety of shops and restaurants (Klyver and Nielsen, 2021; Sebathu et al., 2020). According to the most recent figures, the Danish economy declined by 2.7% of GDP, and Danish exports fell by 7.7 percent. (Danish Government, 2021). Since many Danish businesses rely on their capacity to export their products and services internationally, export is critical to the Danish economy and

business's long-term success. Therefore, In June 2020, the government signed a comprehensive political agreement on export projects, among other things (Klyver and Nielsen, 2021).

Furthermore, as an open and export-oriented economy, Denmark is keenly interested in the recovery of European economies. One out of every four employment in Denmark is directly related to exports, with 60 percent of Danish exports going to countries in the Single Market. (Danish Government, 2021).

Additionally, according to OECD (2021), for small and medium-sized firms (SMEs), the COVID-19 situation has disproportionately impacted them, exposing their increased susceptibility. First, SMEs are more prevalent in the most crisis-affected sectors, such as wholesale and retail trade, air transportation, lodging and food industries, property investment, and professional services. Second, smaller businesses are more economically vulnerable and have smaller cash reserves than larger businesses. Third, SMEs are more exposed to supply chain interruptions and price hikes due to their smaller inventory and supplier networks (WTO, 2020). They also have less bargaining leverage when enforcing favorable payment terms. Fourth, smaller businesses fall behind in adopting digital tools and technologies that can aid in the present pandemic crisis's resilience building. Finally, established small firms often struggle to adapt their business operations to the current situation compared to large firms and face more operational skills constraints.

Therefore, SMEs may be more vulnerable to the dangers and unpredictability of trading in the post-Covid period due to a general lack of resources to deal with uncertainty, disruptions, and sudden changes in their business contexts. During a worldwide pandemic, such businesses soon learn that government can strongly influence their operations, declaring production to be critical or non-essential or even stopping foreign transactions, including their logistics, and disrupting their everyday operations (Tesar, 2021). Nevertheless, following the measures, the danish government provided extensive support for SMEs (Bennedssen et al., 2020), including furlough support, which covered 75 percent of pay expenses for otherwise laid-off employees, revenue decline subsidies, and the coverage of a part of fixed costs. Hence, tens of thousands of jobs and small businesses have been saved thanks to an unprecedented expansive fiscal policy response and Denmark has performed well economically when compared to other countries.

Exporting is a relatively simple model of entry into foreign markets compared to foreign direct investment (FDI) since it involves a relatively low degree of commitment and risk, and the firm does not have to face the difficulties of establishing a foreign subsidiary (e.g., Lu and Beamish, 2006). As a result, exports are the first choice for internationalization for small and medium enterprises (SMEs) (Cassiman and Golovko, 2011).

Small and medium-sized firms (SMEs) that effectively diversify into competitive export markets are widely regarded as a significant source of socio-economic prosperity. Indeed, in the aftermath of the financial crisis, these businesses have again proven to be a driving force for economic recovery (Hessels and Parker, 2013; EU Commission, 2015; OECD, 2017). Therefore, it is critical to improving our understanding of the antecedents and outcomes of SMEs' export participation from a public policy standpoint. This problem is especially true in light of recent trade conflicts caused by the pandemic, which have resulted in

more significant transaction costs and, as a result, increased economic distance, reducing the attraction of internationalization (The Economist, 2018; Mansion and Bausch, 2019). Due to this, firms have faced difficulties, but the impact varies significantly by industry. Although all Danish sectors will be impacted to some extent, some may experience significant challenges accessing their markets.

Nevertheless, according to Interreg Europe (2022), COVID-19 had no apparent and long-term impact on the amount of export activity of a vast number of SMEs already involved in foreign business connections. This suggests that the majority of those businesses were able to adjust their activities to retain a degree of export activity that was at least comparable to that prior to the COVID-19 outbreak.

On the other hand, the pandemic had a detrimental impact on enterprises that were just starting to export or had no prior export expertise. They were frequently unable to penetrate new international markets due to difficulties maintaining their domestic operations or a lack of ability to develop new contractual agreements (Interreg Europe).

Based on the problem area, there is a gap within the existing literature that this thesis will attempt to address since it is not clear to what extent Danish SMEs' export strategies were affected by the pandemic. Exporting is used by many Danish SMEs as a strategy to go global; if they do not rethink their internationalization strategy, firms risk going bankrupt in the worst-case scenario, or their revenues will suffer as a result of lower export volumes. This problem raises the question of how they manage the new business climate created by the pandemic and how this influences their export strategies in light of the increased trade hurdles.

1.2 Problem Formulation

The following problem formulation will be investigated based on the problem area mentioned above:

How do Danish SMEs overcome export hurdles caused by Covid 19 pandemic, and how can they improve their export operations?

I identify relevant research questions, which will guide me throughout this thesis, to study the previous question and, in the end, to add to empirical knowledge and scholarly results regarding Danish SMEs and their export strategies during the Covid pandemic.

Research Question 1: What are the particular export hurdles that Danish SMEs face when trying to export during the Covid pandemic?

As previously stated, exporting is one of the first strategies for SMEs to internationalize. Given that the covid 19 pandemic appears to impose several export hurdles on enterprises, it is critical to determine which export hurdles Danish SMEs face when exporting. This issue will be validated or disputed by the research

participants. It will help discover the link between export constraints and how SMEs deal with them in their respective business settings. Hence research question one will help as a starting point.

Research Question 2: How are Danish SMEs dealing with more severe export difficulties due to the Covid Pandemic?

One of the study's primary goals is to learn how Danish SMEs currently export reinvent their strategies while entering overseas markets. This point will indicate how SMEs react to changes in their business environments, particularly in light of the Covid 19 pandemic. Research question 2 will help with problem formulation as it will look at how SMEs approach strategy when they export to marketplaces and help explain how they respond to export hurdles.

Research Question 3: What are the distinctions among export hurdles in terms of industry?

Research Question 4: What are the distinctions in strategic export approaches for Danish SMEs by industry?

Although the Covid-19 pandemic has been a hurdle for global trade, there are significant disparities in performance between and within industries. A substantial portion of the digital sector, as well as the health sector, has done well. Chemicals, buildings, and the food and beverage industry are likely to rebound quickly and consistently from the crisis. Despite the early disruptions, the automobile and textile industries look to be on the mend since the lockdowns began (Vet, J.M., Nigohosyan, D., Núñez-Ferrer, J., Gross, A.K., Kuehl, S., and Flickenschild, M., 2021). Therefore, the export hurdles will also be explored by comparing the three industries' angles. One of the research's goals is to provide insights into these differences and discover their strategies approaches. Research question three and Research question four will help answer how the various industries differ in terms of their specific hurdles and strategies.

1.3 Thesis Structure

This part aims to explain and show the structure of this study. The thesis begins with an overview that includes the problem area and problem formulation. The literature review, followed by number proposals, is found in the next section. The analysis and discussion will be based on these propositions. Following that, the research methodology is discussed and justified. Following that, the study is carried out based on the findings of the Danish SME companies. The analysis' outcome is then discussed in conjunction with the propositions. Conclusion, further research, and limitations come in the final section. This thesis' structure and suggested reading procedure are depicted in Figure 1.



Figure 1. Thesis Structure (Own illustration)

2. Literature Review

Covid 19 pandemic appears to impose several export hurdles on SMEs. Therefore, the theoretical foundation that will be relevant for investigating this particular problem is present on this part. First, a general discussion of export modes, different variables for export mode selection, and how barriers can affect exporting are discussed since SMEs tend to internationalize their operations by exporting due to its resource and competencies scarcity (Lu and Beamish 2001; Dalli 1995; Zahra, Neubaum and Huse,1997). Hence, SMEs internationalization is also included because it complements those mentioned above and can explain why export is often the first choice of SMEs.

Following that, this thesis explores three primary theoretical approaches connected to a firm's export as a mode choice and their barriers:

1. Resource-Based View
2. Transaction Cost Theory
3. Institutional Theory

RBV application to SME internationalization in this research is explained because a company's internal skills influence its export behavior, which impacts its overall performance (Gao et al., 2010). Therefore, this theory can help understand how SMEs' resources enable or constrain their strategies to respond to the hurdles of the pandemic. TCT can help to answer how a company is likely to choose the export method, which reduces the expenses of coordination and control connected with doing specific transactions in a global market (Fernández and Díez, 2014; Madhok, 1997). TCT will aid in comprehending decisions and reactions of SMEs in light of the COVID-19 Pandemic's cost escalation. Finally, IT can describe that variance in the international context or alterations in institutional quality can influence the creation of export obstacles (Kahiya 2018). Thus, IT will assist in acknowledging how institutions might put strain during a pandemic, such as labeling manufacturing critical or non-essential or even prohibiting foreign transactions.

On the other hand, the Uppsala model has been widely used in the SME manufacturing sector and can delineate how experiential market knowledge slowly leads to company internationalization. Nevertheless, this research only focuses on export, whereas the Uppsala Model focuses on all internationalization stages, and has been challenged for being excessively predetermined and failing to explain SMEs' internationalization in today's global environment. (Fernández and Díez 2014; Andersson, Gabrielsson, and Wictor 2004). Furthermore, networking theory could be combined within RVB as well, which refers to intangible resources. Networking theory can speed up the export process since networking allows enterprises to quickly access foreign business actors and gain resilience to survive with firms grappling against the adverse effects of COVID-19. Nevertheless, effective networking techniques, partnership possibilities, and government actions vary substantially depending on the type and size of the company (OECD 2004). Hence, this theory could not fully explain how SMEs use networking to cope with hurdles caused by the Pandemic.

Afterward, I discussed how Covid-19 had disrupted international exports, and finally, propositions are elaborated, and the conceptual framework is illustrated.

2.1 Exporting

Exporting is defined by Mariadoss (2018) as "the sale of products and services in foreign countries that are sourced or made in the home country." In opposition to the growth of imports, the increase in a country's exports is usually thought of as a positive. Moreover, it is typically supported by national governments, with possible benefits for companies to increase their worldwide operations through exporting activities (Welch, Benito and Petersen, 2018). Numerous governments have established trade support agencies to assist companies in their exporting efforts, with broad initiatives praising the opportunities and national benefits of exporting thrown in from time to time (Ghauri, Lutz and Tesfom, 2003; Welch et al., 1998). Such schemes can potentially affect whether and how corporations employ exporting in their international expansion strategies.

Welch et al. (2018) argue that exporting is among the most widely employed ways of internationalization in the initial stages of organizations. When it comes to foreign business, exporting is frequently seen as the only choice, with little consideration of options. Exporting is commonly chosen as the first step toward international involvement, and it's often thought of as a simple, low-cost way to get started, especially when overseas clients initiate the transaction (Welch et al., 2018).

Furthermore, according to Fernández and Díez (2014), the following variables are used to explain the choice of becoming an exporter and the route of entry mode selection: 1) Company size; SMEs are expected to prefer indirect exporting over direct exporting because indirect exporting requires fewer financial resources (Johanson and Wiedersheim-Paul 1975; Osborne 1996; Rialp et al. 2002). 2) Intangible resources; companies with limited resources may choose indirect export forms over direct export forms because direct export modes need more significant information acquisition and comprehension expenses (Carlson 1974; Hisey and Caves 1985). 3) Product quality; direct exporting may become more effective when the company provides significant product differentiation since it guarantees a higher level of control than exporting through an intermediary. 4) International experience; some studies have found that firms with high levels of international business experience are more likely to choose a high-control entry mode over a low-control entry mode (Ekeledo and Sivakumar 2004).

The COVID-19 Pandemic has impacted the small and medium enterprises' export process. A considerable number of MNEs find it tough to manage and overcome export hurdles, but SMEs find it even more challenging given the limited resources. These difficulties are interconnected issues classified as financial, production, operations, supply chain, human resources, and governmental concerns (KPMG, 2020). 70% of businesses have had to fully or partially stop operating, which has had a significant impact on company continuity. (International Labour Organisation, 2020).

2.2 SMEs Export Barriers

One of the primary elements influencing a company's internationalization behavior is its decision-maker's perception of export barriers (Arteaga-Ortiz and Fernandez-Ortiz, 2010). It impacts whether a

company decides to start exporting, grow its commitment abroad, or withdraw from an international market (Oviatt and McDougall, 1994; Kahiya and Dean, 2016).

The investigation of export barriers is crucial for two main reasons. It elucidates the types and nature of difficulties that prevent domestic companies from expanding internationally. Second, it establishes a framework for comprehending the issues that prevent present exporters from maintaining profitable operations in international markets. With this abundance of information, various stakeholders can create need-based incentives to entice non-exporters to participate in export development or provide present exporters with the resources and assets necessary for long-term international success (Crick 2004; Shoham and Albaum 1995).

In today's global economy, SMEs play a critical role. However, there are substantial disparities in how they respond to foreign market possibilities and dangers. (Paul, Parthasarathy and Gupta, 2017). Additionally, export challenges are viewed differently depending on whether the exporters are passive or active (Paul et al., 2017; Sharkey, Lim and Kim, 1989).

Market selection, human resources, and strategy elements are critical (Beamish and Munro, 1986). Prior research has found that various types of barriers have an impact on exporters' strategic decisions regarding resource implementation and commitment to exporting (Paul et al., 2017; Duarte Alonso, Bressan, O'shea, and Krajsic, 2014; Kahiya et al., 2014; Kahiya and Dean, 2016; Katsikeas, Leonidou, and Morgan, 2000; Shoham and Albaum, 1995). Exchange rate, market entrance obstacles, and trust are the most significant challenges for small exporters, according to Duarte Alonso et al. (2014).

Based on the above, Artega-Ortiz and Fernandez-Ortiz (2010) classify the export-related barriers based on this broad typology: knowledge barriers, resource barriers, procedure barriers, and exogenous barriers. Moreover, Paul, Parthasarathy, and Gupta (2017) presented SMEs' following barriers classification and challenges.

2.2.1 Macro and micro problems

Macro problems are those caused by factors outside the company's control. Some of these problems are institutional restraints (Paul et al., 2017; Makhmadshoev, Ibeh and Crone, 2015), national regulations, economic environment, limited information on external markets, and industry entrance barriers. (Paul et al. 2017; Cardoza et al., 2015). On the other hand, micro-level challenges are identified as internal organizational capability barriers such as resources barriers (Cahen et al., 2016); knowledge and experience barriers (Paul et al., 2017; Wood et al., 2015); performance, innovation skills, export experience (Paul et al. 2017; Wei, Zheng, Liu, and Lu, 2014); product, supply chain management, finance, skills (Paul et al. 2017; Cardoza and Fornes, 2011).

2.2.2 Internal and external barriers

Evidence reveals that small business owners and managers that want to export face many internal and external challenges (Paul et al., 2017; Bagchi-Sen, 1999; Julien, Joyal, Deshaies, and Ramangalahy, 1997). When SMEs firmly commit to and control their foreign operations, they are more likely to choose alternative governance structures like cooperation. In addition to a lack of resources and understanding of the opportunities and restrictions of overseas markets, owner-managers with narrow-minded views who prefer to focus on domestic markets and poorly established plans are also an impediment (Paul et al., 2017; Bagchi-Sen, 1999).

In the current era of globalization, Paul and Gupta (2014) revealed that large and knowledge-heavy enterprises have an advantage over small firms. Internal export issues are unique to the company and are linked to a lack of organizational resources for export marketing. Import quality controls and building a good design and brand for the export market are examples of such issues (Paul et al., 2017; Czinkota and Ricks, 1983; Kaynak and Kothari, 1984; Rabino, 1980). Furthermore, issues relating to the poorly organized export divisions and the companies' shortage of qualified staff to manage exporting activities are frequently categorized as internal issues (Yang, Leone and Alden, 1992). On the other hand, external problems are environmental-specific, relating to the target market's home country's environment or conditions (Kahiya and Dean, 2016; Leonidou, 1995). Additionally, Leonidou (2004) gave a detailed study of export constraints SMEs face. He recognized important internal (i.e., informational, functional, marketing) and external (i.e., procedural, governmental, task, and environmental) limitations by expanding on his earlier classification (Kahiya and Dean 2016).



Figure 2. Major Barriers for SME Exporters (Paul et al., 2017, p.331)

The main obstacles that SMEs confront when internationalizing are compiled and presented in figure 3. This classification will allow the researcher to compare better and know the specifics of significant barriers to exporting when SMEs are considered, especially when considering external factors such as a crisis like the COVID-19 Pandemic. Nevertheless, such classification of export barriers, on the other hand, frequently ignores the factors that underpin any typology. Indeed, research suggests that focusing on the sources of export barriers is a more informative way of explaining the export barrier issue. While export restrictions are "typically" inactive, underlying business, managerial, and external conditions provide motivation (Kahiya 2013; Leonidou 2004).

2.2.3 COVID-19 and Export Hurdles

For many SMEs, some of the barriers were increased during the Covid Pandemic; according to Congressional Research Service (2021), countries worldwide have imposed temporary restrictions on the export of some medical commodities and some foodstuffs in reaction to the Coronavirus Disease 2019 (COVID-19) pandemic. Export bans accounted for more than 90% of trade restrictions related to the epidemic. Many of the regulations aren't outright prohibitions, but they range from licensing requirements to a right of first refusal for the exporting country's government. These restrictions have sparked a dispute concerning the legality of such acts under WTO rules and their possible impact on the global trading system. (WTO, 2020).

On both the supply and demand sides, the coronavirus pandemic has several effects on the economy, particularly SMEs. On the supply side, businesses face a labor shortage. Measures to contain the disease, such as lockdowns and quarantines, result in even lower capacity utilization. Moreover, supply chains are disrupted, resulting in component and intermediate goods scarcity. On the demand side, a sudden drop in demand and revenue for SMEs significantly impacts their ability to operate. Furthermore, customers face a loss of income, fear of spreading the disease, and increased uncertainty, all of which restrict spending and consumption (OECD, 2020).

The economic effects of the COVID-19 outbreak have highlighted the significance of companies diversifying their supplies of critical raw materials, suppliers, and finished goods. Firms will aim to expand their supply chains and reduce reliance on a particular region in post-pandemic times to be more robust to future hurdles (Gattaz and Beyrer, 2020). Therefore, SMEs should identify the challenges of exporting and formulate appropriate strategies from time to time as they go through the various stages of their growth path of exporting. The hurdles caused by the COVID-19 pandemic have only highlighted the significance of these actions: as businesses look to expand their supply chains and minimize their dependence on a single country in order to be more resilient to unforeseen events, these efforts are becoming increasingly important. (Gattaz and Beyrer, 2020).

2.3 SMEs internationalization

SMEs' internationalization can help to explain why export is often the first choice of SMEs. Furthermore, exporting is inextricably linked to companies doing international business. Their involvement might range from basic exporting to a single country to more intricate exporting across multiple countries as part of global marketing, production, and distribution. Moreover, importing and exporting are frequently bundled under a single function. While there are similarities and variances between the import and export processes, there are also some distinctions (Thomchick, Young, and Ruamsook, 2004).

Additionally, companies must frequently engage with various institutional bodies for each of the countries involved and comply with each country's export legislation and rules. Export operations are part global supply chain, and they have the possibility to become bottlenecks, resulting in delays or rising prices impacting the overall process. Since exporting involves different actors and activities, as mentioned before, it is essential to bring up the different forms of a SMEs internationalization (Thomchick et al., 2004)

Researchers have used a range of perspectives to define a firm's internationalization. When talking about entry modes, the Uppsala model (Johanson and Vahlne 1977; Johanson and Vahlne 2009; Johanson and Wiedersheim-Paul 1975) proposes that corporations seek internationalization gradually incrementally (Dabić, Maley, Dana, Novak, Pellegrini and Caputo 2020; Dana, 2001). However, the interaction of globalization demands, local market conditions, and technological improvements may require SMEs to adjust to sudden alterations in the competitive arena, making them less able to make careful and reliable decisions (Dabić et al., 2020; Dana, 2001).

Furthermore, Gao, Murray, Kotabe and Lu (2010) contribute to SMEs internationalization research with a theory-building of exporting by employing a "strategic tripod" perspective. 1) *The resource-based view* examines the sources of companies' competitive advantage and explains why companies in the same industry perform differently over time. According to the resource-based view, a company's internal skills influence its export behavior, which affects its overall performance (Gao et al., 2010; Barney, 1991; Teece, Pisano, and Shuen, 1997; Wernerfelt, 1984). 2) *The institution-based view* looks at how entities interact and how strategic decisions are made due to that interaction. Because the institutional structure of developing and developed countries differ significantly (Peng et al., 2008), it is crucial to include the institutional environment when analyzing firms' export activities and performance. 3) *The industry-based view* was popularized by Porter (1980), which emphasizes the importance of a firm's link to its setting, which is symbolized by the industry in which it participates. As a result, the context applies pressures that a company must adjust to survive and grow (Gao et al., 2010; Collis, 1991). In the context of this thesis, the industry to which a company belongs could have been influenced by more significant or more minor export hurdles during the Covid Pandemic.

Moreover, Brouthers and Nakos (2004) suggest that transaction cost theory, which is used to explain large firm entry mode selection, can also be used to describe SME mode choice, and show that SMEs that utilized transaction cost–predicted mode choices outperformed businesses that used other modes. Exporting

has long been thought of as the initial step toward breaking into foreign markets, serving as a springboard for future international expansion (Lu and Beamish, 2001; Kogut and Chang, 1996). This method is especially appropriate to the internationalization of SMEs since they usually lack the financial and other resources needed to attract FDI (Lu and Beamish 2001; Dalli, 1995; Zahra, Neubaum and Huse, 1997).

Based on the above, this thesis emphasizes exporting because SMEs usually use this method as their first step toward internationalization. Additionally, the Resource-based view, Institutional theory, and transaction cost theory were chosen as the literature that may explain how Danish SMEs overcome export hurdles in their business environment as a result of the COVID-19 Pandemic and how they can improve their export operations.

The RBV examines the internal factors of organizations, whereas the IT and TCT examine the external aspects of institutions and transactions (Madhok 1997). As a result, the RBV contends that when enterprises choose their entry mode, they should center on their competitive advantages and the management of their resources and capabilities rather than the environment and the elimination of transaction costs (Madhok 1997).

2.4 Resource Base View

Due to the low level of business risks and significant flexibility options, exporting has long been the preferred way to enter international markets (Leonidou, 1995; Leonidou, Katsikeas, Palihawadana, and Spyropoulou, 2007; İpek. 2018). Despite its benefits, exporting has several obstacles that can be difficult to overcome (Leonidou, 1995; İpek. 2018). Institutional distance between home and target countries, as well as growing volatility in the international environment, provide a solid basis for the RBV, which emphasizes the importance of varied company resources and capacities in achieving better performance goals (Leonidou, Katsikeas, Fotiadis, and Christodoulides, 2013; Zou, Fang, and Zhao, 2003; İpek. 2018).

According to the resource-based view, Firms are defined as *"a unique bundle of accumulated tangible and intangible resource stocks, such as assets, processes, knowledge, and capacities"* (Schellenberg et al. 2018, p. 616). These tangible and intangible resources must be *"transparency, durability, transferability, and replicability"* for businesses to be sustainable (Grant 1991 p. 124). Barney (1991) argues that an organization's competitive advantage derives from valuable, distinctive, scarce, inimitable, and non-substitutable resources and capabilities that allow companies to state that variations in a company's resources are responsible for long-term competitive advantage and success (p.p. 101-102). As a result, one of the critical assumptions of the resource-based view is the variety of competencies and resources across a group of enterprises. Furthermore, market imperfections do not impede an organization's competitiveness. Instead, it is claimed that the firm's issues include access to, utilization of, and management of unique corporate resources (Dussauge et al., 2000, p.99). *The RBV's primary goal is to find the most effective and efficient way for enterprises to transfer their resources to the host market* (Wulff 2016).

Resources and capabilities are the two assets required to gain a competitive advantage (Gao et al., 2010; Day, 1994; Zou et al., 2003). A company's resources are its cumulative assets (e.g., investments in the facilities). Capabilities (or competencies) are a company's acquired knowledge and skills that allow it to carry out activities by strategically allocating its resources (Gao et al., 2010; Day, 1994; Zou et al., 2003). As a result, the resource-based perspective emphasizes that organizations with superior systems and structures perform better. This argument is valid not because companies undertake strategic investments that may dissuade entry and increase prices over long-term costs but rather because they have significantly lower costs or provide substantially better quality or performance metrics strategies (Teece et al., 1997). According to the resource-based view, a company's internal skills influence its export behavior, impacting its overall performance. R&D activity and product distinctiveness (Schlegelmilch and Crook 1988), as well as technological intensity (Aaby and Slater 1989), have been employed in the existing literature on exporting to quantify differential advantages and resource availability (Gao et al., 2010).

One of the more recent breakthroughs in the study of intangible resources and their relevance to long-term competitive advantage is the idea of social capital. This approach is seen to bolster the company's export efforts and fill gaps in the institutional context. Factors including a scarcity of accessible information on export potential, bureaucratic rigor, and difficulties working with government agencies for small exporting businesses are all examples of these voids. Exporting a firm's social capital becomes even more valuable for SMEs, as it often suffers from the "liability of smallness" as it deals with both global expansion demands and very uncertain local institutional contexts ((Paul et al., 2017; Elg, Ghauri, and Schaumann, 2015; Manolova et al., 2010; Roxas, Lindsay, Ashill, and Victorio, 2009). Networks, informal linkages, inter-firm partnerships, and management links are all considered strong resource bases for foreign activity in small businesses (Paul et al., 2017).

Nevertheless, Teece et al. (1997) claim that having valuable and rare resources does not guarantee long-term competitive advantage. Hence, firms must generate dynamic capabilities, or the skill to continuously gain competencies to respond to a fast-changing environment, involving using current resources and the development of new stuff (p.p. 509-510).

Hence, exporting has been considered one of the most proper contexts for the RBV (Zou et al., 2003; İpek. 2018). First, because export managers have limited control over external factors that affect export performance (Katsikeas, Leonidou, and Morgan, 2000), they can enhance performance using their resources and competencies (Spyropoulou, Skarmeas, and Katsikeas, 2011). Second, compared to enterprises operating in home markets, serving in multiple export markets leads to more heterogeneously deployed resources and capacities among exporting firms (Morgan, Vorhies, and Schlegelmilch, 2006).

Furthermore, according to Brandon- Jones, Squire, Autry, and Petersen (2014), local context and culture, business size, and strategy framework are contingency factors that impact the firm's bundle of resources and, as a result, their responses to disruptions. They discovered that elements related to the industry value chain, such as geographic dispersion, scale, and distribution complexity, influence the

association among supply chain resources and capabilities and supply chain resilience in their empirical investigation (Brandon-Jones et al., 2014). Hence, crisis researchers have previously known that crisis meaning differs between firms and individuals (Kuipers and Wolbers, 2021; Maitlis and Christianson, 2014); the notion endures in that problem view, expert knowledge to reduce uncertainty, and prior experience describes the suitable or probable disaster response strategy (Kuipers and Wolbers, 2021; Boin et al., 2016). However, resource availability is another possible explanation that influenced the crisis response technique in the Covid-19 incident (Kuipers and Wolbers, 2021).

2.5 Transaction Cost Theory

While internal forces (firm strategy and assets) drive firm structure and prioritize resource acquisition, maintenance, and deployment according to RBV), on the other hand, according to TCT, external forces (market failure) drive firm structure and prioritizes cost-cutting (Anand, 2018; Penrose, 1959; Barney, 1991; Peng, 2001). Nevertheless, both theories can explain SMEs' internationalization and export as their preferred entry mode.

The TCT has long been regarded as the most widely used theory among academics studying international entrance mode selection (Wulff 2016; Brouthers and Hennart 2007; Canabal and White 2008; Zhao et al. 2004). The TCT is frequently used to explain the entry mode choice (Luo 2001). Moreover, Brouthers and Nakos (2004) discovered statistical evidence that enterprises perform better when TCT can anticipate their entry mode choice, either financially or non-financially. However, because "institutions provide the framework in which transactions take place; as they establish the 'rules of the game' and contain legislation and rules of the host," IT and TCT should be merged (Schellenberg et al. 2018, p. 609)

To enhance the firm's long-term profitability, TCT is about minimizing transaction costs by either internalizing or externalizing (Anderson and Gatignon 1986). As a result, when companies enter new markets, they must examine how to reduce transaction costs in their selection by comparing internalization and externalization costs (Williamson 1985; Anderson and Gatignon 1986; Luo 2001). When companies do business with other companies in the market, transaction costs rise, such as costs of creating and negotiating contracts as well as monitoring the behavior of those who enter into the agreements." (Luo, p. 445, 2001). If transaction costs are low, companies will prefer a low-control entrance mode, whereas if transaction costs rise, companies will prefer a high-control entry option (Luo, 2001).

When a company decides to go global, one of its most crucial strategic decisions is the export mode. This decision may impact the firm's resource allocations and the prospect of future international expansion and hence has the potential to affect results. International market selection is viewed as a rationally bounded decision made by a corporation from a comprehensive range of potential overseas markets (Papadopoulos and Marten, 2011; Xinming, Zhibin and Yingqi, 2016).

For exporting companies, different markets have distinct transaction costs (Moen et al., 2004; Xinming, Zhibin and Yingqi, 2016). Firms, for example, have varying amounts of knowledge about various markets

and their possible business partners and customers, which increases transaction costs in the exporting setting (Meyer, 2001; Xinming, Zhibin and Yingqi, 2016). Due to cultural/psychic distance, the expenses of searching for and understanding the preferences of potential overseas business partners and negotiating, implementing, and defending export contracts vary (Johanson and Vahlne, 2009; Xinming, Zhibin and Yingqi, 2016). Additionally, a variety of non-price variables are unrelated to the physical process of producing goods, such as administrative processes, government rules and regulations, infrastructure bottlenecks, and so on, for which an exporter uses its resources (EEPC India). Furthermore, Vahlne and Wiedersheim-Paul (1977) divided the international trade of goods into three types of costs:

a) *Communication and information cost* includes all resources allocated by domestic enterprises to the collection of information on companies, goods, and foreign nations (information costs), and also the process and provision of information to the international market and trading partner (costs of communication). Information processing helps the trading partners' structured decision-making process (Amelung, 1990; Bates, 1988).

b) *Costs of Goods transfer*, where transactors must pay for the transfer of products. They have to incur the cost results of trade barriers, transport costs, terminal expenses, fixed cost elements, and freight charges, which are a measure of distance among transactors, which are the two aspects of transportation costs. Because classic trade theory shows that producers prefer to market their products inside their regional entity and choose to afford a lower fraction of their value-added on transportation costs (Amelung 1990; Yeats, 1981), distinctions in the distance among trading partners influence the direction of trade.

c) *Costs of Capital transfer*, where transactors must pay for the transfer fees payable for the movement of capital among two countries, are equal to transportation expenses in capital transfers. However, capital transfer costs, like transportation costs, are based on the availability of market-making facilities, such as a contemporary banking sector and international communications systems (Amelung 1990; Thiessen, 1988).

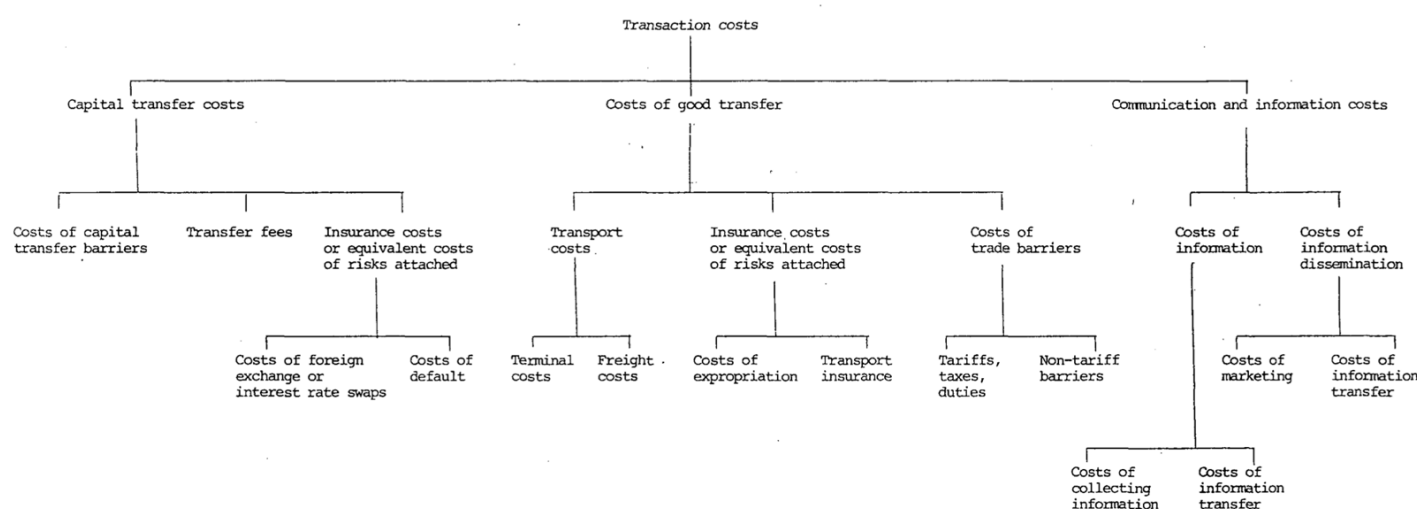


Figure 3. Overview on the Kinds of Transaction Costs in International Trade (Amelung 1990).

According to Cuypers (2021), TC decisions are made to determine the optimal structure for companies in international trade. Therefore, it is essential to understand the transaction costs involved when firms decide to export (figure 4). Export decisions have long-term repercussions (Ipsmiller et al., 2021; Li et al., 2017), limiting other investment opportunities (Ipsmiller et al., 2021; Leonidou, 2004; Lu and Beamish, 2001), and risk leading the SME to financial trouble if the wrong choice is made (Ipsmiller et al. 2021; Klein, Frazier and Roth, 1990). Acknowledging this will be essential to understanding SMEs' decisions and responses regarding the increase in costs resulting from the COVID-19 Pandemic.

A global economic crisis always results in a drop in worldwide trade. Every situation, on the other hand, is unique. While trade costs, in the shape of wide protectionism, were a significant factor in the dramatic decline of trade activities during the Big Depression of 1929 and the 1930s, they were only a minor factor in the excellent trade fall of 2009, which was caused mainly by a considerable decline in aggregate demand. Governments all across the globe have reacted to the COVID-19 health catastrophe by enacting mitigation actions that have effectively paralyzed or, at the very least, severely limited several economic sectors. In the battle against the epidemic, social isolation, confinement, lockdowns, and travel bans have become inevitable steps (WTO, 2020).

According to WTO (2020), transport and travel, trade policy, and uncertainty are three significant contributors to higher trade costs in the COVID age. Information, transaction costs, and governance quality are among the other variables of trade costs. Transportation and travel account for 15-31 percent of trade expenditures by sector (15 percent in agriculture, 31 percent in manufacturing), and those actions in response to COVID-19 have had a significant impact. Travel bans and border closures, for example, have had a substantial effect on goods and services trade that will lead to a considerable increase in trade costs as long as they are in place. According to the WTO, the effects include both land and sea shipping and substantial interruptions in air freight capacity, which fell by about 25% in March 2020.

Moreover, trade and regulatory variation constraints also account for a large proportion of costs across industries, accounting for about 10% of total trade costs in each. Tariff and non-tariff measures, transitory actions, and the costs of crossing borders are all examples of trade hurdles, as are other policies that affect trade, such as IP protection. Despite many trade facilitation measures intended to ensure the supply of protective gear and other medical equipment, crucial supply shortages caused by COVID-19 prompted many nations to apply export restrictions, according to the research (WTO, 2020)

2.6 Institutional Theory

Institutional theory has been used extensively in the international literature to understand multinational enterprises entry mode choice, particularly when entering emerging countries (Meyer and Ngu-yen 2005; Holtbrügge and Bason 2013; Hoskisson et al. 2000; Meyer et al. 2009). IT theory aids in the reduction of uncertainty and the maintenance of environmental stability. Institutions are not always efficient, but they can

help cut transaction costs and provide assurance through social institutions and norms in an uncertain market like developing markets (Peng et al., 2009; North, 1990).

Scott (1995) categorized institutions into three pillars based on North's research on institutions: regulative (formal institution), normative (formal institution), and cognitive (informal institution) (Scott, 1995). The regulative pillar consists of rules, laws, and regulations within the institutional context. The normative pillar is concerned with the environment's expectations and social conventions. Finally, the cognitive pillar involves the environment's culture (Peng et al., 2009; Scott, 1995).

Institutional theory sheds more light on how the institutional framework in which a firm functions, which includes both formal and informal rules and values, influences its performance (Klymenko and Lillebrygfjeld, 2021). Hence, companies must be prepared for rapid changes and have a variety of strategies in place to be successful in a dynamic and volatile economic environment (Karhu, 2015).

Consequently, several variables inside a country's institutional structure, such as regulatory concerns and societal culture, are widely regarded to influence a company's decision to operate in this market or not. These factors can have enough weight to influence a company's decision. For example, a strong government guarantees legitimacy, but it could also place stricter barriers to the company's operation, making the country less attractive. In addition, the cultures of the host countries are so dissimilar that the costs of ensuring that a product meets all of a new market's guidelines and aspirations may dissuade a corporation from entering the market. Because businesses can operate in numerous countries simultaneously, the complicated institutional framework becomes a strain when deciding to enter new markets (Pajunen, 2008; Karhu, 2015).

The formal, regulatory, informal, normative, and cultural components are discussed by Peng et al. (2008). External stakeholders and existing institutions pressure firms, causing them to react and act in ways that eliminate ambiguity and set limits (Klymenko and Lillebrygfjeld, 2021; Ketokivi and Schroeder, 2004; Peng et al., 2009). As a result, institutional elements influencing organizational decision-making can be viewed as stumbling blocks or facilitators. Mimetic, normative, and coercive isomorphic processes are proposed by DiMaggio and Powell (1983) as three methods that impact organizational behavior. Companies emulate other successful organizations as part of the mimetic process.

Companies within an industry or sector prefer to mimic other companies' successful solutions to mitigate uncertainty and the dangers of being a first mover (Klymenko and Lillebrygfjeld, 2021; Miemczyk, 2008; Zhu and Sarkis, 2007). During occurrences that cause environmental uncertainty (e.g., natural catastrophes, conflicts, and accidents), corporations are prone to copy the methods of other organizations, according to Kauppi (2013). Demands from professional networks and academic institutions are part of the normative process (Kauppi, 2013), and they can also be linked to commitments to the local community (Sayed et al., 2017). Ultimately, formal and informal demands from a strong company and customers, backed by societal expectations, impose coercive constraints ((Klymenko and Lillebrygfjeld, 2021; DiMaggio and Powell, 1983).

Nevertheless, existing theoretical classifications pay less attention to dynamics and are less likely to identify export barriers and the root causes. For example, a lack of specific resources for exporters could be due to institutional conditions (Li J., Liu L. 2018).

On another aspect, institutions can impose challenges during a global epidemic, such as declaring production to be critical or non-essential or even stopping foreign transactions, including their logistical support, that can disrupt their everyday operations. As a result, businesses face significant challenges, operational disruptions, and financial difficulties. Governments have the power to declare a national emergency, close borders, and even shut down entire economies. The current Covid-19 Pandemic indicates that when governments issue emergency orders, many domestic and international businesses are unprepared for unanticipated events and systemic disruptions (Tesar, 2021)

During the current Pandemic, governments have shut down countries. SMEs have been closed and those recognized as critical to halting the spread of an epidemic or hastening its end continue to operate.

The most important and unique elements of the COVID-19 pandemic were the speed of the confinement reaction, with many countries changing from normal operating conditions to a situation of lockdown, and the supply-side disruption this produced, with substantial differences across industries. As many governments rushed to block borders and limit travel, sectors and businesses that rely heavily on mobility (such as tourism inflows) saw a dramatic drop in demand. These measures in domestic labor markets restricted almost all tasks that could not be done via remote working, such as production of non-essential goods, except for a few designated vital businesses, (OECD 2021). These are generally high-tech businesses that specialize in producing technologically advanced medical equipment, supplies, or related medical products for the healthcare industry and conducting research and development for other pharmaceutical products. Therefore, if a business is declared essential, it may face government involvement or nationalization.

For example, few analysts think that Chinese government measures in early 2020, such as prioritizing local use and making substantial country purchases on the overseas markets, exacerbated global personal protective equipment shortage. Additionally, China had selectively approved personal protective equipment for export, with destinations that appear to be based on political considerations. (Congressional Research Service, 2021).

Therefore, institutions have a vital role regarding the hurdles exporting SMEs may face during the COVID-19 pandemic depending on their nature and country of origin.

2.7 Covid 19 and Exporting

Hundreds of vital products, ranging from medications and face masks to medical ventilators, have been restricted by 75 countries due to the COVID-19 Pandemic. Because restricting exports reduces worldwide supply and causes price spikes on global markets, the expense of these policies could eventually be measured in human lives (Pelc, 2020)

Four characteristics distinguish export activities, according to Belu (2021). (a) The complexity of foreign trade transactions stems from the fact that they involve both upstream (foreign trade intermediaries, commission, and respectively agency) and downstream (packaging, shipments, logistics, storage, insurance, payment, and financing) operations involved in the actual export-import interaction; b) internationalization's and cultural components' effects: Export transactions are carried out between partners from different nations and are influenced by trade policy and administrative rules that influence the economy's external sector; (c) some distinct hazards emerge, such as price risk, currency risk, and interest rate risk that can necessitate the use of risk mitigation tools, which can be of two kinds: contractual (adjustment and negotiations clauses, respectively) and non-contractual (trying to hedge with futures and options); (d) the participants: international trade transactions are conducted between economic operators from various countries.

Furthermore, Belu (2021) argues that an export operation entails a number of steps, from deciding to export, studying overseas markets, negotiating, contracting, and executing an international sales deal and the COVID-19 crisis prompted modifications in how these activities are carried out.

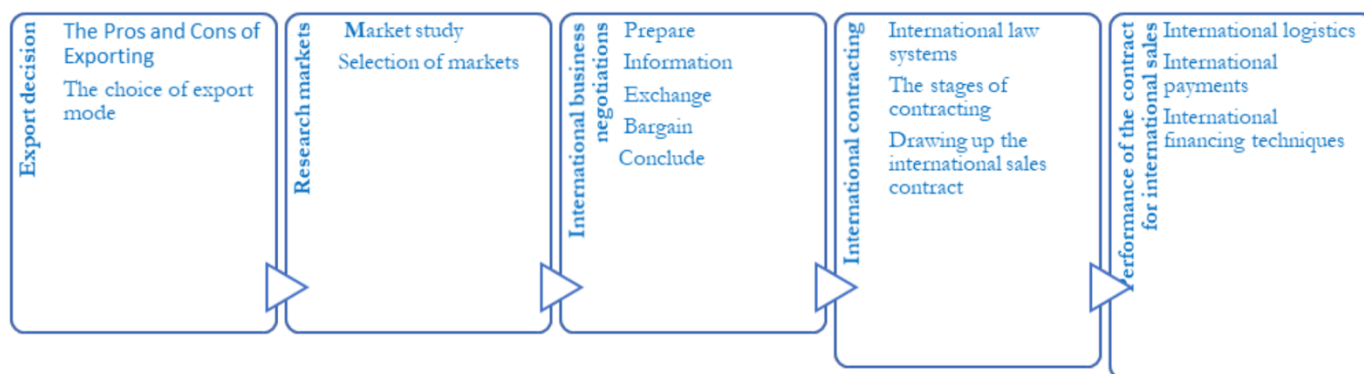


Figure 4. Stages of exporting (Belu, 2021).

- 1) The *export decision* entails weighing the benefits and drawbacks of beginning export operations. The expenditures related to the beginning and conduct of the export operation, the specific risks (e.g., price risk, currency risk), and the influence of cultural and regulatory variations among business partners are only a few of the disadvantages.
- 2) Firms conducting export activities overseas have adjusted their marketing strategy to the current condition by *leading market research*, selecting export markets, and establishing business relations in order to initiate negotiations. Digital prospecting is becoming more popular, with benefits such as lower economic means required to prepare and conduct this sort of prospecting. The health crisis significantly impacted the fair and exhibition business. Online fairs, exhibitions, and other trade events were essential instruments for forming business ties.
- 3) Getting prepared for *negotiations*, opening sessions, bargaining, problem-solving, and closing of negotiations are the phases of international trade negotiation that allow the sides to find an

agreement. Considering that a rising number of negotiators were engaged through digital means due to the Pandemic, many recent talks took place online (Shonk, K. 2020).

- 4) The preparation of the international sales agreement, which serves as the legal foundation for the export activity, is the most important outcome of international commercial contracting. Because of the Pandemic's restrictions, the primary contracting method was contracting amongst absentees. In the current setting, trade partners give greater attention to contractual clauses designed to handle risks such as non-performance of the contract, contextual hazards, and so on during the contracting process (Shih, W.C. 2020).
- 5) Activities that fall within the *performance of the sale contract* can include international logistics, organization of transportation, insurance of products, and completion of customs formalities. The biggest issue that businesses encountered during the Pandemic was a considerable increase in transportation expenses, driven by the surge in demand for commodities and the disruption of the worldwide supply chain by COVID-19.

Furthermore, based on their geographic outline, production characteristics, and other factors, value chains are subject to disruptions. GVCs with large trade concentrations (imported inputs and exports as a percentage of additional value) and exports focused on specific countries are especially vulnerable to the impacts. These disruptions get less economic severe consequences if the government is open to trade and has a diverse supply network with other countries at its option. However, COVID-19 was a significant systemic disruption that impacted all countries and industry sectors. If a crisis hits a single location, a high geographical concentration of worldwide production of some items may heighten economic fragility. The domestic and international diversity of production will thus be helpful in moderating the impact of shocks on GVC-based output. However, the actual benefits will rely on the nature of the shock, that is, if the crisis is a local or international scale in form. (Grumiller, Jan and Raza, Werner and Grohs, Hannes and Essletzbichler, Jürgen and Pintar, Nico, 2021).

As a sum up, it can be argued that all operations that contribute to the origination, negotiating, contracting, and execution of export operations have been disrupted by the COVID 19 crisis, which has had a direct effect on world trade. Moreover, the Pandemic has an impact on both the supply and demand sides. The effect of a pandemic on a country's other trading partners and its demand for imports from a given country is unclear, depending on how third-country demand and supply factors are influenced.

Furthermore, the literature review can explicate that exporting has an impact from the RBV perspective in such a way that it depends on the resources firms have and how they can respond to external factors, that is, the tools with which they can react to crises and a changing environment. On the other hand, just having rare and valuable resources does not guarantee a competitive advantage; therefore, it is necessary to acquire new resources and new capabilities to improve performance. Additionally, RBV focus on resource acquisition, maintenance, and use, whereas external forces prioritize cost-cutting, according to TCT; hence,

both theories are essential to analyzing SMEs exporting because they can explain and help to understand why and how companies respond to uncontrollable factors.

Institutional theory can complement the approaches mentioned above in such a way that can explain how Institutions can help in the reduction of uncertainty and help reduce transaction costs, especially in developed markets such as Denmark. On the contrary, institutions may create more hurdles for exporters, such as classifying production as critical or non-essential or even halting international transactions.

The situation today is even more difficult than it was before the Pandemic, today, there is even a war going on, and this creates additional problems; companies from different industries can have opportunities to export. Still, they can also suffer from more hurdles. Therefore, there is a need to reorganize exporting activities and analyze how the external environment and crises such as COVID-19 can change the different strategic approaches to exporting SMEs.

2.8 Conceptual Framework

The literature review demonstrates that the studies have been focused on internal factors or controllable by the companies; on the contrary, the focus on external determinants that explain export performance is less.

Export strategies established years ago may have limited effectiveness now for managers in charge of them. Internal barriers are being replaced by external obstacles that are more difficult to control, a challenging issue for SMEs. Moreover, understanding of international export processes remains critical to success; export managers must function at a more significant and reactive strategic level, staying aware of changes such as financial factors, political policies changes, cultural issues, information technology, trade rules, etc., since these factors may lead to a shift in export barriers effect. Furthermore, export hurdles may create disruption or help the process depending on the kind of industry; therefore, it can be assumed that the external business environment influences export activities in both positive and negative ways.

Based on the above, this thesis focuses on one specific and external issue that can affect exporting, "COVID-19". Activities that contribute to the initiation, negotiation, contracting, and conduct of foreign trade operations have been disrupted by the COVID 19 pandemic, which directly impacts international exports. This thesis aims to answer how Danish SMEs can cope with these issues and how this is changing their export strategies.

The COVID-19 epidemic had an immediate impact on international trade. As mentioned before, this was mainly a result of a range of measures by governments around the globe to halt the virus's spread, which included, among other things, the closure of borders, disruption of supply chains, restrictions on air travel, and the imposition of isolation, which pressured the shutdown of various organizations. Likewise, many countries implementing trade hurdles, particularly limitations on the export of medical supplies and food items, have tended to further lower trade flows.

Trade experts have advocated for greater global collaboration since the outbreak began, but such calls overlook the long history of failed efforts to enforce export curbs. Export restrictions are still currently in

legal limbo: they are formally considered infractions. Still, there are enough exclusions inserted into multilateral laws to make them legitimate in any situation where they are required (Pelc, 2020).

All kinds of industries were severely harmed by the COVID-19 Pandemic, which was exacerbated by global lockdowns. Multiple supply chains in many industries were disrupted, especially at the beginning of 2020. Extraordinary policy responses have been implemented globally to reduce the effects of the economic crisis and aid recovery. However, companies and consumers have drastically modified their behavior, so certain parts of the economy have benefited.

For this thesis, the conceptual framework is built on Danish SMEs in electronic manufacturing, building materials, and energy manufacturing SMEs that export internationally.

Danish manufacturing has faced several hurdles in recent years due to the COVID-19 Pandemic; although the building industry has been relatively unaffected by the epidemic, there have been numerous obstacles to overcome to maintain production under the COVID 19 restriction (MADE, 2021). Furthermore, deficits in the electrical and electronic industry were seen from mid-2020 and forwards, closing in October 2020, suggesting a result of increased transaction volumes (attributed to the growing customer demands) and price increases. For the energy industry, reliability of supplies now has a far broader meaning in a globe affected by COVID-19. As the situation spread, firms had to move rapidly to maintain supply chains and control components inventory. Many businesses will re-evaluate their supply chain resilience when the virus is contained, and economic output resumes (PWC). Moreover, Danish export firms are having trouble finding salespeople, technicians, and fitters both abroad and at home, and migrant workers come to Denmark, making it hard to collect and fulfill orders. (Danish Industry, 2021).

The export process entails many phases and decisions, and the foreign corporation may have a variety of objectives and patterns in its export selection. Export hurdles can also be influenced by various external circumstances and crises, such as the present conflict in Ukraine. However, the focus of this case study is on the COVID-19 problem and how it impacted the export process for Danish SMEs. Furthermore, the scope of this study is confined to electronic manufacturing, building materials, and energy manufacturing SMEs in Denmark rather than all industries.

The arrival of the Covid-19 Pandemic has increased transaction costs for Danish SME exporters, reducing their competitiveness by increasing the expenses they must bear in order to sell their goods to International Market clients. These increased export hurdles may force SMEs to rethink their export strategy, requiring them to investigate alternate market access approaches. The entire exporting process takes place within a larger macro environmental framework.

Export is the usual initial step toward internationalization for most organizations. SMEs frequently use export as a first entrance mode since it is a low-risk option that does not necessitate enormous capital resources or investments, and withdrawal is straightforward. (Leonidou, 1995; Leonidou, Katsikeas, Paliawadana, and Spyropoulou, 2007; Ipek, 2018). According to Denmark Trade Council (2019), Denmark's small, open economy relies significantly on its ability to create exports. Higher GNP and

employment rates are both associated with export and trade. Danish export supports a diverse range of jobs, and as a result, the Danish labor market as a whole benefit greatly from export. However, even the steadiest export operations, like companies from Denmark, are disrupted by a severe disturbance such as a worldwide epidemic (Tesar, 2021). COVID-19 resulted in a decrease in orders placed with Danish manufacturing companies from all export markets. Since the global financial crisis of 2008-2009, the drop reached its lowest point in 2020. (Marinov, 2020). As a result of the increase in export hurdles, the first proposition is that:

Proposition 1: Danish SMEs in the three industries have been negatively impacted by additional hurdles due to Covid-19 Pandemic.

International operations came to a halt when governments and systems closed down. SMEs manufacturing firms have been closed and separated into essential and non-essential companies. Those recognized as critical to halting the spread of an epidemic or hastening its end, such as the health industry, continue to operate. Managers of smaller industrial firms will inevitably drain the financial resources required to cover fixed costs, operational expenses, or cash needed to retain staff, based on the length of the shutdown (Tesar 2021). Moreover, import and export trade costs increased by 25% across all commodities and services. When goods cross borders, they incur trade costs. More inspections, limited hours of work, closed roads, border closures, rise in transport expenses, and other factors are said to be driving up transportation and transaction costs in international trade (World Bank Group, 2020). As a result, two possible propositions are made:

Proposition 2: Export hurdles for Danish SMEs vary according to industry characteristics.

Proposition 3: The costs of exporting have increased, putting a strain on SMEs' resources.

Governments have taken steps to curb the coronavirus transmission after it appeared in China and spread abroad. According to experience with similar diseases, whereas the human costs of such infections are high, most of the economic costs are due to individual preventative behavior and government transmission control legislation (Brahmbhatt and Dutta, 2008). The current situation is no exception. As the virus spreads over the globe, many countries have already taken or will take steps to prevent it from spreading further, such as closing educational institutions, restricting labor, and limiting people's mobility. The preventive efforts had an immediate and significant impact on all sectors and partner economies through commerce and tourism (World Bank Group, 2020). Thereby, proposition four is made

Proposition 4: Institutions influence Danish SMEs' export hurdles due to COVID-19

Small businesses may be less resilient and flexible in dealing with the costs that these hurdles bring. SMEs may face higher costs for prevention and needed changes in work procedures, such as remote working, due to their smaller size, but also, in many cases, a low level of digitization and challenges in obtaining and implementing technologies. If production is decreased due to the changes, the costs of underutilized labor and capital are borne more heavily by SMEs than by more prominent corporations. Furthermore, SMEs may find it more difficult to access information on how to stop the virus from spreading and feasible business strategies to ease the shock and government efforts that can help (OECD, 2020).

To make intelligent decisions concerning export operations, SMEs need to build a grasp of the complete system in which they function, which includes all external elements such as economic, technological, social, and lifestyle difficulties. In order to make strategic decisions, each company must assess and weigh all crucial factors. These sets of external forces must be understood (Tesar, 2021). Hence, the last and fifth proposition is based on the strategies that Danish SMEs in the three industries are taking in order to overcome export hurdles due to COVID-19

Proposition 5: *Export hurdles due to COVID-19 are influencing Danish SMEs' export strategy*

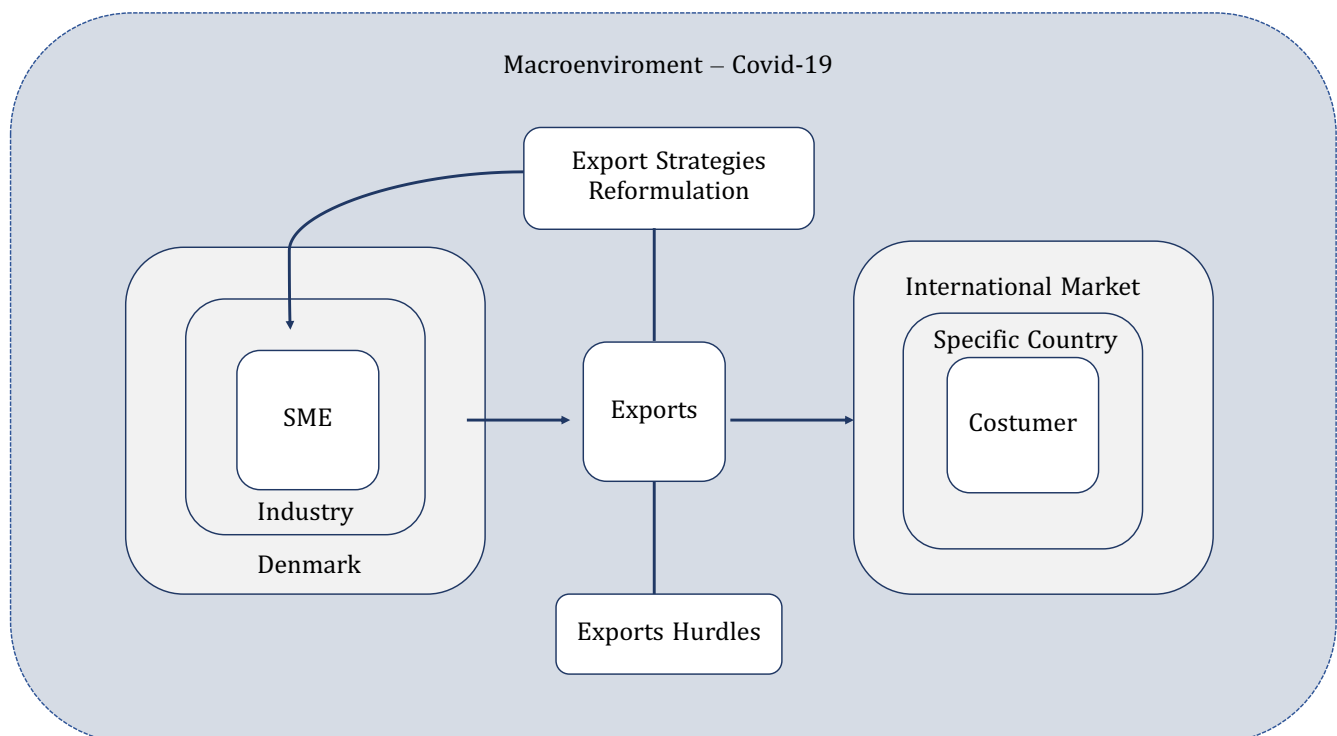


Figure 5. Conceptual Framework – Export hurdles due to Covid-19 influence on the export strategy reformulation for Danish SMEs (input)

The conceptual framework will identify with which export struggles Danish SMEs have been grappling due to COVID-19. It will also serve as a guide for examining how these constraints affect Danish SMEs' exporting activities and how they respond to them by rethinking their strategic approach to internationalization.

When considering the impact of COVID-19 and based on the above elaboration of the literature and framework, SMEs can face additional hurdles when exporting. Therefore, they should take the best advantage of their intangible resources to overcome the hurdles caused by the pandemic and reinforce the firm efforts in the institutional context. Furthermore, SMEs should build positive ties with specific foreign governments to gain better insight into the current institutional environment (including financial support, border policies, and other issues). What is more, it is also essential to identify the specific increases in trade costs during the crisis; in that way, SMEs can redefine their strategy to minimize costs and forecast future scenarios.

Although some firms and sectors have been hit more than others, the epidemic has impacted all industries. COVID-19 has had a significant impact on companies in the tourism industry. Hotels, pubs, restaurants, and nightclubs worldwide have been obliged to close their doors to visitors to prevent the virus from spreading. On the other hand, information, and communication businesses, for example, where employees may mostly work remotely or the health business, acknowledged as vital to slowing the development of the pandemic, have been suffering less.

Additionally, the enormous variability of trade fluctuation across products, origins, and destinations indicates substantial unpredictability and adjustment costs, implying more significant incentives for customers, businesses, and governments to adopt new risk mitigation techniques. Some companies may want to reconsider their supply chains' resilience and reliability, attempting to reduce the gaps between manufacturers and consumers or internalizing bigger portions of their value chains within their business structures. This may help some supply chains remain resilient, but it may also negatively influence productivity (OECD, 2022).

Furthermore, the conceptual framework was created specifically for the present research and is thus limited to the context of Danish SMEs exporting to International Markets. Both players (Danish SMEs and International customers) are rooted in their sector and business contexts. Exporting has become a focal point because most SMEs begin by exporting as a market entry strategy. Exporting, however, has its advantages, but it is also vulnerable to export hurdles, which might force SMEs to rethink their export strategy during the COVID-19 Pandemic.

3. Methodology

This section aims to explain and justify the thesis' methodology. The philosophy of science and research approach and how data is collected, handled, and processed, are all covered in the following section. Finally, the research reliability, replicability, and validity will be described.

3.1 Philosophy of science

According to Bell et al. (2019), it's usual to conceive business researchers as people who conduct a study to help firms address challenges. Still, despite the focus on practice in many areas, business researchers must have a fundamental understanding of philosophy. It is necessary to engage with a knowledge base is known as the philosophy of social science to comprehend research and perform it efficiently. It is less probable that you will produce knowledge about reality if you do not understand these aspects and do not confirm that your ideas are coherent with each other and with your selected research methodologies and design. Therefore, the philosophy of science of this research is explained after.

3.1.1 Ontology

Ontology entails making assumptions about "reality's nature" (Saunders, Lewis, Thornhill, 2015, p. 127). The ontological position of social constructivism is relativistic, which indicates that social constructions form the truth of reality. As a result, the fact might vary depending on which social and cultural perceptions are used.

This study takes a social constructivist approach to science. The social constructivism paradigm views the world as "constructed through social interaction in which social action creates partially shared meanings and realities" (Saunders et al. 2015, p. 130). As a result, social constructivism views the world as complicated and formed through social constructs, implying that there is no single truth (Saunders et al., 2015). Social constructivism is a good fit for this study, which looks into the phenomenon of exporting in COVID-19 pandemic times, where there are multiple actors. It is thought that there is no one solution to the choice of how companies are coping with the hurdles, and it is influenced by a variety of factors other than those discussed in the literature study. Therefore, the empirical evidence is subjective because of the interviewee's perception of reality. As a result, this thesis' ontological perspective asserts that the universe is socially constructed through interactions between researchers and data. Hence, this thesis's methods, theories, and research strategies represent one perspective on reality – but not complete access to reality.

3.1.2 Epistemology

Epistemology is the study of knowledge and "what constitutes acceptable, genuine, and legitimate information and how we might transmit it" (Saunders et al. 2015, p. 127). Ontology is rationally followed by epistemology. A specific ontological perspective - i.e., a particular understanding of reality - will entail a

certain epistemology - a specific knowledge of how we might learn about that reality. The researcher needs to obtain knowledge through various techniques, such as interviewing three different actors from three other companies to see how they build and comprehend the world (Bell et al. 2019, p.29). Epistemology is critical in this dissertation because it will allow the researcher to answer how we should do the research to develop knowledge that can be used to make claims about the research topic. (Bell et al. 2019, p.29).

This thesis takes an interpretivist approach to the epistemological challenge. A social constructionist ontology supports this approach, maintaining that reality is constructed by human conduct instead of objectively and externally (Bell et al., 2019). Partially through internal interaction between persons or groups inside the Danish SMEs and partially through exterior interaction between object and subject, the reality is formed here. These various interactions are the notions and tools that serve as the foundation for comprehending the event. If a predominantly external attitude is used, that is, a perspective from outside the particular social environment being examined, taking an interpretative stance can lead to unanticipated conclusions. Hence, when a researcher takes an interpretative perspective, he reveals more than just how members of a social group view the environment around them. Therefore, he will try to fit the generated interpretations into a theoretical framework (Bell et al., 2019). This perspective needs transparency in the research process in order to increase the researchers' visibility. As a result, the emphasis clearly describes how the researchers did the research and how they influenced the topic, the subsequent conclusion, and interpretations.

Therefore, the methodological perspective adopted in this thesis can be identified as the actor's perspective. The actor's perception of reality is also socially constructed, as reality is created by the interaction of actors. As a result, reality results from different actors' perceptions, interpretations, and actions. The interaction between Danish SMEs and their context is a crucial aspect of understanding the reality created when narrating the story of how Danish SMEs coped with hurdles due to COVID-19 difficulties.

The author of this thesis intends to elicit many socially constructed interpretations from Danish SMEs managers in order to gain a better understanding of different strategies taken to cope with problems caused by the Pandemic from various perspectives.

To summarize, this study takes a social constructivist approach. The phenomenon of exporting in the COVID-19 pandemic context can be shaped by several factors, and the interviewees' perceptions of reality are subjective. As a consequence, the results aren't always the final truth.

3.2 Research approach

This thesis aims to learn how Danish SMEs overcome export hurdles caused by Covid 19 pandemic and how they can improve their export operations. The qualitative approach suit well with the goal of this study, as one of the qualitative data strengths is that it can be used to explore real-world situations and contemporary events, such as when Danish SMEs deal with these obstacles arising from this specific

situation and context (Miles et al. 2014). Moreover, the chance of acquiring insights into complex and rich data and comprehending roles, linkages, and tendencies in a specific setting is increased by adopting a qualitative research design (Miles et al., 2014).

In addition, the nature of the research approach in this thesis will be a combination of inductive and deductive. The inductive method, also called inductive reasoning, begins with observations, and theories are presented as a result of them toward the end of the research process (Goddard et al., 2004; Dudovsky, 2018). This thesis investigates how Danish SMEs overcome export hurdles in their business environment due to the COVID-19 Pandemic and how this is changing their export strategies. The phenomenon studied in this thesis can be classified as a complicated and contemporary issue, and the goal of this research is to investigate and understand this particular event. Therefore, the inductive research approach can help to acknowledge the particular effects of this phenomenon for Danish SMEs since there are almost no previous studies for this specific country. This goal will be achieved by gathering insights from three Danish SMEs companies to understand their problems during the Pandemic. However, according to Gioia and Hamilton (2013), conducting a study with a pure inductive research approach can be challenging, since previous studies and literature, to some degree, often are known by the researchers (p.15).

Similarly, this thesis will be based on prior knowledge of the literature and empirical observations. Based on empirical data collection, various assumptions and considerations can be made based on previous research on related issues. Likewise, this study aims to learn how different factors influence the existing barriers to exporting in the context of Danish SMEs. As a result, the study also contains deductive research approach elements. "Just a deduction often entails an element of induction; the inductive process is likely to involve some deduction" (Bell et al., 2019, p.23). Therefore, the deductive approach complements the inductive method of this study and vice versa.

3.2.1 Qualitative research design

A qualitative research design is a preferred choice for this thesis as an attempt to understand the phenomenon of how Danish SMEs are coping with Covid-19 hurdles when exporting. A qualitative research design enables a researcher to observe and comprehend the environment in which decisions and actions are made. Moreover, According to qualitative researchers, it is nearly hard to understand why something occurred in a company without speaking with the parties involved (Myers, 2009, pp.5-6)).

According to Yin (2011), qualitative research has five characteristics. First, it entails researching the significance of people's lives in real-life situations. Artificial research processes will have a limited impact on social relations, and people will say whatever they want to say. Second, it reflects the ideas and perceptions of study participants. A qualitative study's primary goal may be to capture their perspectives. Thus, the events and ideas that emerge through qualitative research might represent the interpretations of real-life events given to individuals who live them, rather than the researchers' preconceptions. Third, it addresses the context in which people's lives actually occur, which can significantly impact all human

occurrences. Forth, it is motivated by a desire to explain current events using existing or new theories. As an element of any particular study seeks to gather, combine, and interpret derived from several sources of evidence. Fifth, because of the intricacy of the field setting and the variety of its actors, interviews, observations, and sometimes even documentation scrutiny are likely to be used.

On the other hand, many authors criticize qualitative research as being too subjective because it is relatively unstructured and dependent on qualitative researchers' foresight. It is also nearly impossible to conduct accurate replication, and it has problems of generalization because it only includes a small number of participants, and it is sometimes hard to determine what the researcher did and how they arrived at the study conclusions (Bell et al. 2019).

According to Yin (2003), implementing a survey can be an acceptable alternate design for this thesis as they can try to take the context into account but do so in a minimal way. (p.5), Furthermore, Quantitative research collects data within many criteria and generates precise numerical findings; nevertheless, the data does not indicate a cause. It frequently represents what is occurring but not why it is occurring. For some studies, this may result in significant gaps which a qualitative approach can only address.

Therefore, the rationale for using a qualitative approach was to provide a comprehensive picture of how Danish SMEs deal with variations in their business environment, which influences their choices on how to redefine their export strategy. Moreover, due to the contemporaneity of the phenomenon being studied, quantitative research was not considered the best option due to the arguments noted above, the difficulties in developing potential hypotheses, the lack of empirical data, and previous research.

Based on the above, qualitative design is chosen as the preferred approach in this thesis as it will allow a deeper understanding of the process and learning of export strategies from Danish SMEs during the COVID-19 Pandemic. Moreover, its open framework will enable new or unexpected results to emerge.

3.3 Data collection

Primary data is the leading source for this study as it will give the researcher updated first-hand information about COVID-19 hurdles faced by Danish SMEs. The primary data for the thesis is gathered through semi-structured interviews with companies with different roles related to exporting. Interviews are chosen as a data collection method due to the possibility of gaining insight into interviewees' perspectives of a specific phenomenon (King, 2004). For this thesis, the main objective has been to compile multiple views and experiences that SMEs have when exporting during the COVID-19 pandemic to explain how they overcome these hurdles.

Nevertheless, secondary data may supplement and be utilized to confirm data and add value to the analysis and results. Hence, secondary data is used to gain a better grasp of the literature and research on common barriers to exporting and new hurdles that arose as a result of the COVID-19 pandemic.

The primary data in this thesis will be empirically acquired data. In contrast, secondary data includes past and ongoing research, company documents, existing theories, and past research that are already available. The procedure for gathering data for this thesis is described in this section.

3.3.1 Primary data

The most significant disadvantage of gathering primary data is that it is expensive and time-consuming. On the other hand, retrieving relevant information about the topic can be used to answer a newly defined research topic, help a project's pilot phase, or offer the researcher an improved base for testing findings at a lower cost and faster (Hox and Boeije 2005).

The primary data for the thesis pretends to be acquired through interviews with Company members from Danish SMEs. Interviews are selected as a data-gathering strategy because they provide insight into the opinions of interviewees on a given subject (Kvale, 1996; King, 2004, p.11). The principal objective of this thesis is to gather different perspectives and experiences in order to explain how different strategies are used by Danish SMEs when exporting to face the struggles caused by COVID-19.

Interviews

Semi-structured interviews were used in this study. Semi-structured interviews are beneficial when the researcher has a good understanding of the case before conducting the interviews. The semi-structured technique was also chosen because the goal of the interviews is to obtain a better understanding of the decision-making processes of the organizations examined. As a result, this can be recognized as an explanatory goal, making semi-structured interviews adequate for gathering data (Rowley, 2012; Miles et al., 2014). On the other hand, as part of its deductive method and the goal of evaluating propositions using empirical data, some structure in the interviews is required. Still, its inductive approach should be some openness, making the semi-structured technique an effective option (Saunders et al. 2015).

Semi-structured interviews are used to respond to the research question using the respondents' knowledge and experience in the decision-making process. However, it is preferable to select interviewers who were involved in the decision-making process during the sampling procedure, otherwise can have an impact on the credibility of the obtained data because interviewees can be influenced by their subjective opinion. Furthermore, the interviewee's credibility may be harmed as the interviewee may have forgotten some variables that influenced their decision-making process or may explain their decision as post-rationalization owing to their current knowledge. As a result, it is stated that the interviewees' knowledge and experience are not always accurate, which can be a drawback of this method (Rowley 2012).

Prior to conducting the interviews, a one-hour timeline is calculated. On the other hand, the interview might end once all of the points have been discussed.

Due to distance, some of the interviews will be performed over the internet platform teams. Despite the fact that some interviews are not conducted face-to-face, establishing a video link allows the interviewers' facial expressions to be observed during the interviews, which is an advantage (Bell et al. 2019).

Interview Guide

Before conducting the interviews, one interview guide was produced based on the propositions. The interview guides were used to ensure that the current theory and the empirical data aligned. As a result, the prepared questions in the interview guides were written to ensure that the ideas and issues discussed in the literature study were addressed (Rowley 2012).

The interview instructions are organized to formulate the first questions as more general inquiries. Following that, specific particular questions are asked in order to acquire a basic grasp of the interviewee's roles in the decision process regarding strategies to overcome hurdles of the COVID-19 Pandemic. Finally, if the interviewee has any comments or additions, the interview guide offers several open questions (Saunders et al. 2015).

Because the semi-structured technique allows for a more relaxed dialogue with the interviewees, the questions are not always followed step by step. On the other hand, the semi-structured approach raises the danger of missing some questions. As a result, the interviewer must ask all questions to cover all possibilities. The interviewee can be invited to elaborate further after getting inspiration and the desire to obtain complementary information; hence, the researcher gains some flexibility and can collect data more efficiently. These features are also some of the benefits of the semi-structured approach (Bell et al., 2019). The interview guide is presented in appendix 2.

Company Selection

The thesis objective is to understand how Danish SMEs are dealing with the export hurdles in their business environment as a result of the COVID-19 Pandemic and how this is changing their export strategies.

Three companies will be sampled for this study and chosen via purposive sampling with non-probability sampling (Bryman and Bell, 2015; Rowley, 2012). The interviewees were utilized to develop on the phenomenon of export strategies during a crisis and the literature. Therefore, this sampling procedure was also theory-driven (Miles et al., 2014). Here, the sample is done in this case to uncover categories and their characteristics and propose interrelationships in a theory (Glaser and Strauss, 1967; Bell et al., 2019, p. 391).

As a result, the purposeful and theory-driven sampling approach fits the research's goal. As a sampling strategy, convenience sampling is also used. The interviewees were chosen as a result of their instant accessibility as a researcher with contacts to Danish SMEs (Miles et al. 2014).

Each company will be chosen to describe the overall case of interest from various angles to grasp better the topic investigated in this study. Therefore, I decided to create three data selection criteria: (1) Firms must

be Danish, and (2) Firm size; to guarantee that the units of analysis are small and medium enterprises. This basis will be followed in order to identify relevant informants for understanding the patterns of Danish SMEs and strategies during a crisis.

Presentation of companies

The three firms chosen for this thesis are briefly discussed below, based on the above criteria for company selection. Furthermore, to maintain the confidentiality required by the interviewees, the names of the companies and their managers were changed to Home Stairs ApS, Irrigation Systems ApS, and Energy Solutions ApS. Simultaneously, all company descriptions and information presented are closer to the actual firms under analysis.

Home Stairs ApS

The first Danish SME to participate in this research specializes in building material production and produces stairs and storage items. The company employs between 200 and 250 people and serves customers worldwide.

Home Stairs ApS has its headquarters in Denmark, manufacturing facilities in Denmark, Ukraine, and China, and sales offices in Denmark, China, the USA, and Poland. One of the interviewees works as a Key Global Account manager. He is in charge of all international exports, except for Germany and the Nordic countries. The other interviewee works as a procurement manager.

Irrigation Systems ApS

The second Danish SME is in the Electrical manufacturing industry. The company exports quality control systems, interfaces, and decoders to the Golf, Turf, and Ag markets. All manufacturing and headquarters are located in Denmark, and the firm employs between 50 and 100 personnel. The interviewee works as a Marketing and Export Manager and is in charge of the firm's business development and also all of the firm's export markets.

Energy Solutions ApS

The third Danish SME is the Energy components industry. The company exports hydraulic system solutions and components to and for the wind industry.

Energy Solutions ApS has its headquarters in Denmark, manufacturing facilities in Denmark and China, and sales offices in the USA, Denmark, and China. The company employs between 200 and 250 people and serves customers throughout Europe and the world. One of the interviewees works as a CSO. She is in charge of sales in the wind business and industrial and mobile hydraulic business. The second interviewee works as a supply chain manager, and she is in charge of exports and imports.

3.3.2 Secondary data

This thesis can also use secondary data from scientific literature materials (empirical research studies, published papers, and books), reports, and statistics from other resources to complement primary data. According to Johnston (2014, p 620), generally, research starts with a review of secondary sources and studies undertaken by someone else in the stated area of interest to understand what is already known and what needs to be learned about a subject. Secondary data analysis aims to use previously obtained theoretical data and knowledge to achieve new goals and answer new research areas. The benefit of gathering secondary data is that you can access it at a lower cost and have faster access to relevant data (Hox and Boeije 2005). Relevant information was found through databases offered by the AAU Digital Library after the conception and elaboration of the research questions and objectives of this master's thesis project.

The disadvantage, on the other hand, when you gather information from a secondary source is that the data has been collected for a different reason and may not be ideal for the research problem or may be difficult to interpret without sufficient evidence from the informants and context (Hox and Boeije 2005).

Nevertheless, secondary data for this thesis will allow first to gather information about past and ongoing research about the COVID-19 Pandemic as it is a recent event and still in place. Second, some numeric and information data regarding organizational data, i.e., logistic data, will help compare data. Finally, secondary data will also provide a broad perspective of a more extended period before and during the Pandemic.

3.4 Research Reliability, Replicability, and Validity

In most cases, both reliability and validity are concepts used in quantitative research; however, in qualitative research, there are alternate ways of assessing reliability and validity (Bell et al., 2019).

Guba and Lincoln (1994) propose that it is vital to describe techniques of establishing and assessing the quality of qualitative research that gives an alternative; therefore, they propose four criteria such as *credibility* that is aligned with internal validity, *transferability* that is aligned with external validity, *dependability* that is aligned with reliability, and *confirmability* that is aligned with objectivity.

Establishing the credibility of results includes guaranteeing that research is conducted according to the precepts of good practice and presenting research results to the examined people (Bell et al., 2019). Because this research is based on a triangulation of literature and empirical data, it has a high level of rigor and credibility (Bell et al., 2019).

The ability to generalize the study's findings is known as external validity (Yin, 2014). It is frequently said that the breadth of qualitative data is limited. It is impossible to know how the findings may be generalized to new contexts when participant observation is employed or unstructured interviews with few employees in a particular company (Bell et al., 2019). Therefore, the generalization possibilities of this study are limited, as the research is based just on three specific industries. However, the goal of this case study is not to establish generalizing findings but rather to acquire a better knowledge of how various factors influence coping strategies in the context of the COVID-19 Pandemic.

This research involves the development of a theoretical framework and the testing of some propositions. The coding method will follow a logical approach in which a list of predefined codes can be formulated based on the propositions. As a result, it can be a consistency between the theoretical framework and the analysis that may improve the research's rigor (Tracy, 2010). On the other hand, due to its contemporary context and part inductive approach, some results are exclusive to Danish SMEs in the building materials, energy, and electric manufacturing industries. Hence, it is an important study limitation that should be considered when assessing the data and analyzing the issues. Although Lincoln (1985) claims that a detailed explanation gives others a resource from which they may make decisions about the potential for results to be transferred to different environments (Bell et al., 2019).

According to Bell et al. (2019), in order for the study to be dependable, it is critical to keep thorough records of all stages of a research project, including problem formulation, study participant selection, research notes, interview transcripts, and data analysis choices. Hence, all previous versions of the dissertation will be saved, along with relevant appendices such as interview guidelines and transcripts. In addition, one interview guideline is developed and used during the interviews. The interviews are going to be taped and transcribed. These aspects point to a high level of transparency in this study (Miles et al., 2014). This transparency also improves the research's authenticity and reliability (Yin 2009). The transcriptions are presented in appendix 3.

For the last criteria, Bell et al. (2019) recognizes that although total objectivity in business research is unattainable, the researcher should not allow personal beliefs or theoretical tendencies to bias the conduct of the study results that emerge from it. Companies participating in this study have never had contact before with the researcher, which can help with this issue.

Another criterion for the evaluation of business research is replicability. Because qualitative research is unstructured and relies on the researcher's thoughts, conducting an accurate replication is nearly impossible, as few defined procedures are employed (Bell et al., 2019). Therefore, the study's replicability for this thesis is limited because of its qualitative nature, data collection structure, researcher, and study context. Nevertheless, as mentioned before, the intention of this thesis will allow the researcher to come up with new findings in a contemporary and evolving phenomenon such as the COVID-19 Pandemic.

3.5 Delimitations

The internationalization process entails a series of actions and decisions in which the foreign firm may have a variety of objectives and patterns in the market selection and entry method selection (Anderson and Gatignon, 1986). However, this case study focuses on export entry mode and how factors such as COVID-19 influence Danish SMEs' response and change in export strategies. Furthermore, despite the focus on exporting features, this thesis will not consider each company's international strategy. Even though this is most likely to impact the way firms react to such events as COVID-19. A thorough understanding of each company is required to integrate strategic plans and assessments into theoretical notions.

This thesis focuses on Danish SMEs and how they have coped with COVID-19 hurdles; it focuses on just three industries: electronic manufacturing, building materials manufacturing, and energy manufacturing. This study is limited to only analyzing when Danish SMEs from these industries are exporting in the context of the COVID-19 Pandemic. This choice is chosen because of the differences in external factors that can impose hurdles to this mode of internationalization which can differ heavily in each crisis, such as the recent conflict in Ukraine. Therefore, this study is just focusing on the COVID-19 Pandemic.

This study is limited to analyzing firms' responses to export hurdles and how the firm's industry and environmental factors influence their decision. However, a variety of factors can have an impact on their strategy. Therefore, the scope of this research is limited to three theories: TCT, RBV, and IT. As a result, prior investigations can be compared, and the findings of this study may be more easily compared to the literature. These theories were also chosen because each one focuses on different aspects: transactions, firms, and markets. The approaches complement one another and have a synergistic effect.

3.6 Ethics

According to (Bell et al., 2019), ethical difficulties can develop during the research process. Researchers must be aware of this problem and be prepared to handle them to maintain the study's integrity (p. 109). Furthermore, it needs to be evaluated how this study would affect other actors, such as the enterprises where the participants work, the business school at Aalborg University where I am enrolled, and the broader community, during the research process.

Discussions regarding ethical principles in business research, particularly their violations, focus on a few recurring issues: participant damage, absence of informed consent, violation of privacy, and dishonesty. (Diener and Crandall, 1978; Bell et al., 2019 p. 114). With this in perspective, I believe the most critical ethical issues in my thesis process will include privacy, secrecy, informed permission, integrity, and truthfulness. Participants will be informed about how I would approach ethical issues like anonymity and confidentiality in a cover letter. If they decide to go with anonymity, I will assign each of the participants an alias that they will use instead of their real identities, and I can refer to the firms where they worked as firms a, b, or c as an extra precaution.

I will politely ask the respondents to confirm their involvement by email to any of us to avoid a lack of full consent. I will also mention that participation is entirely voluntary and that they might discontinue or refuse to answer questions even during the interview. I will accurately and clearly define the aim of my thesis, how I would manage the material, and that it will only be utilized for this study. The practical information letter for companies is attached in an appendix 1.

Furthermore, from the academic and social standpoint, I will avoid misusing data and always use proper references to prevent misrepresenting another researcher's findings as my own, provide credit where credit is due, and avoid causing harm through a false study.

4. Research Results and Analysis

The analysis and results are carried out in this phase, and the purpose of my conceptual framework is to help go through this process. Therefore, this chapter analyzes each part of the conceptual framework input, focusing on the main stakeholders, macro, micro, and meso environments. In this way, it is possible to understand what is happening and how Danish SMEs are dealing and overcoming new hurdles to exporting caused by the COVID-19 Pandemic and how this framework can stay the same or change due to the unique circumstances.

The empirical data from semi-structured interviews with relevant managers from selected Danish SMEs are examined and interpreted using the coding system. Secondary data is also used as a source of information in the analysis. The first part of this analysis is to learn the consequences and changes during the exporting process and business environment during the COVID-19 pandemic. Second, the specific hurdles are examined. Finally, the changes in strategies and how they coped with these hurdles are discussed.

4.1 COVID-19 Pandemic and Business Environment

The global business environment since the start of the pandemic has dramatically changed. Before this crisis, Danish SMEs usually made international trade transactions, where products and services flowed almost smoothly across borders with export barriers already known through the literature. Many Danish SMEs appear to have suffered significant changes in how they deliver to their customers due to changes in the exporting process. Their costs, clients, and business development have all suffered as a result of this. All of the interviewees discussed the changes to some extent, but they all agreed that nobody was prepared for what was coming.

4.1.1 Preparation for crisis

The pandemic caught the entire economy off guard and not only small and medium-sized entrepreneurs from Denmark but also around the globe. Most of the interviewees mentioned that they weren't preparing for a situation like the pandemic. Companies were not aware of a contingency plan, except for Home stair ApS, where his account manager said:

"We have but for example in case of the plant burns down, because we always have a risk for the kind the material we use for the production, for example, where can we produce instead, so we need to have this kind of plans to secure the product to our customers. But I don't think anybody could foresee that this Covid Pandemic would be so big" (Home stairs, Key Account Manager, Appendix 3.1, p.75); still, they never expected a situation like a pandemic.

When the pandemic started, SMEs were reacting as it came and trying to solve the problem at the moment. Because of the organization's size, there are limits to how much time you can spend on creating a contingency plan because it requires resources, and not it's not always in place. However, it can contribute to

income generation if it is in place, and you may activate it ahead of time rather than reacting (Energy Solutions CSO, Appendix 3.4).

Moreover, the changes weren't so dramatic at the pandemic's beginning. Due to all three companies depending to some degree on China, where the lockdown started at the end of January 2020 and was open again approximately at the end of February 2020, the supply chain was not significantly affected (Energy Solutions, Supply Chain Manager, Appendix 3.5). After that, they realized that the export activities, such as raw material scarcity, were more complicated, and increased costs became a significant problem. They needed to hire more personnel working in critical areas such as purchasing and sourcing departments to be able to deliver to their customers. As the Marketing and Export Manager from Irrigation System ApS said, they are changing in response to market conditions (Appendix 3.3).

4.1.2 Customers and costs impact

The impact on the current customer base of the SMEs interviewed, and the costs involved with exporting are examined in this section. The changing business environment has significantly impacted their companies and customers, notably in the changes linked to lead times, presential meetings, and increasing costs. All of the interviewees mentioned their lead times to deliver were seriously impacted since COVID-19. *"We had like 16 to 20 weeks delivery time in loft leaders where we normally have 4 to 6 weeks,"* said the Home Stairs Key Account Manager, referring to the lead times' increases, which their clients were not prepared for, even though it was a worldwide situation. Furthermore, all three companies mentioned China as they have a supplier and raw materials coming from there. Usually, it takes five weeks for a container to arrive after it has been shipped from a plant in China and delivered to its customers' location, now takes eight to ten weeks, or even longer in extreme cases (Home Stairs, Key Account Manager, Appendix 3.1). Therefore, lead times significantly impact them as they struggle to find alternate components or raw materials. Waiting for one component can affect the times overall because you will not complete the task (Energy Solutions, CSO, Appendix 3.4).

According to Home Stairs Procurement Manager, there was an impact on the demand at the beginning of the pandemic where they reduced the orders for a few months. Immediately after, they started to order again and, along with all the backorders, made it challenging to keep up with all the orders and therefore meet the delivery times. He gave an example of a customer in France who had ordered six containers ready for delivery. Suddenly the customer stopped the order and said that he would not receive the containers. On this occasion, the products were already prepared, so it was difficult to handle because they had to think about how to accommodate those containers that were already ready. Suddenly the client in France received many orders from his clients and said he needed the product, and it was complicated to react quickly enough. All this was caused because they stopped the order and suddenly changed their minds and ordered even more (Home Stairs, Procurement Manager, Appendix 3.2).

Another aspect is that the demand for the product in the three industries has been affected very little. As I mentioned above, it was only the first months of uncertainty in that regard. However, the interviewees have used the phrase "business as usual" to refer to the demand. Home Stairs Key Account Manager mentioned that last year, they didn't have a single customer that didn't go over budget, regardless of the country.

Furthermore, Energy Solutions CSO agreed and said that there was almost no difference based on numbers and that they need to consider other factors such as the organization's effectiveness.

Nevertheless, all the interviewees mention the increase in transport prices, especially freight, has also had consequences for their customers, who usually bear that expense. That can impact their profits for some firms because transportation expenses are not included in the final selling price.

"I have a small customer in Belgium, and they are not able to buy full containers from china, so they only buy one third, and we use the extra space to bring from China the material that we need in Demark, so we divide the costs, and they assumed part of the freight costs. That's also a problem; the freight cost is going crazy. We used to have a base cost of 500 USD for a full container to America, and it is now 30000 USD, so it is more than ten times so, we take the 30000 USD, and we deduct the 2500 USD, which is the normal, and then we share the rest 50 /50 also if we have our subsidiary, just to see where are the loses. But with external customers, we do the same, and to be honest, in my personal opinion, they should be paying all extra costs because that is calculated in our all-selling process, we are not calculating this extra freight in our selling price, so actually, all this additional cost goes directly to our profits". (Home Stairs, Key Account Manager, Appendix 3.1, p.74).

Moreover, Irrigation Systems Marketing Manager mention that transportation prices have risen considerably during the last few years. And the only option they have is to include this in the price. As a result, because transportation costs are higher, they must raise their customer prices. In Addition, Energy Solutions CSO agreed and gave an example of how it impacts their profit.

"Sometimes we actually have transportation prices that almost equal the price of the part because they're super heavy; what we do everything is steel, so it's heavy. That is one major issue. And that, of course, impacts our business. Because in some areas, we offer DAP prices, or DDU prices, where we are in charge of the transport. And then if you are in a situation where the system is disrupted, you can say or really not working as it normally if you can't book transport, you can't know the prices. And you just have to take what you can get, which may eat up your profit" (EnergySolutions CSO, Appendix 3.4, p.90)

Even though two of the companies looked to be somewhat optimistic about the situation and their current customer base, there was no major problem because they could deliver the product and fulfill the contract. Energy Solutions CSO mentions that their customers are very different among them. They have a segment of smaller customers where the sales employees try to go physically to the company to talk with the person in charge. Some of these people didn't want visitors, impacting some business segments. They are also the type of customers who, for example, in a workshop with their hands dirty, don't sit down in front of a computer screen and have an online meeting. Engineers couldn't verify the quality because it is different to

do it online. So, all these elements were essential. Nevertheless, if there is an established business relationship and just supplies components, it is easier to continue the relationship.

Furthermore, two companies mentioned that business travels were essential to keep up with their customer base. Home Stairs, Key Account Manager, said that one of the things he does is product training, which it can't be done in a team meeting because it is necessary to physically touch the product and show it, explain how to put it together and why it's crucial. Energy Solutions CSO agrees and said that in the last one and a half to two years, none of their employees in China had received training from management or the main office, which isn't ideal. She also mentioned that small talk is always vital when building a relationship and getting to know someone, and you tend to do it less online. Therefore, she points out that there is a possibility that they had lost some clients, but it is too early to know to what extent it has affected them (Appendix 3.4).

"We have probably also lost some we may not know yet because we have a large customer base. So, it may not be until next year that we discover that one of our customers stopped ordering parts from us. Because we have thousands of customers, that's really a statistical discovery you need to make eventually. Oh, why is this he bought this and these the last three years and suddenly this year, we haven't had any orders why that is, and then somebody needs to follow up on it (EnergySolutions CSO, Appendix 3.4, p.97)

In conclusion, the impact on existing consumers has not been as dramatic as some anticipated. Companies' ability to manage production and delivery processes and the communication among them has helped maintain a good relationship with their customers, as people are aware that this is a worldwide issue rather than a company problem. Nevertheless, the primary obstacles and challenges are logistics, raw material shortage, a notably restricted number of freight providers, cost increases, and their flexibility with shipment alternatives.

"So, if we look at the numbers, there's not a huge impact of it now, and that would be the case this year is that we can get the orders, but we are not able to deliver when the customers would want to receive. So that means that we will have to push. We will build up a pipeline to deliver to customers, which is, of course, at the same time they will close orders and build up a pipeline. Still, we won't get paid until next year, because we can't get the parts that we need to manufacture what we need to manufacture and eventually get paid by our customer" (EnergySolutions CSO, Appendix 3.4, p.93)

4.1.3 Business Development

Another factor that the conceptual framework overlooked was the impact of COVID-19 on business development and potential clients. Almost all the interviewees have mentioned the difficulty in making new clients due to the travel restriction due to Covid; most agree that making new clients is necessary to be faced to face. Irrigation Systems Marketing Manager even said that one of the most significant issues with the pandemic was that they could not visit new consumers.

Nevertheless, Energy Solutions CSO (Appendix 3.4) has an optimistic point of view; she mentions that the salespeople have been pushed to sit behind the desk. That allows them to go through old customer lists and see any patterns that can help with different strategies. In other words, she said that the pandemic situation has some advantages. For example, employees have been forced to think more, to reflect more on their business because they haven't been caught up in meetings and travel, which can quickly happen in an international sales organization, where they are always on the road and never get any work done. This situation improved strategies and customer base management.

Furthermore, she has an optimistic view regarding travel sales as she mentioned that there are different types of clients, and the sales process is very long. Therefore, it is vital to adapt to whatever customer is in front of you and how they do business. People have spent more time on the phone due to having more time in front of their desks, and phone time is a very effective tool for salespeople. For that reason, she said it was difficult to tell if travel sales were necessary for every new business (Appendix 3.4).

On the other hand, Home Stairs, Key Account Manager, said, *"We had absolutely no time to think about any new markets in 2021; we were so busy just keeping up.... When you cannot supply your existing market, and you cannot produce enough for them, no need to get more customers on board"* (Appendix 3.1 p.77). Nevertheless, he mentions that business trips are necessary as you don't work the same way because you need to be with people, due to the necessity of this mutual dialog and small talk. It is more difficult to generate new projects on teams platform because you always follow an agenda; you just don't come up with new ideas. (Appendix 3.1).

Companies have been trying to make new business development with online tools available. Today, many countries are opening again, and they are getting out again to look for more business. Irrigations Systems Marketing Manager mentions that now that countries are more open, he travels around looking for new markets in Asia and the Middle East.

In conclusion, all interviewees acknowledged that COVID- 19 has impacted their business development. The Energy Solutions CSO (Appendix 3.4) looked to be more optimistic about the situation, although this could be owing to their available resources, resilience capabilities and established diversity network. Companies have been trying to make new business development with online tools available.

4.2 COVID-19 Export Hurdles

Hurdles to exporting are analyzed in the second part of the analysis. This subchapter is broken into three significant hurdles found in the primary and secondary data recollection: First, resource hurdles, following transportation hurdles are explored, and finally, Country-specific and Institutional hurdles are examined. The initial conceptual framework did not anticipate all of these hurdles. Based on the literature review, export barriers were mainly knowledge barriers, resource barriers, procedure barriers, and exogenous barriers (Arteaga-Ortiz and Fernandez-Ortiz, 2010). Furthermore, COVID-19 specific hurdles were mentioned as changes in the whole process, such as problems with contracts, logistics, negotiations, and

marketing strategy. Nevertheless, some of these hurdles weren't the main problem in this study. The findings concentrated on the issues that businesses believed were the most difficult to manage due to the COVID-19.

4.2.1 Resources Hurdles

All industries agreed that the demand was not the problem, except for Home Stairs, which said they had a bit of a problem in the first months because they stopped the orders that were accumulated after. Furthermore, they all agreed that they never stopped production in any of their plants. Home Stairs Account Manager even said, *"We couldn't simply get enough, and our production capacity was up 100 %, so even with three shifts working Saturday and Sundays, we couldn't keep up"* (Appendix 3.1 p.77). Moreover, Energy Solutions CSO (Appendix 3.4) agreed and said that Denmark never stopped production, like they had other countries in Europe.

The first export obstacle that might be incorporated into the conceptual framework of this thesis is the shortages of raw materials, increased cost, and supplier problems increases. This hurdle is likely one of the most apparent changes due to COVID-19, which all interviewees viewed as a problem when exporting. It was briefly noted in the first part on "customer and cost impact" and as mentioned in all aspects of the interviews.

The managers within the energy industry said that they had been heavily impacted in their export process due to Covid as it has had a significant effect on their value and supply chain. They've been waiting a long time for the components they need to produce their final product selling to customers. Continuously, their sub-suppliers are affected by the delays and increases in raw material to build what they require from them, so it is a problem in the global supply chain.

Energy Solutions CSO discussed this by giving an example of one of their biggest customers' points of view:

"That's what we struggle with the most right now, both to get parts but also to ship things to customers like when we source something for one of our big OEMs like Siemens Gamesa, maybe that's produced in China, and we buy it in China, and then we had to ship it to Europe. And then suddenly, there's a huge increase in lead time compared to what we had before. So that is both a lead time issue and a cost issue" (Appendix 3.4, p.95). Furthermore, in Energy Industry, there are a lot of components made of steel, and there have been shortages in Europe, removing steel from the entire value chain in steel production and manufacturing, resulting in cost hikes and delays.

For the electronic industry, the problem was getting electronic circuits from China. Home Stairs company was highly impacted by raw material shortage because they simply couldn't get enough wood, so they decided to pick customers in different countries and tell them they couldn't deliver a final product because they could not provide it. Moreover, Home Stairs Procurement Manager (Appendix 3.2) mentioned that China imports its raw materials from Europe, and they had a significant problem there. For example, pits have often remained priced the same for at least 20 years, but now the price has been increased by more

than 30% to 40%. Even if you agree to pay the additional fee, it still was challenging to have enough to complete the production. As a result, they were consistently behind schedule with their manufacturing and delivery. Therefore, the raw material shortage was not just the problem but also the increased prices of it.

Additionally, to the raw material problem, both interviewees in Home Stairs also mentioned issues with one of their suppliers, caused by the lack of material and increased prices. The struggle was caused for their primary material, wood; they mentioned an example with one of their suppliers in Sweden, which discovered that they could make more money supplying materials to the USA, so the supplier informed them that they would no longer be able to provide them with wood. Home Stairs Procurement Manager (Appendix 3.2) said that since the middle of last 2021, there were many softwood screws from Sweden, and the price has doubled. Price ranged from around 250 euros per cube at the beginning of 2021 to about 500 euros per cube in the second half of 2021. He attributes it to the fact that the US market had driven up the price of softwood from Sweden, Finland, and Norway. New buildings in the United States have created a significant demand for softwood from Sweden due to the big fires there, which was a good business for Sweden suppliers.

This issue highlights how a single problem, such as raw material shortage in the process of exporting, might result in rising prices, lead times, and production problems and affect the supply chain.

4.2.2 Transportation Hurdles

Problems with transportation are another main challenge during Covid times. This hurdle was also not considered in the input conceptual framework, which envisioned a single relationship between the Danish SMEs and their clients, although the exporting process involves multiple stakeholders. This export hurdle did have a significant impact on all companies' exports.

One of the problems was that transportation prices had risen considerably during the last few years. As a result, because transportation costs are higher, they decide to raise customer prices. Energy Solutions CSO (Appendix 3.4) mention that they mainly use maritime transportation due to their heavy goods, and the main problem for them is the cost because they use primarily marine transportation. She said that sometimes transportation fees are nearly equal to the price of the part because they're so heavy. She also added that when they need to close a new order, the main discussion with their customers is about who should pay for that cost (Appendix 3.4). Energy Solutions Supply Chain Manager (Appendix 3.5) mentioned that transportation costs had increased almost 300%. Home Stairs Account Manager said it has risen nearly ten times and gives an example discussed before in the first part of the analysis under "Customers and costs impact" (pp.52-54)

Another problem with transportation was lead times which was also briefly mentioned in the first part of the analysis under "Customers and costs impact" (pp.52-54). Congestions in ports, closed harbors; quarantine goods were some of the factors that affected lead times in the exporting process. Energy Solutions Supply Chain Manager gave an example of this:

"It was more like, if we sent from Denmark out to China then containers have to be you know, it has to be clear it has to be sprayed for infection, then all the time it was extended, and you can get fees because it took too long. We also saw that the harbors closed down, so we couldn't get parts and product out, and the containers were not emptied, so you can say that the lead times on transport had doubled almost because of the capacity and the waiting time outside the harbors that they can not get the containers ships in. So actually, it's the time that has been a problem, that ships cannot get in couldn't get into the harbor so things that should take six weeks to 10 weeks, and that problem cost and you get a fee of course on that" (Appendix 3.5 p.100)

A report from a Danish transportation company supports what Energy Solutions Supply Chain Manager said and mentions capacity problems due to delays, port congestions, and Vessel shortages due to delays as the main problems during the pandemic.

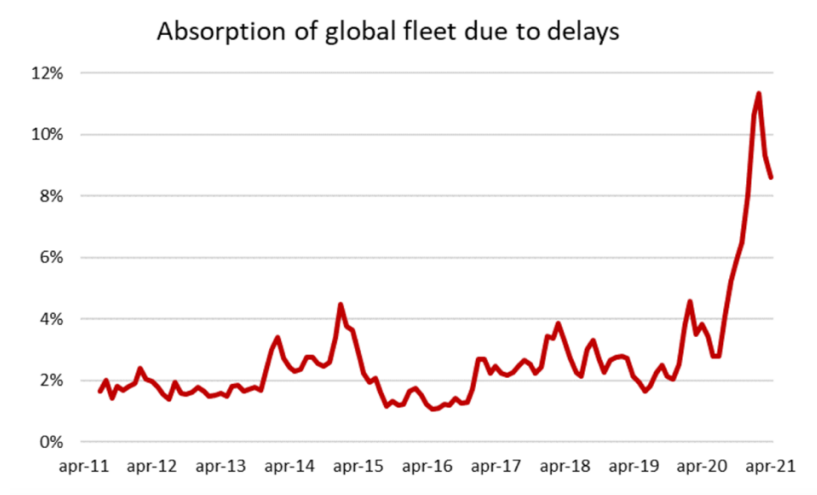


Figure 6. Capacity Maritime Transportation Shortage during 2021. Vespucci Maritime (2021)

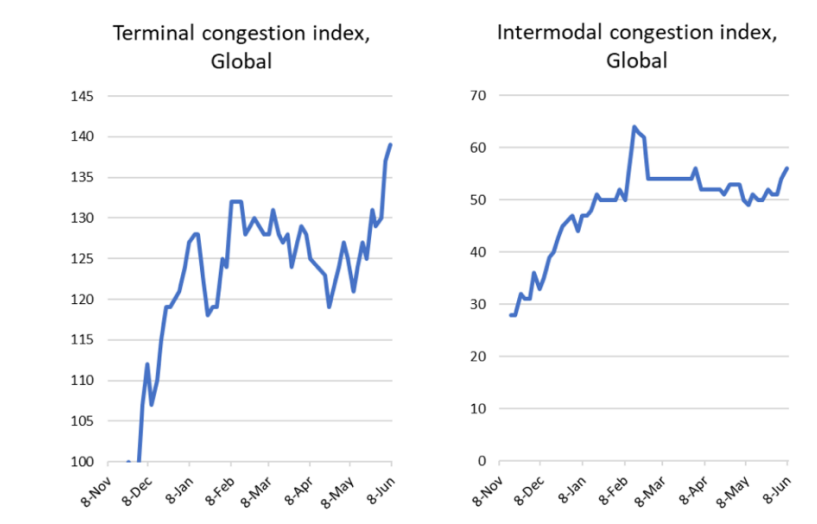


Figure 7. Port Congestion in Maritime Transportation during 2021. Vespucci Maritime (2021)

Due to transportation problems, such as increasing rates and less availability, the primary concerns with logistics and the restrictions they represent have a considerable impact on Danish SMEs' increasing lead times and the final price for their customers, affecting their competitiveness.

4.2.3 Country-specific and Institutional Hurdles

As seen in the qualitative data, the last export hurdle is linked to the specificity of the countries and institutions like all the companies. DSV (2021) argue, China as a significant problem because they have a subsidiary there or their raw material comes from China. Furthermore, the central government measures in the export process were also from China. This subject was not predicted in the input conceptual framework.

Energy Solutions CSO said that the fact that production took place in China and was sent out of China was influenced by the significant lead periods. And when they send components into China for manufacture and then shipping them out, the supply chain, or time, is suddenly expanding and necessitating a lot more planning and visibility that you may not always have. She also gave an example:

"For some items that we are buying from a sub-supplier in China right now, lead times have increased dramatically. And that actually impacts our ability to secure orders if we are in competition with others that do not have the same time for those particular components. So, it does make you reflect on your setup and your focus in different regions". (Appendix 3.4, p. 96).

Energy Solutions CSO also mention that all of their problems in China are a ripple effect. She says the inflexibility of the country and government measures, the closing of factories, power shortages, limitation of working days for factories, and transportation issues within the country can have a delay material arrival at the ports. Moreover, they have suppliers that also have their production in China, and they weren't able to deliver to Europe. Additionally, Irrigation Systems Marketing and Export Manager is also worried about their suppliers in China, especially now that they are closing again. He mentioned that it could significantly impact their ability to deliver to their customers (Appendix 3.4).

The problems they had since Covid with the port of Yantian in China where explicitly mentioned by DVS (2021). 1) Inbound reefer cargo discharged in alternate ports, 2) Lack of empty inbound containers makes equipment shortage worse 3) Diversion of cargo to Nansha and Shekou resulting in congestion problems in those ports 4) Impact: 765,000 TEU of handling (i.e., inbound-outbound, full-empty transshipment) and 300 vessel schedules altered 4) Insufficient vessel capacity available – likely leading to reduction of capacity out of all other Asian ports to help clear the Yantian pile, 5) Impact: 765,000 TEU of handling (i.e., inbound-outbound, full-empty transshipment) and 300 vessel schedules altered; the last problem was two times more due Suez Canal impact. Although they had already resumed their operations, they had a ripple effect in 2021 that continues until these days. (Vespucci Maritime, 2021)

On the other hand, Home Stairs Key Account Manager only raised a slight problem with UK institutions, which had to close down all of their stores, but even though they still could deliver the product, it didn't stop sales (Appendix 3.1).

For all the companies, one crucial problem with regulations is regarding travel restrictions measures such as additional government requirements such as quarantine, testing, geolocator forms, and all that implies a cost. Energy Solutions CSO (Appendix 3.4) mentioned that their salespeople cannot even travel within China now. Energy Solutions Supply Chain Manager agreed and even cited an example of an employee that has been in isolation in China until now, and they added more days of it.

It can be concluded that all export hurdles mentioned in the analysis are linked to the measures imposed by governments around the world. In the case of the three industries, the Chinese government mainly has most influenced their export operations.

4.3 Export Strategies Changes and Reformulation

Several ways in which Danish SMEs reinvent their export strategy have been noticed. To deal with the COVID-19 hurdles, they appear to be examining alternate suppliers. Furthermore, in order to circumvent export constraints, some companies are thinking of different ways of being less dependent on their raw material suppliers when trading; nevertheless, these may have a major impact on Danish SMEs' resources.

4.3.1 Coping Strategies

One of the forms to deal with export hurdles for the three industries is to be able to have a good inventory to deliver the final product to their customers, which is the primary concern for all the companies. For example, Irrigation Systems Marketing and Export Manager point out that delivering to their clients is their main priority. Therefore, they have a large inventory, which has proven to be a challenge because you need to have adequate components on hand. As a result, they aim to balance carrying enough stuff and not having too much on hand.

"We are building our back at quite a high inventory because we want to be sure that we can deliver to our customers, and that's where we are now that we are actually able to deliver to our customers, but of course, the challenge is that you need to have more components on stock, so, it's always about finding this balance of still carrying enough material" (Appendix 3.3, p.85).

Furthermore, Home Stairs Key Account Manager mentioned that they usually produce just in time, so they don't have any raw materials on hand that they won't need within a week, but that flow has now been disrupted. They have to purchase extra materials to have a larger buffer than usual. (Appendix 3)

On the other hand, Energy Solutions Supply Chain Manager points out that they order more in a longer time frame, but she also said that orders more than usual could end in a bottleneck problem which is not helpful.

"If everyone orders because they're fearful, you're just making the supply chain worse, that won't help, it'll just make the market over or under demand, and as a result, I would say that we did not go to the degree that you could. So, we were just trying to find a better-balanced solution to the challenges and reacting to them as they arise" (Appendix 3.5 p.101)

All the industries agreed that they took a reactive approach and solved the problems as they came in order to deliver to their customers. Home stairs Key Account Manager mention that to overcome transport hurdles, they always attempt to figure out which route is the best, work with reputable companies, and agree with their customer the charge for each delivery can be varied. He gave an example:

"We tried to change maritime to rail from China, but it was still expensive; there were no real savings. But we found actually that it was cheaper to get one of our products to Australia by air instead of sea transportation, so if we have a single shipping, it is cheaper." (Appendix 3.1, p.76).

On the contrary, Energy Solutions CSO pointed out that for their company wasn't easy to change transportation modes as the primary mode of transportation is maritime because their product is hefty. Nevertheless, she mentions that they always try to see if they can find another provider for a specific piece of equipment that helps to enhance the business by securing orders and cash flow more quickly than usual (Appendix 3.4). These tendencies emerged among Danish SMEs who prefer alternate suppliers or order more than usual to have a more considerable stock.

4.3.2 Export Strategy Reformulation

There have been some observations about how Danish SMEs reformulate their export strategy. Although Energy Solutions CSO (Appendix 3.4) has raised their concerns and the importance of improving their strategy, all industries have been taking a reactive position and using the phrase "Business as Usual."

Irrigation System Marketing Manager points out that their strategy has been the same over the years. They have prioritized being able to deliver goods to their clients, which necessitates having items in stock. For them, that has always been a priority, and having an inventory should take precedence for the time being. (Appendix 3). Furthermore, Home Stairs Key Account Manager points out that the pandemic's beginning was a scary time, but after a few months, everything went better for them.

"We just think that covid has been good for us, in the way that we sell more than we normally do, and the prices increase yes, for example, I increased five times prices last year, and two times this year already. 1st of January I did one and 1st of February I did the second one, so customers seem to fully understand the situation because everything in their country cost more, so that's just new normal". (Appendix 3.1, p.78).

On the other hand, Energy Solutions CSO (Appendix 3.4) said they are concentrating on being less reliant on some sources by reducing or eliminating lead times and attempting to simplify and save time and money wherever possible, referring to China, therefore they need a standalone strategy to China is more the way to go forward. As a result, less reliance on too many forced border transactions of goods, lead times, and the inflexibility seen in China, such as measures taken by the Chinese government. Moreover, she emphasized that because they are too exposed, relying on enormous transport of products required for production in China from overseas is not the way to go forward. As a result, the main point for having low-cost production in China is ruined in favor of increased transportation costs and reliance on items delivered from Europe, making the way to operate and change export strategy essential. Nevertheless, they still don't

have a plan, and they are just adapting to the situation as it arises while maintaining the same export strategies, they need to get the product to their customers. The scenario is constantly changing during this pandemic. (Appendix 3).

Different Suppliers

Efforts to find different markets were only referred to when they talked about different suppliers for two industries. On the other hand, the Home Stairs Key Account manager mentions the possibility of leaving Poland, where they have a subsidiary:

"We told them, you cannot have this amount of loft leaders that you want, and they always are like, you know, "yes, but we need it," and then we make some calculations, and we say "OB" is one of our account customers, if we cannot get much more for our products selling to OB, we just sub selling to them, and this was for all our lost cost products, so if they can no pay the much more for the product that we are selling so they cannot have them anymore and we just need to shut it down ."(Appendix 3.1, p.77)

Even though the energy manufacturing industry expressed the intention to change suppliers, their situation is more complicated as they have sub-suppliers exporting to China and from China. In that respect, the Energy Solution CSO (Appendix 3.4) said that they were trying to see if they could find another supplier for that same piece of equipment when they have extended lead times. Just if they could boost their business, secure an order, and cash flow would be faster than usual. Moreover, she points out that from China's perspective is clear that you need to have a different strategy to serve other markets and gave an example:

"To ship in or out of China today was definitely impacted by the long lead times, and if you're also on the other end, bring components into China's manufacturing and ship out afterward, your supply chain has problems, and your time is suddenly increasing a lot, therefore, needs a lot more careful planning and a lot more visibility that you may not always have. For certain business deals where you are expected to be able to react faster, then, we are actually physically capable of doing it right now. We have an issue with some items that we are buying from a sub-supplier in China. The lead time issue has impacted our ability to secure orders if we are in competition with others that do not have the same time for those particular components. So, it does make you reflect on your setup and your focus in different regions. I think there's more attention on how to serve an individual region in the best possible way, all across, I mean, in terms of people sourcing and transport, customer types" (Appendix 3.4, p.95)

Furthermore, Energy Solution CSO (Appendix 4) said they have thought about leaving China for some components. Still, the reason is not just the COVID-19 pandemic. Another factor is the trade conflict between the United States, and China makes it less appealing to ship from China to the United States because of the taxes and tolls we must pay. Hence, she points out that China is not feasible in the long run, and within the energy industry, there is a focus to change in India.

Technology and online tools

Although two industries didn't raise a specific change in strategy during the interviews, the use of online tools was mentioned as part of their coping strategy to keep in touch with their clients and do new business. While not ideal for some of them, it still was adequate to keep running the business (Appendix 3) *"we had definitely impacted by the long lead times that we need to be out there fighting"* (Marketing and Export Manager, Irrigation systems, Appendix 3.3, p.94)

On the contrary, Energy Solutions CSO (Appendix 3.4) took a more optimistic perspective pointing out the benefits of these tools in the long run. She mentions that they have been receiving training on how to do product presentations online, and even though they started the production in China without a presential training, they have been some benefits:

"The travel budget is much less than what it was before; it's easier and more common and more natural to choose to have a teams meeting instead of having we are having right now. If this had been two years ago, we wouldn't have done it this way. Right? Pre COVID, we wouldn't have done it this way, so that is more common, and that's, of course, good for the savings you can have in terms of traveling. It's good for the environment also, which is also a big benefit, I think". (Energy Solutions CSO, Appendix 3.4, p.91)

Furthermore, it was mentioned by 2 of the industries the implementation of new technologies. However, the Homes Stairs company did not attribute it directly to the pandemic situation and said they already are very automatic and don't have many people in the production. On the other hand, Irrigation Systems Marketing Manager mentions that they have a research and development department constantly researching new technologies and other applications and situations where they can use their products. Moreover, they have had more robots in their manufacturing and are still producing sophisticated devices, but he also thinks they will never completely replace human labor with robots. (Appendix 3.3).

In conclusion, it can be said that Danish SMEs were unprepared to deal with crises like the current pandemic, according to the interview. Only one of the firms had an emergency plan just for predictable situations, such as a fire, but this was insufficient to assure business continuity. The findings of this thesis are consistent with the literature review, which suggests that SMEs are less likely to engage in crisis management due to a lack of resources, and the results find that they prefer to react to the situation. Moreover, in this case, the firms had no intention or interest in transitioning from their non-equity export mode to a contractual or equity mode of operation.

It was found that the three industries were changing suppliers, having more stock than usual, and using online tools to deliver on time to their customers and keep the business going. This strategy has impacted all the GVC that is causing more problems because even though the problem is solved at the moment, it is just doing a bottleneck effect. (Energy Solutions, Supply Chain Manager, Appendix 3.5)

Therefore, it was found that three industries have been reactive in response to the pandemic hurdles. Although they don't have a specific plan for change strategies, they still have coping export strategies that lead them to improve them in the long term.

5. Discussion

According to the analysis, despite the fact that companies in the three industries have not had losses and their turnover has increased during the last three years, there have been certain substantial obstacles for Danish export SMEs since the beginning of the COVID-19 pandemic. Exports from Denmark in the first quarter of 2020 fell by 7% in dollar terms compared to the same time in 2019. The most substantial drop in export revenue was seen in services, while goods exports performed slightly better, owing to the continued high levels of sales of pharmaceutical products. Nevertheless, COVID-19 decreased orders placed with Danish manufacturing companies from all export markets (Marinov, 2020).

The findings and analysis in this thesis will be presented in this chapter in connection with other recent studies comparable to this one. Belu (2021) mapped that the most significant issue businesses encountered during the pandemic were a considerable increase in transportation expenses, driven by the surge in demand for products and the disruption of the worldwide supply chain by COVID-19. The coronavirus continues to disrupt global supply networks, causing ports to close and ships to be delayed, reducing the number of vessels available to convey products. Container shipping experienced the most significant increase in transportation costs. Transporting a container of goods from China to Europe now costs \$ 14,287, a 500% increase, and this increase affects the cost of transportation for all kinds of material. This problem is consistent with the findings of the thesis, which found that managers in all industries were having these issues, increasing costs and impacting their lead times, among the most important ones. Energy Solutions Supply Chain Manager mention almost the same container prices for the container *"You can see that it just they are standing outside, so the price that was before 5000 USD is now 14,000 USD and is due to lack of equipment"* (Appendix 3.5, p.101). These transportation hurdles impacted their clients, who must pay an increased final price and receive products with delays. On the other hand, Belu (2021) mentions that the situation is expected to return to normal as early as the first quarter of 2022, according to representatives from the field associations, which still didn't happen. In the energy manufacturing industry was found that the COVID-19's effects are still affecting markets on lengthier lead times and pricing, which they expect to last until 2024.

Furthermore, Belu (2021) presents comparable indicators to the findings of this thesis, stating that disruptions in loading and unloading operations due to COVID restrictions and unforeseeable occurrences such as the Suez Canal blockade in March 2021, all contributed to higher logistics costs. Furthermore, the Covid constraints have directly affected customs clearance formalities, which significantly impacts transit time; there have been delays in gaining customs formalities for export. Due to the enormously vast range of products subject to customs clearance procedures, the container issue also halted the activity of shipping facility representatives. Energy Solutions Supply Chain Manager (Appendix 3.5) points out that when they carried containers from Denmark to China, they had to be clear and sprayed for infection. The company had to be stretched all the time because they may get a fee if it took too long. Moreover, the harbors were closed, making it impossible for them to get parts out, and therefore containers had not been emptied. As a result,

transport lead times have nearly quadrupled due to capacity and the time spent waiting outside the harbor for the container ships to arrive.

Belu (2021) considers the significance of documents in the export process and the influence of the COVID-19 pandemic on the preparation, acquiring, and timely transferring of documents in the course of export activity. Therefore, there have been issues with collecting the products that have arrived at their location. Nevertheless, this thesis found that all three industries didn't mention this issue as a significant impact. Home Stairs Key Account Manager (Appendix 3.1) points out that their contracts are straightforward, less than two pages where there are the terms for sale and delivery, but they don't have long-term contracts. Moreover, Energy Solutions Supply Chain Manager (Appendix 3.5) mentioned that customers understood because they all have the same problems.

Regarding the country specify, all three industries point out their major problem within China, mentioning the country as an example for all their export hurdles. According to Pinna and Lodi (2021), the Chinese economy rebounded in September 2020, but the rest of the globe was still suffering from the COVID-19. An attempt was made to evaluate the pandemic's real-time effect on trade by analyzing data from vessels and cargo ships, revealing that China's exports had declined sharply at the start of the lockdown in early February but were gradually rising again. This is consistent with the thesis findings, which found that one of the managers in the energy manufacturing industry (Appendix 3.4, 3.5) mentioned that COVID-19 was moving at a fast speed in China, which shut down in week four and reopened in week eight or nine. At that moment, the chain was unaffected because they had enough stock. Furthermore, the virus outbreak disrupted production in Hubei province, and the problems were quickly spread throughout China due to the integration of Chinese and foreign enterprises based there. Firms have been exposed to the vulnerability of a system that "needs all of its pieces to perform in unison" (Javorcik, 2020).

Pinna and Lodi (2021) argue that the joint position of China as the country where the epidemic began and as the source of the world's largest share of manufacturing production has made the case evident in the aftermath of the pandemic. Even if global cooperation can secure more output at lower costs for all goods, there is now a danger that the global economic picture may become more segregated. A supply disruption in one country's output results in a fall in its exports to its trade partners (supply impact), whereas a decline in one country's income results in a reduction in its imports from its trading partners (demand effect) (Baldwin and Freeman 2020a). As the ripple effects in manufacturing are dependent on countries' exposure to other countries' manufacturing sectors, this enhances the spread of disruptions. These issues are consistent with the findings of this thesis which found out that within the three industries, the hurdles in China were the primary source of their raw material shortage problem, increasing lead times and transportation obstacles.

Furthermore, some regions dominate in a particular industry, and most of their exports are sent to neighboring countries. For example, European and Central Asian countries interchange about half of the world trade in unfinished vehicles, while Eastern countries, led by China, produce more than two-thirds of electronic components. Furthermore, in both cases, most exports are between neighboring countries.

Therefore, countries hit hardest by Covid-19, which accounts for 70% of global manufacturing production, play a crucial role. This finding was consistent with the electronic manufacturing industry where almost all of their raw material comes from China (Appendix 3.3). The manager was especially concerned about the present scenario in China, which suggests that the country may close down as a result of the pandemic again.

Since the COVID-19 pandemic, digital tools have been increasingly used to carry out their export activities and cope with hurdles. Belu (2021) mentions that many businesspeople were connected using online technologies and many recent talks took place online (Shonk, K. 2020). Organizations have used video technologies, videoconferencing, and e-mail to prepare for and engage with future strategic partners (Movius, H. 2020). This is consistent with the findings in this thesis, where all managers said that they were using online tools to keep the business running. However, managers from the Building manufacturing industry and the Electronical manufacturing industry were reluctant and negative about it. They argue that it is not the same, and they need to travel to close deals, develop business, and train employees. Furthermore, Belu (2021) found that digital prospecting is becoming more popular, with benefits such as lower financial resources required to prepare and conduct this sort of prospecting compared to traditional prospecting and a more straightforward evaluation of prospecting activity performance. This result was brought up by the Energy Solutions CSO (Appendix 3.4), who stated that online tools have their advantages, and it is a matter of professionalizing. Online meetings, online commercial dealings, and online negotiations are all new skill sets that need to be developed. Furthermore, she mentions that they have invested in suitable lamps, green backgrounds, and other professional items to conduct online meetings. They have also been trained to give online product presentations.

Given the empirical data and consistency offered in the discussion chapter, the conceptual framework constructed from previous research on export restrictions and adopted for the purpose of this study needs to be reassessed.

5.1 Conceptual Framework Reassessment

The conceptual framework input was created based on known literature assumptions that there are two stakeholders: Danish SMEs working within their industry and their international customers. With the arrival of the COVID-19 pandemic, the exporting process has changed, and the trade deal has introduced export hurdles, mainly in the form of limitations on the export of specific types of products due to government restrictions. It was also believed that this would prompt Danish SMEs to rethink their export strategy, as depicted in the diagram below.

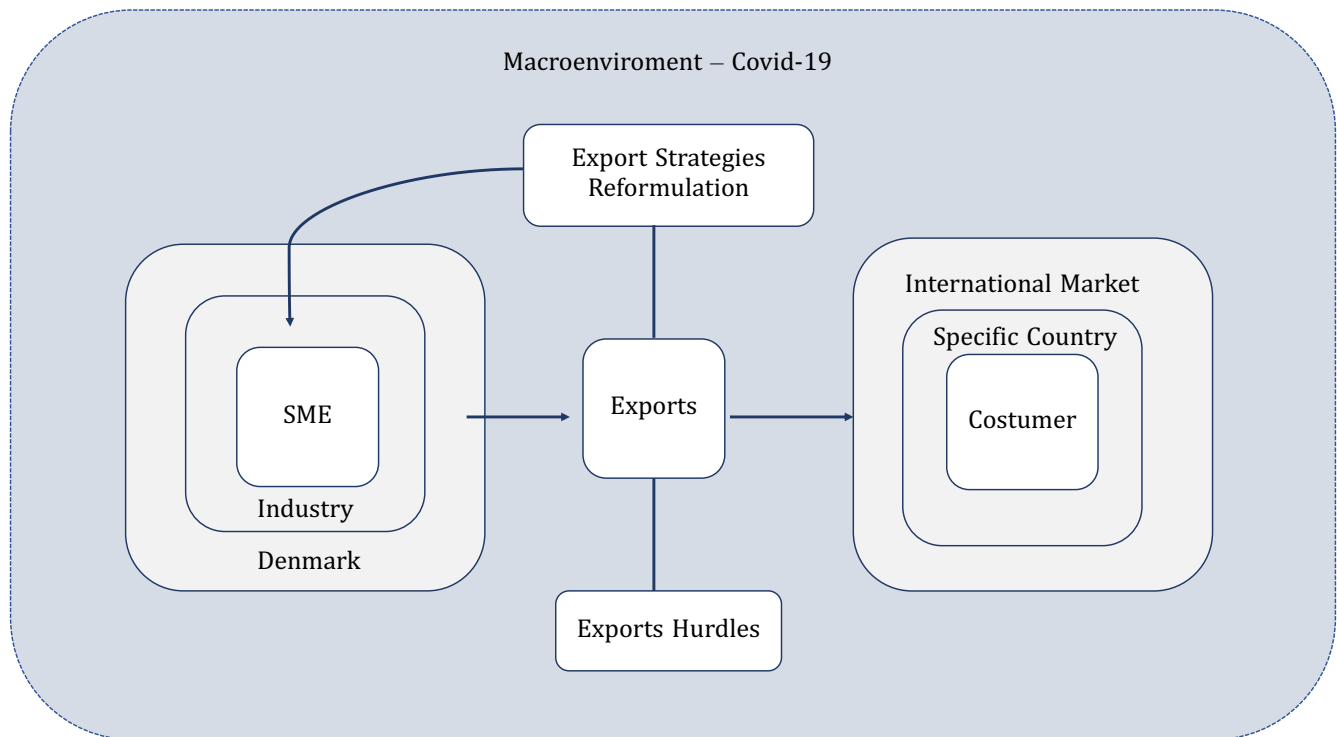


Figure 8. Conceptual Framework Input (Own Illustration)

Nevertheless, using the empirical data gathered for the research, as well as the patterns identified in the analysis, it is necessary to reassess the conceptual framework itself, as export hurdles affect not just SMEs but also different stakeholders throughout the supply chain. First, it may be claimed that Danish SMEs are trying to change suppliers as a strategy to cope with the higher export obstacles in International Markets. Depending on their resources, some may prefer to shift their manufacturing to avoid the export hurdles. The conceptual framework has been updated to reflect this.

Additionally, when analyzing export restrictions, transportation hurdles must be examined, as they cause a significant disruption in the global value chain, increasing costs and time for both suppliers and customers. Customs clearance formalities were also factored into the conceptual framework output as depending on the requirements, each country is accountable for specific formalities. On the supplier side, a potential supplier was added as this was examined for all industries due to the problems that export obstacles cause for them, in addition to a Chinese supplier as the three sectors were having significant issues with that specific country. Moreover, on the international side, a potential customer was included as it has a negative impact on the business development of Danish SMEs due to travel restrictions.

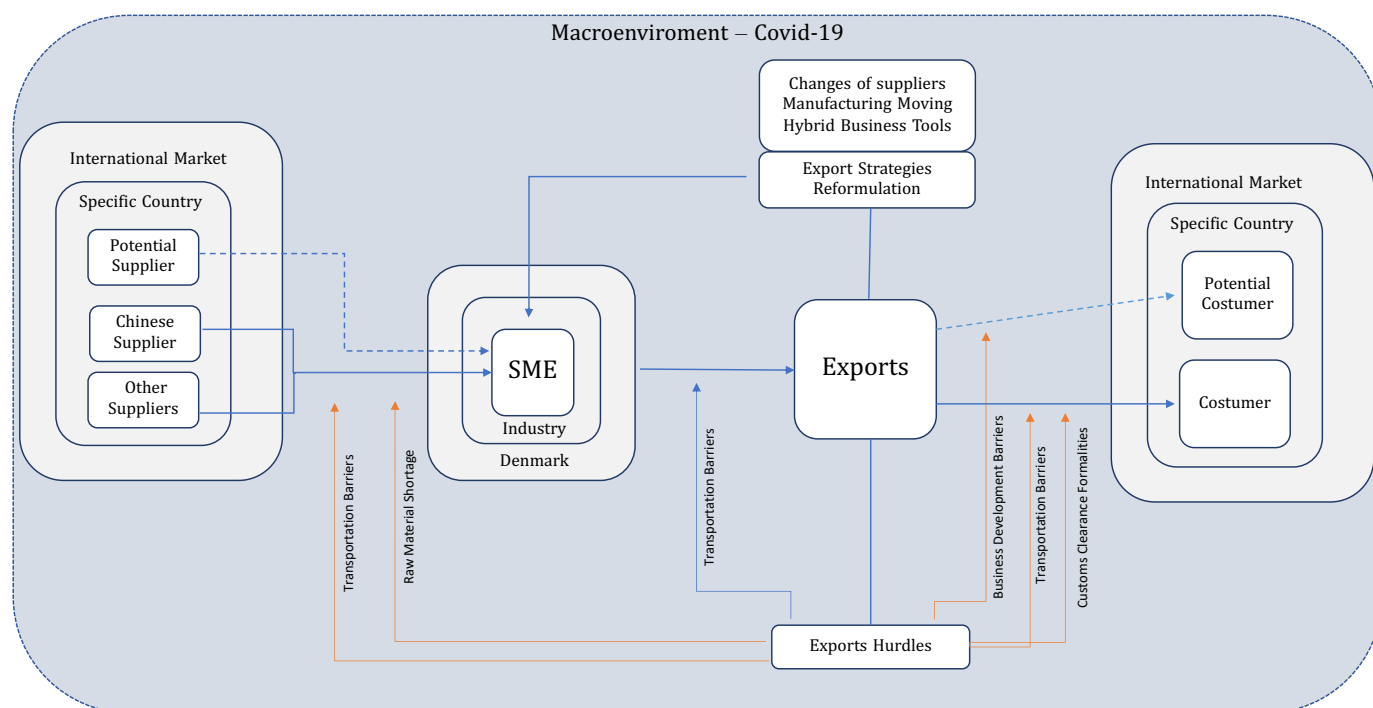


Figure 9. Conceptual Framework Output (Own Illustration)

As mentioned before, the conceptual framework was built on the notion that there are two stakeholders: Danish SMEs in their industry and their global clients, as stated in the literature. Furthermore, the results and analysis part were based on the framework input. It was assumed that companies would change their strategy to overcome the new hurdles caused by the pandemic. Nevertheless, hurdles caused by the pandemic introduced new actors and patterns in the input. Hence, a new conceptual framework was created (output) where suppliers and, more specifically from China, took an important role. Moreover, other players, such as potential customers and online tools, were a big part of the picture. Finally, the conceptual framework (input) didn't predict that companies mostly were reactive to problems that arose by COVID-19 and that they don't have a specific plan to reformulate export strategies yet.

6. Conclusion

COVID-19 pandemic has had a considerable impact on the business environment of Danish SMEs, particularly those who have suppliers, manufacturing, or exporting to China, where various export hurdles have been erected. The pandemic had reflected a shift in the way exports are handled; however, there are significant differences in product types. There are different requirements, forms of transportation, and raw material shortages depending on where a product comes from, what it's made of, and where it's sent to, which presents a hurdle for Danish SME exporters. It has a detrimental impact on them not just in terms of increasing prices but also in terms of present and future international clients. Managers have stated that the implications of the COVID-19 pandemic have put them in a difficult position, and the delivery of their products is their primary concern.

As previously stated, the hurdles for Danish SME exporters differ not just by industry but also by the sort of goods they export. Exporting heavy products, for example, appears to be more challenging than exporting electronic components as the way they are coping with the pandemic is different due to the transportation they can use to deliver or the backup inventory they might have. The difficulties, however, are not limited to the types of material and the countries to which they are sent. The changes had an impact on all parties in the Danish SMEs' supply chain, from logistics providers that now offer fewer services for higher costs to end customers who are primarily responsible for clearing products and ensuring that the product is received on time. As a result, Danish SMEs may find themselves in a difficult position when exporting, limiting their competitiveness.

Because of these challenges and constraints, Danish SMEs appear to be reactive in their response to the COVID-19 pandemic and rethinking their tactics for coping with these struggles. Although they do not have an explicit strategy reformulation, they have coping export techniques that result in long-term improvements. In the electronic and building manufacturing industry, their primary strategy has been to own enough stock to be able to deliver to their clients; therefore, they are trying to maintain a balance of carrying enough material and not having an excess inventory. Furthermore, because their leading supplier is from China, there are constantly working on finding alternative suppliers. On the other hand, one of the goals of SMEs in the Energy Manufacturing industry, in particular, is to identify alternative suppliers and even a change manufacturing location from China, particularly to India, which has similar characteristics. Managers believe that many companies are looking to India to have their production due to China's problems in recent years, not only due to the pandemic but also because of the trade war with the USA, which has increased costs for them. Consequently, relocating manufacturing facilities would lower production costs and bypass the export hurdles.

As previously noted, several factors influence export restrictions and how Danish SMEs deal with them. For starters, the types of products and the materials used to change the transportation needs. Second, each Danish SME is embedded in the global supply and value chains to varying degrees, necessitating constant monitoring and diversification of export markets. Finally, various levels of financial, human, and time

resource constraints limit the options available to Danish SMEs in their efforts to deliver their product on time and develop new business.

This thesis has made a theoretical and empirical contribution to the study of export hurdles. Existing literature on exporting and export barriers, as well as SMEs internationalization strategy studies, were used to build a theoretical a conceptual framework input; then, a conceptual framework output was expanded based on the design of the first framework, as well as empirical data obtained for the aim of the study.

Additionally, empirical contributions explained how the main challenges posed by COVID-19 in the process of exporting for Danish SMEs include problems with suppliers, changing institutional contexts, transportation hurdles (delays or temporarily halted), demand variations, changes in market context, rising costs (transportation and raw material), and custom clearance formalities.

Danish SMEs can cope with export hurdles by diversifying their supplier locations to be able to alternate suppliers when needed. They can alternate transportation types, depending on their industry and product categories. Additionally, in the long way run, they can relocate their manufacturing from China.

6.1 Managerial Implications

The study includes several managerial implications for SMEs. Managers must keep track of their vulnerability when exporting to international markets during a crisis such as the COVID-19 pandemic, both in terms of suppliers and market share, and make decisions based on their available resources about alternate market entrance modes or alternative suppliers outside China. In the course of learning and creating new capabilities concerning the entire export process, managers should pay attention to their current customers, which will ease operations over time as organizations and individuals obtain new competencies. To reduce export restrictions in international markets, managers should also be kept up with the current pandemic restrictions and possible hurdles to a recent crisis, such as the Ukraine war.

Companies that can predict and adapt to hurdles during the crisis can develop and influence new strategies for the export process. As a result, top executives need a commitment to cope with these challenges through a formal plan that fosters different approaches in dealing with important stakeholders like customers, employees, suppliers, regulatory agencies, and the general public. Furthermore, online tools and innovative service solutions to business challenges can be developed to minimize the impact of unexpected crises.

6.2 Future Research

Future research on SMEs in other countries and how they adapt to the changes in the business climate generated by Covid could be one of the areas for future research based on empirical data. Managers highlighted the impact of the COVID-19 pandemic on business development and how travel restrictions highly influence the generation of new opportunities. Nevertheless, one of the managers mentioned this as a possible benefit; therefore, future research on using online tools in times of crisis could be an area of study.

Alternatively, various industries could be compared; for example, sectors that are more service-oriented than goods-oriented may be affected differently. As demonstrated above, export obstacles vary depending on the type of product.

Future longitudinal research on recovery time and effects after the COVID pandemic could be intriguing in addition to the impact of the Ukraine war, as all the managers briefly mentioned the hurdles and concerns due to this situation. Furthermore, instead of focusing on export hurdles at the company level, a future study may focus on the entire supply chain and its stakeholders, as hurdles and changes in the business environment impact many stakeholders. This would provide a comprehensive picture of the modifications and their consequences on efficiency and how expenses impacted specific stakeholders, with effects that could be separated.

6.3 Limitations

It's necessary to keep in mind that this research has some limitations. The source of the empirical results is perhaps the most striking; because the interviewees are employed by Danish SMEs, the findings are essentially country specific. A different investigation might be focused on SMEs from other countries and how they manage the changes while exporting, as described in the further research, intending to provide a broader overview of the total impact, as the pandemic is still affecting several parts of the world.

Furthermore, because the interviewees operate in businesses within specific industries, it is essential to note the industry context of the SMEs. Because only one interview was done, the results from the electronic manufacturing sector are limited; therefore, an additional one would be preferable to triangulate the data.

One of the study's significant disadvantages is that the empirical data was obtained at a single point in time. As a result, the study only depicts the immediate impact of the COVID pandemic on the export strategy of Danish SMEs, which may change over time, and future events can have different and new struggles in the business environment. Moreover, other factors, such as the Ukraine war, which happens concurrently, may influence SMEs' behavior in rethinking their export strategies. Despite its flaws, the study provides valuable insight into how Danish SMEs might rethink their export strategies in the face of heightened export restrictions induced by the crisis such as the COVID-19 pandemic.

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Appendix 1. Practical Information for Companies

To whom it may concern,

Thank you for taking the time to participate in my research; I'd like to start with some practical information. To begin, a brief summary of the research question: the primary goal is to learn how Danish SMEs overcome export hurdles in their business environment as a result of the Covid 19 outbreak, and how can they improve their export operations. Your participation is entirely voluntary, and it is perfectly acceptable if you do not wish to answer all of the questions.

I understand that the interview will last about 30- 60 minutes, and I'd want to ask if it's acceptable if I audio record the interview to ensure quality and the ability to listen to your responses again if necessary. After the thesis is published, this recording will be deleted.

Your responses will be treated in confidence, and if you like, under an alias to safeguard your anonymity. Finally, I'd like to know whether I can contact you again for another interview if necessary or write to you if I have any more questions.

BR

Zaire Franco

Appendix 2. Interview Guide

Interview Guide

Basic Information about respondents

1. *Please introduce yourself (Position, years in company)*
2. *What's major responsibility in this company?*
3. *Can you describe the company?*

General Questions

4. *To which countries do you export?*
5. *Do you have any manufacturing production besides Denmark?*
6. *What type of export do you use in the company (direct or indirect export)?*
7. *Do you have another mode of internationalization, I notice in your presentation that you have a JV with Ukraine company?*
8. *What kind of products do you export?*
9. *Where is your raw material supply from?*

COVID-19

10. *How well prepared would you say your company was for the challenges posed by the pandemic?*
11. *What was the impact of the pandemic on your exporting operations? Specific hurdles (transportation and logistics (air, road, maritime, documents), Industry hurdles, HR (employee travelling)).*
12. *How did you cope with these hurdles?*
13. *Did it have an impact on your customer relationships? Was it flexible or was it governed by the contract?*
14. *Did you have any problems with you supply of raw material?*
15. *Did you consider leaving some specific market? Which one?*
16. *Has been difficult to open new markets? (New business developments)*
17. *Did you receive any advice or help from the government during the crisis?*
18. *How this drive you to redefine your export strategy? Have you thought about changing your export strategy?*

Present Situation

19. *What the today situation looks like, in terms of exporting?*
20. *Have you change anything regarding exporting since the pandemic, did you use different strategies?*

Appendix 3. Interviews Transcriptions

3.1 Interview Transcription - Home Stairs ApS - Key Account Manager

Basic Information about respondents

1. *Please introduce yourself (Position, years in company)*

My job is key account manager, I've been here since 2008, that's almost 14 years.

2. *What's major responsibility in this company?*

I am responsible for sales and exports for all the world except Germany, France and Scandinavia.

3. *Can you describe the company?*

It all about space, we are dedicated to developing concepts that bring the home's unused space into play, and we are here to create access to space. This adds value to the home and makes life easier and more comfortable for the residents.

General Questions

4. *To which countries do you export?*

OH, we export to more than 40 countries worldwide

5. *Do you have any manufacturing production besides Denmark?*

We have one manufacturing subsidiary in China and Ukraine

Z- *And how do you export, the product comes to Denmark first or are send directly from there?*

M- No, almost all the time the full go directly to customer in countries such as UK, USA, Germany and France. But Ukraine is only components from our production here in Denmark, for example if we need a trap for a loft ladder it comes from Ukraine.

Z- *Ok, so I understand about Ukraine, what about China, is it different from the manufacturing here in Denmark or are there the same?*

M- No, it completely different.

Z- *What you manufacture here?*

M- All wooden stairs

Z- *What you manufacture in China?*

M- All metal stairs, like the ones that you see there (it was a metal ladder), even though have wooden treads everything is manufactured there. Also, in this case (the metal ladder case) the treads come from different sources, some is from Romania, some is from Germany, some is from Poland, some is from here. So – he laughs – it is a mix of everywhere.

6. *What type of export do you use in the company (direct or indirect export)?*

Our products are offered through retail chains and export sales account for more than 90% of our revenue. We have transport companies that take our product from either from here to the different countries that could be road, containers in freight depends on where it goes, also ship full containers

from China directly to our customers. If a customer, for example, I have a small customer in Belgium, and they are not able to buy full containers from China, so they only buy one third and we use the extra space to bring from China the material that we need in Denmark, so we divide the costs, and they assumed part of the freight costs, that's also a problem, the freight cost is going crazy. We used to have a base cost of 500 USD for a full container to America and it is now 30000 USD, so it is more than ten times so, we take the 30000 USD and we deduct the 2500 USD which is the normal, and then we share the rest 50 /50 also if we have our subsidiary, just to see where are the losses. But with external customers we do the same and to be honest in my personal opinion, they should be paying all extra costs because that is calculated in our all-selling process, we are not calculating this extra freight in our selling price, so actually all this additional cost goes directly to our profits

Z- And is your type of export, where you don't have sales subsidiary as in Poland, for example to Belgium as you mention it?

M- In other countries where we don't have sales subsidiaries, we do have partners that we work with and the partners we work with are normally already in the building industry business, so that means that they do sales, they could be selling also competing products. We find product professionals that know the business, because it is a little bit different than the other products.

Z- So you export indirectly in those parts.

M- Yes

7. *Do you have another mode of internationalization, I notice in your presentation that you have a JV with Ukraine company?*

It was a JV now it is ours; we were JV with put with French customer, they decided to pull out that cooperation and they left all for us, which is good. And we were starting a production JV with Russia but of course that stop now, it is not possible to do any transactions there, is on hold, we need that war to finished in order to initiated that.

8. *What kind of products do you export?*

The company designs, manufactures, and sells indoor and outdoor wood and metal stairs and handrail systems. Our most popular product is attic stairs, but we also make modular, spiral, and space-saving staircases, as well as interior and external railing banister system.

9. *Where is your raw material supply from?*

Oh, That varies a lot, we buy everywhere we can get raw material. Since it has been difficult to get raw material

Z- Oh really, can you elaborate more on that?

M- I think world demand is so high that prices are just climbing climbing climbing, up up up all the time,

Z- Can you tell me since when this has been started?

M- It started about one and half year ago, the prices increase.

Pre (COVID-19)

10. *How well prepared would you say your company was for the challenges posed by the pandemic?*

I don't think anyone we prepare for something like this,

Z- I understand, but what about some kind of crisis?

M- Oh, we have but for example in case of the plant burns down, because we always have risk for the kind the material we use for the production, for example, where can we produce instead, so we need to have this kind of plans to secure the product to our customers. But I don't think anybody could foresee that this Covid Pandemic would be so big.

COVID-19

11. *What was the impact of the pandemic on your exporting operations? Specific hurdles(transportation and logistics (air, road, maritime, documents), Industry hurdles, HR (employee travelling)).*

Oh ok if we think and we look at the numbers from last year, we did 30% over our budget, so we believe that a lot of people were working from home, nobody could travel, so people actually have time to wondering about what to do with their home, so they spend money, like renovation products, and that had driven the demand up, on the world market it also it been specific country problems as USA big forest fires which destroy a lot of homes, new building units is up around 10 % comparing to last year which means it will be till 10 percent up of all wood.

Z- Ok, so is clear that you have the demand, but what about reaching the demands? Did you have any problem there? Did you have problems with one specific country?

M- No, I would say it is the same for everybody, and I don't have a single customer last year which didn't pass over the budget, so everybody when up the budget last year. No matter if they were in Australia, New Zealand or Japan or America, everybody was just up.

Z- What about RH expenses, travel restrictions.

M- Yes of course, las year I had only 2 business trips and in 2020, I think I did 5, but in normal year I do 20 at least and we have to change using teams or zoom to do meetings

Z- And do you think this type of meetings works for your kind of company?

M- Definitely no, I do not work in the same way, because you need to be together with people, you don't get this mutual dialog and you don't get the small talk, you don't create new things on teams because you follow an agenda all the time, you just don't create any new ideas.

Z- And what are your main activities when you do business travel?

M- Well one of the things that I do a lot is product training and you cannot do that on teams, because you need to have the product physically touch it and show it, explain how you put this together, why is that important, remember to put this part in that position, all that you cannot no dot in a team's meeting, you just need to be there,

Z- *What about your employees, did you send home people.*

M- We haven't had anyone send home, we were working all time, we followed all of the guidelines made by the government, we never had a shot down in the factory, we were working full time 7 days a week.

Z- *What about China and Ukraine production?*

M- We haven't shut down the production anywhere

Z- *Also with the employees? All employees, were working normally in those places?*

M- Well, Ukraine we don't know actually, that a little bit uncertain at the moment.

Z- *Yes, but for the current situation or it was also due Covid?*

M- Yes, currently, it could be a be a big problem, because a lot of people must fight and go to the military, so that means that our staff at the factory could be hit now and then, so far we manage to get the products from there, for example we got two trucks delivery from Ukraine, but we don't know when we will be able to get the next one.

Z. *Did you have any government restrictions, did you have any problem importing or exporting your products?*

M- No, we didn't have any problem, the only think that I could think is for example all stores close in the UK, but still could deliver the product, you just order it online and pick it up, so that wasn't a problem and didn't stop sales.

Z- *What about documents, did you need to fill out extra documents, or to need extra requirements?*

M- Nothing, it was always the same, exact the same, business as usual.

12. *How did you cope with these hurdles?*

We try to change maritime to rail from China, but it was still expensive, there were no real savings, but we found actually that it was cheaper to get one of our products to Australia by air instead of sea transportation, so if we have a single shipping it is cheaper, so every time that we need to deliver product we always study which ways is better, and of course we try to make good deals with trusty companies, so we make like long term agreements, but they also have problems because of course the fuel is going up, road taxes everywhere, new rules, for example, east Europe driver can only stay for specific days. So, we agree with our customer that each delivery can have a different charge for freight.

13. *Did it have an impact on your customer relationships? Was it flexible or was it governed by the contract?*

Actually that is a very funny thing with us, because actually we don't have a written big contract with our customers, we got 2 pages which terms for sales and delivery and then we have a handshake, and then we got a contract that says pretty much this is a company, what we are going to sell, charges for delivery if we have some bonuses, (some marketing support that we have to agree on) less than a page, it is very simple actually. We don't have long term contracts.

Z- *What about freight contracts?*

M- They normally have a duration of one year

14. Did you have any problems with you supply of raw material?

Oh, we did have hurdles, cause simply could get enough wood. So we had to select countries, and say, you are excluded to buy this, or this, or this. Say, we can give this product, you have to sell something else cause we cannot supply you.

We have also a problem in the way that we had to buy extra amount of everything, just to have extra buffer, bigger than we normally do. Normally we produce just in time, so we don't have raw material basically that we don't going to use the same week. Now that flow also went disrupted.

Z- *Was it with all the countries that you export?*

M- Oh no, we were selective, in the way that "where we don't make money", if we had a bad situation, in terms of profit with one country, they were reduce in the accessibility in our products.

Z- *So, the problem was with the raw material?*

M- Yes, We couldn't simply get enough, and our production capacity was up 100 %, so even with 3 shifts working Saturday and Sundays we couldn't keep up, we had like 16 to 20 weeks delivery time in loft leaders where we normally have 4 to 6 weeks.

Z- *What about some specific country or some specific product where you have most difficulties to get.*

M- Yes, wood, and is the main material of our products, and for example one of our suppliers from Sweden, they find out that they could get more money for the material selling to America, so our biggest suppliers said that we cannot give you wood anymore. WE did find other suppliers, but the cost is higher also that has increased like a 100%. Covid situation is a daily fight, our procurement department is really busy.

15. Did you consider leaving some specific market? Which one?

Actually yes, I mean, our polish subsidiary, we told them, you cannot have this amount of loft leaders that you want, and they always are like you know, "yes but we need it" and then we make some calculations, and we say "OB" is one of our account customers, if we cannot get much more for our products selling to OB, we just sub selling to them, and this was for all our lost cost products, so if they can no pay the much more for the product that we are selling so they cannot have them anymore and we just need to shut it down.

16. Has been difficult to open new markets? (New business developments)

We had absolutely no time to think about any new markets in 2021, we were so busy just keeping up.... When you cannot supply your existing market and you cannot produce enough for them, no need to get more customers on board.

17. Did you receive any advice or help from the government during the crisis?

We didn't have any, you only entitled to get help from the government in case you company got hurt, that wasn't our case, like for example lose half of your turnover or send people home.

18. How this drive you to redefine your export strategy? Have you thought about changing your export strategy?

No, business as usual, all the way through, of course we were scare, I would say at the end of 2019 and in 2020, it was scary times, nobody knew what was going to happen, I mean, WE putted new investments on hold, no salaries increases, no bonus, we cut everything away to safe the business and at the end of 2020 we pass that, for example, we didn't expect bonuses at Christmas and we have had them.

Z- Did you think about to change mode of internationalization due the pandemic?

M- No, we just think that covid has been good for us, in the way that we sell more than we normally do and the prices increase yes, for example I increased 5 times prices last year, and 2 tims this year already, 1st of January I did one and 1rst of February I did the second one, so customers seem to fully understand the situation, because everything in their country cost more, so that's just new normal, but everything comes to an end, because at some point people cannot borrow more money if they are building a new house and then the price goes up by 40% and the bank will not, we cannot give you more money to finance that, so that would put a stop at the number of new building works, and also a lor of people are getting squeeze hard because of energy costs I would think that also will influence sells to non-necessary products, like our product.

Z- What about new technologies, did you think in implement extra ones due problems with the pandemic?

M- We haven't actually done any changes in that regard because we are already very very automatics, there aren't actually a lot of people in the production.

Present Situation

19. What the today situation looks like, in terms of exporting?

Now it is still ok, we are slightly below our budget, bottom line is with our suppliers because again they keep rising prices almost every week, we thought that we have seen the top of the iceberg or actually the end of the iceberg in 2021, but already this year so far we have already had 11 price increases from different distributors, and some went really high, for example we use oakwood, and it went up to the roof because is very energy consuming production, so they have basically doble the price.

20. Have you change anything regarding exporting since the pandemic, did you use different strategies?

No, business as usual, the only thing we see now is lack of raw material form our suppliers, but that it is for everybody and everywhere, all kind of business. Actually, I was in a seminar yesterday in

Fyn with people from all the industries, and from the food industry they were saying that for example if you want oil to fry food buy it now. A supermarket in Denmark just got the last 3 truck deliver and then there is nothing on the market, so only what you find in the store today is what you can buy it, is unknow when a new supply will come in.

Thank you very much for your time, and I want to ask you, after transcribed the interview, if I come with more questions can I have another interview next week.

Yes of course

Thank you very much

3.2 Interview Transcription - Home Stairs ApS - Procurement Manager

Basic Information about respondents

1. *Please introduce yourself (Position, years in company)*

I am the procurement manager, and I've been in the company 27 years

2. *Can you tell me, what was the impact of the pandemic on your exporting operations?*

I would say from the start, the problem was from China. Yeah. But the problem was also the cost of the fact that some of our customers in the early start of the pandemic just cancelled. Put all the orders on hold. Yeah, okay. And suddenly, we realized that but we have a lot of customer and a lot of orders. So they needed the goods very urgently and it was not possible for us or our supplier in China to react so quickly as our customer wanted. So it gives a lot of stop and go effect in the supply chain. And that's also one of the main reason we are struggling and still with effects of the pandemic.

Z- Can you give me an example?

M- We have a big customer in France. There were six containers on the ship and we just said you will not receive the containers at all. And all the containers, all orders that are placed in China must be set on hold. It gives a lot of extra work and think how to place this six containers both on the ship and then also to the goods in China was almost produced and finished. So we just couldn't stop the orders. And suddenly, the customer realized that they received a lot of order from their customers. So we're actually needed the goods and we couldn't react quickly enough. And the customer would usually give us a fine if we did not deliver on time. So it was a strange situation. But it was caused because the customers at the beginning were not receiving products and suddenly they ordered the goods they usually ordered and then place extra orders.

Z- So, you can say, you were struggling with customer relations.

M- Yes, you could say that. Nobody could imagine how the different markets would reacted on this pandemic.

Z- What about documents requirement in Covid times? Were there the same?

M- I don't think there is a requirement for extra documents. But of course there have been a lot of restrictions for the drivers who were not able to work, to travel or to drive as they used to do it, so it was not easy to get all the drivers needed.

Z- So you told me that you had a problem with China, can I ask if it was with the whole product or just some components?

M- It was with the finished product, In China we have our own subsidiary, so we have good control over the whole supply chain. But the problem was that they haven't the capacity to react as fast as our as our customer need.

3. *Did you have any problems with you supply of raw material?*

For starters, China has its raw materials from Europe and we have big problem there, normally pits have been on the same price for at least 20 years. Suddenly, the price increased by more than 30 to

40%. and even if you accept to pay that extra amount, you can't get enough for the production. So we were always behind our production. And that was our starting point, now there's a big crisis in Oak as well and now, it's extra hard because of the war in Ukraine because from there comes a lot of the oak, from Ukraine and Russia. And certainly, yeah, they should pay suppliers that stopped and to find other wood species from another place in Europe. And it gives a lot of problems.

Z- Did you think about changing suppliers?

M- We been thinking about it, but the problem is that in our own factory in China, we have a lot of tooling. So we can't just change to another supplier because we have a lot of specific tooling and special products. But there was also the problem of travelling, so it was difficult to look and get other suppliers.

We buy also a lot of softwood screws from Sweden and the price was double up, from the middle of last year. In the start the price was average around 250 and on the second half of 21 it was around 500 euros a cube and still we couldn't get enough material, even when we were able and accepted to pay double and it was because of the the US market have had turn up the prices on softwood from Sweden, Finland and Norway, and it was also in a pandemic context. A lot of new buildings in the USA have given a lot a big demand for softwood from Sweden. Okay. So the Swedes have decided to sell at the highest possible price. That means the US market get a lot of big boost that normally goes to for example Denmark. Okay. So we have also struggled and hit in that way.

And recently we are struggling with the effect of Ukrainian war because we have a subsidiary in Ukraine who produce treads and of course the supplies had stopped for around three weeks, but now it seems that It's possible for them to ship out anyway, even with the war in Ukraine

Z- So you were able to supply just that it takes more time, right?

M- Yes, it will also get a little bit more expensive on the transport side. But they have supplied three trucks in the last two weeks. So it's good again.

4. *What the today situation looks like, in terms of exporting?*

Now we have more freight, transportations problems. First of all, it's hard to get space on the container ship and also hard to get a container and it takes a lot of extra time to have the container on the ship, but all the main ports, congested so everything takes a little bit longer time and so on and so on. So normally a container take five weeks to arrive after a container had been shipped from a factory in China and then it delivered to our customers place. Now it takes from eight to 10 weeks or sometimes even longer. Okay. And it's yeah, it's really the whole containers situation.

Z- But the congestion is in China or in your customers port?

M- The congestion is all over, from Shanghai, all our containers are shipped from Shanghai and Shanghai harbor is a big problem, but also all the main ports in Europe are congested.

Z- So, what do you think it is your biggest problem now?

M- I think the war in Ukraine and effect of this war. All the fuel are extremely expensive. All the energy extremely expensive. So that's the big problem at the momento, all the prices are increasing all over.

Z- *Anything else you would like to add.*

M- No, I don't think so

Thank you very much for all your time and have a nice day.

To you too.

Bye bye.

Bye.

3.3 Interview Transcription - Irrigation Systems ApS - Marketing and Export Manager

Basic Information about respondents

1. *Please introduce yourself (Position, years in company)*

My name is Soren and I am the marketing and export manager at this company

2. *What's major responsibility in this company?*

I'm a part of the management team, we have a management team of five persons. And I report to the CEO of the company, and I am responsible for all global sales.

3. *Can you describe the company?*

The company has 60 employees. And almost all of our sales is for export. So we have an export of more than 95%. The majority of the people that we are 60 people, as I mentioned, they are within production. So we have around, say close to 20 people in production. And then we have a big R&D Department also taking care of almost 10 people. So we say quite many engineers, engineers working with hardware or working with software. And I'm in charge of the sales and marketing department here.

General Questions

5. *To which countries do you export?*

The biggest market by far is the North American market? So, North America we have some partners who our biggest customers

6. *Do you have any manufacturing production besides Denmark?*

No, just Denmark

7. *What type of export do you use in the company (direct or indirect export)?*

So we, of course, the products that we do for our case, it's for irrigation is that you are putting water on golf courses, or you put it in parks, that's for agriculture. And we are using two kinds of distributors, we are the partners we are using what is called an OEM. Maybe you have heard this explanation OEM means that those are large international players who take our products and use them as a part of their total solution. Okay, so for instance, we have in the USA, there's a big company called Rainbow, Rainbow, they are one of the biggest companies within professional irrigation for golf and for landscape applications. And they take parts of our electronic and use that in distributions to the market. Okay, that is called OEM. Okay, there's one approach the second approach is through distributors distributors, they take as a larger part of what we do and sell that to customers for instance, in Europe we have a series of distributors okay. So it's either OEM or either distributors those are the two export.

But using like a trade company, no, we use them sometimes we use them to use that Danish export to help us with some activities in China. Okay. Yeah. So they have helped us with that, but they only they only they as consultants, advisors, we build export through them.

8. *Do you have another mode of internationalization, such as JV or alliances?*

No, we are just as I mentioned using the OEM or distributors.

9. *What kind of products do you export?*

As I mentioned before, irrigation system is that are putting water on golf courses, or in parks, or for agriculture.

10. *Where is your raw material supply from?*

So, we get our components mainly from from China, okay. China is the biggest supplier of components but we also get them from other parts such as India, we get them from, from Europe, from from France and from Italy. Okay. So we have a we have a purchasing and source sourcing department that, that provide us with with these, say components? Chips? Yeah, all kinds of electronic

COVID-19

11. *How well prepared would you say your company was for the challenges posed by the pandemic?*

No, you could say things have changed after the COVID came because especially getting components has been difficult right now. We have very long lead times, and also prices on components have have gone up. So but we have really have not, there's no plan for that. It came, you could say, we just we, we realized that the things became more and more complicated and difficult for us. So we, I mean, we have we have increased our resources and people in the purchasing and sourcing department. Because it is it is a critical, it's a critical function. Okay, but there's no plan in place. So right now we are you could say, we are adapting following the the situation in the market. And of course, what has been the recent situation in China here also may be closing down because of the pandemic, that is a that's bad news, it's bad news that the things are becoming key more expensive and becoming more difficult to to get we have very long lead times for some of our components. And that's, that's a problem for us.

12. *What was the impact of the pandemic on your exporting operations? Specific hurdles(transportation and logistics (air, road, maritime, documents), Industry hurdles, HR (employee travelling)).*

We can say that the main challenges with the COVID of course, was that we could not visit new customers. I work in the sales and export department. And it was a challenge not being able to visit new customers. With existing customers, we could still have a good dialogue over teams and yeah, Skype or whatever. Assume but new customers business development that was more difficult that that we could not do, of course during the pandemic. So right now, of course, it has opened up again, and this means that we are traveling quite a lot now I'm traveling all around the world all the time to visit the customers. So, trying to make a business development, but I think we could still have a good

dialogue with our existing customers. And as mentioned before, another challenge was of course, the access to components access to parts and electric Tronic circuits. All that was difficult. So as a consequence, we have made a stock. So, we are building our back at quite a high inventory because we want to be sure that we can deliver to our customers, and that's where we are now that we are actually able to deliver to our customers, but of course, the challenge is that you need to have more components on stock, so, it's always about finding this balance of still carrying enough material. And, and not having too much in stock. That is, it's a difficult, difficult, delicate balance, okay. I can also see in terms of the employees, what we what during the pandemic, we put up, say, some plastic sheets between the employees in production. So, we have a big assembly line production line, and people on this production line they work will say they worked in two shifts, evening shifts a day shift, and we put also some plastic plates between the employees in order to minimize the distance between.

Z- What about your transportation costs?

M- No, it is correct that the transportation costs have increased during the last few years quite dramatically. And the only thing we can do is that we can put this into the price. So the fact that transportation is higher mean that we have to increase our prices to customers. Yeah, that's a consequence that that we do. And as I said before, we are trying to put things in our inventory. So that we can we can deliver quickly.

Z- Do you share containers or are you able to fill the container up completely?

M- Yes, yeah, we try to we we try to put as much as we can inside a, either a 20 foot or 40 foot container when we see when we ship ship to America. We try to minimize minimize the costs and put as many things as we can inside either the 20 foot or 40 foot container. Because of the increasing prices we have, we have shift air for sea, and in Europe we use a truck, of course. But for North America, which is our biggest market, then we use a ship. But we only have problems with North America not with Europe.

Z- So, you never closed down the production.

M- No, I think as I just mentioned, before, we we took the consequences to have a relatively big inventory. And of course, also Kate get the components we needed at a higher higher price. For us, it was a priority to be able to deliver products to the customers. And also of course, maybe sacrifice on our slightly on the margin, because that getting access to the components was was more difficult, no prices have gone up. So, again, we have we have maintained this ability in being able to deliver to customers. So that has always been a focus areas force.

Z- Can you tell me if you had lost during this crisis?

M- No, we have a repeating black number, some good years. Our industry actually has, has benefited a lot from the COVID-19. Because during the during the pandemic, people they play more golf. Okay. Okay, so, people, instead of traveling, they stay in their homes, they play in the gardens, they

go to the park, they would like to be in the park. So the parks, they need to be green, they need to be fresh, and therefore, irrigation is a priority. Okay. That's why we have we've had two good years actually. So things have gone up first. So we we are for sure not in red. We are in black. Turnover when always up.

13. How did you cope with these hurdles?

As I mentioned before, we are building quite a high inventory because we want to be sure that we can deliver to our customers and that has been the challenge, you need to have enough components on stock. So, we try to find this balance of still carrying enough material and not having too much in stock.

14. Did it have an impact on your customer relationships? Was it flexible or was it governed by the contract?

No really, because as I said before we just decided to have things on stock. So we we were able to deliver it was also at a higher price. But we could we could meet the the customers, also with China when they had a shutdown, so, as I said we had a big inventory, we had already things in our inventory. And and we will see today we are also struggling. But I mean, fortunately we are still getting what we need. We are of course concerned what will happen with China, if China completely shuts down that will be a problem. So that's that's a big concern for us. If they shut down completely then we cannot get any components or resources.

Z- Do you have an alternative market?

M- Yeah, then we need to as I mentioned, we have a rubric employed extra people in our purchasing to find alternatives. So they are they're looking at that at the moment to find other suppliers and other countries. Okay. But no, to answer your question. We have been in black and black Because the last the last few years,

15. Did you have any problems with you supply of raw material?

We start with the the components or the raw material, then of course, we are looking for alternatives to China.

16. Did you consider leaving some specific market? Which one?

No really, the problem was to keep up with the production to be able to deliver to our customers.

17. Has been difficult to open new markets? (New business developments)

I mean, we were doing as good as we can. And we had many teams meetings, but we still think that we need to be out there fighting. We cannot be behind. behind the screen. We need to be out there. For sure.

Finding new customers and now that the pandemic has stopped in many countries, then we are able to travel, and now we can do business development. And we can find new customers, not just in North America, but also in other countries in Europe or in the Middle East or in we can go to Asia.

So we are we are right now, these days. And these months we're traveling around. So I've been in Asia I've been in in Middle East. I've been in North America to find new customers.

18. Did you receive any advice or help from the government during the crisis?

We received guides about how to conduct within the company, like distance, sanitization etc.

19. How this drive you to redefine your export strategy? Have you thought about changing your export strategy?

No, our strategy has been the same over the years that we have, we have put priority in being able to deliver goods to our customers, and therefore we need to have things in stock. That has always been an area of focus for us. So yeah, so Okay. Yeah, we have always thought for the time being give given priority to the fact that we should have a inventory.

Z- What about getting new technologies, due Covid?

M- Yeah, we have. We have an R&D department and they are looking into new kinds of technologies all the time. How can our products be used in other applications, other environments? And of course, also, we have over the years had more say robots in our production. Yeah. So that is also taking place but but we are still making quite sophisticated electronics. So we will never replace our production with robots entirely. Okay.

Present Situation

20. What the today situation looks like, in terms of exporting?

It is still challenging. Again, thanks. I think thank God, we are still able to deliver products to our customers. But, but when we look outside the window, we can see that China is closing down and as I said before, we are we are concerned, whether China will completely stop because that that will also affect our ability to deliver to our customers. Okay. But right now the things are okay. We can manage, we can get things. But if if the pandemic becomes an increasing problem in China, then it's it's not good.

21. Have you change anything regarding exporting since the pandemic, did you use different strategies?

Z- Anything else you want to add.

M- No, really

Z- Thank you very much for your time was really good to know about your industry and about your company. And so have a nice day and thank you.

3.4 Interview transcription - Energy Solutions ApS - CSO

And so first of all, thank you for your time. And I want to start with you presenting what you do any name freights, I don't know how to pronounce the company. It's afraid.

Basic Information about respondents

Basic Information about respondents

1. *Please introduce yourself (Position, years in company)*

I'm CSO responsible for sales in both the wind business and industrial and mobile hydraulic business.

2. *What's major responsibility in this company?*

Since I came that we had merged the two sales functions into one. Okay. Yeah. So that's, that's my responsibility to meet the budgets, and generate the business and identify opportunities and develop the team and all that traditional sales management.

3. *Can you describe the company?*

Energy solutions App is a provider of hydraulic system components and solutions to and for the wind sector. Prototypes are created and then put into serial manufacturing. We also specialize in spare parts and refit, training, and support.

General Questions

4. *To which countries do you export?*

That's difficult to say because it's indirect. So, it could, I would think it's a lot. Okay. For example, we have a customer like a Danish company to which they play in cement industry and in mining. So, they have mines, you know, quite far away. So that could be Russia and different kids, these places in Asia and South America and many other places that machines end up. And also, because we serve the marine industry, and then we often build small power packs that are mounted on ships. And these ships also sail around the world too often we will get requests for, for support or spare parts that has to be shipped to a port far away. Because is there so therefore, it's very much indirect, most of what we're doing except for our aftermarket business in the US, which is very much export and local service and the signal China. We also ship parts to try not to serve the Chinese customers. Okay. Yeah. Okay.

5. *Do you have any manufacturing production besides Denmark?*

We have a production plan in China, that's the only manufacturing we have like now. And then we have this office in we also have a sales office in China and then we have sales, and they're stock in in US, Okay, so US subsidiary and Chinese subsidiary. Oh, and we had both the production and sales office in China in China.

6. *What type of export do you use in the company (direct or indirect export)?*

It's primarily indirect, you can say we have. We have customers in China, and we have a production in China. Okay. But we are also serving the Chinese customers from the Danish market. And that has been a big challenge during COVID, because of transportation costs, and times that have increased considerably, and it's still an issue.

Z- Okay, and do you have cooperation, for example with intermediaries as trade companies?

M- That's something that we do ourselves, we so we have maybe I should explain a little bit. So, we have this business that has been producing now is producing pitch systems, primarily, hydraulic pitch systems for wind turbine manufacturers, then we have another serious business. It's not under my responsibility, which is selling spare parts and different components to many different wind turbine manufacturers. It's the act of aftermarket business, okay. So that means also selling spare parts to either customers or OEMs of different kinds, that service turbines that we have not produced a hydraulic solution for. So, it's a different kind of market. And that also involves, we have people in the US that serves the US market. So, there we are shipping parts from Denmark to the US to serve the customers there. And then we have this a primarily national market where we serve other customers in hydraulic electronic business, but they will typically buy a system for us that they will build into a system that they are producing. So, the end customer is often abroad, but the people we interact with are in Denmark. So that's very indirect export. But that means that we will then potentially get requests for spare parts from all over the world because we have delivered subsystems that ended up on a ship in Asia or other facilities, America. But it's via our customers. That they end up there.

7. *Do you have another mode of internationalization?*

no, no, we don't. Okay. We have some partnerships, but not joint ventures for example. Yeah.

8. *What kind of products do you export?*

Hydraulic system components and solutions to and for the wind sector.

9. *Where is your raw material supply from?*

That depends, of course, where we are. So, but because the parts that we use, so we buy parts and assemble them. So, but a lot of the suppliers that we have for valves and pumps are European based. So, they will source their raw materials, in this case, primarily steel, from typically Ukraine and Russia. Or at least 30% of the steel comes from there. And then of course, it's the same for, you know, for all the metal used for electronic components, a lot of that comes from Asia, or Australia, or far away.

COVID-19

10. *How well prepared would you say your company was for the challenges posed by the pandemic?*

Have you any plan?

I will say the old company is definitely a reactive company, also, because of the size of the organization. So, there are limits to how much time you can spend on such things in our in a smaller organization. Because it takes resources and it doesn't really well, it does, of course, contribute to creating revenue if it's in place, and you can activate it first instead of spending the time reactively. But I think it's been a more reactive approach. Here. Okay. Yeah.

11. What was the impact of the pandemic on your exporting operations? Specific hurdles(transportation and logistics (air, road, maritime, documents), Industry hurdles, HR (employee travelling)).

So main problem is cost, because of lack of ships, because basically is the main way of transportation because we produce heavy goods, it's heavy goods that we produce so is very, very costly. And we have seen, I don't know how many times tripled five, five times the price. Sometimes we actually have transportation prices that almost equal the price of the part because they're super heavy; what we do everything is steel so it's heavy. That is one major issue. And that, of course impacts our business. Because in some areas, we offer DAP prices, or DDU prices, where we are in charge of the transport. And then if you are in a situation where the system is disrupted, you can say or really not working as it normally if you can't book transport, you can't know the prices. And you just have to take what you can get which may eat up your profit. If you have a situation where you have sold something DAP, for instance, which is a common Incoterm for us in in some of the markets. And then you have that of course also. So, if you finally get to, to be able to ship the order after all this, maybe your revenue and your contribution margin will be heavily impacted by that. Cost. It's also a timing issue in some big uncertainty, not knowing if you can actually get the transport when you're needed because you can't book long time ahead of time because the shipping companies don't know when they will have a container for you. For instance, we all heard about this with containers being stuck on one side of the Pacific and the ships on the other. And because of this there's the infrastructure it's not Been there too, to make things happen. And when we had the initial drop-in activities, a lot of the ships have simply been removed. Because they were too costly for the for the freight companies to have. So they took them out and now we need them and now they're not there. And now we also have ships and containers stuck in Russia that can't move. So, it's really corrupted. It's that the transport system, it's not working as it normally does. So, it so it's a risk as a non-predictability. And it's a cost issue and a timing issue as well. So I was the transport thing is really heavy, heavy, heavy impact on our business, because everything we do needs to go somewhere. For the Danish systems, it's not so important, but a lot of the things we need to ship elsewhere. And that's a challenge.

Z- Can you give me a specific example

M- Yeah, but I think we had a case where I can find that for you afterwards. I just remember, we just had a shipment that was 2 million for container or something like that, which is like ridiculous compared to what the cost would normally be like, and I can get some examples for you. Yeah, from

transport department because I'm not sitting with it. And it's a big, I would say in order for us to close new business, whenever we have long transport from to or from China, for instance, it's a huge discussion point with the customers who should carry that cost. And then when you have very high increases in raw materials, and steel, which is such a major component, both when we produce things, but also when we source from sub suppliers. It's really some increases in two-digit percentages, and maybe sometimes 20 and 30% increases, because of shortages and because of increases in prices in raw materials. So, it's a combination of both there's a shortage issue. And then raw material price increase, and for instance a supplier during Covid because of their close down especially of China, which is such a heavy supplier, they grab materials, iron for steel production employed for a long time. So therefore, to meet the demand they needed to take their own virgin steel, which is much more expensive. So therefore, prices put up on that account. So, it only takes one point somewhere, in order for the whole chain to be affected both in terms of price and time is super critical in making business so you can work on a deal. But if you don't get the cash until next year, won't help you right now, if you are in a difficult situation. Listen, pay your people. And if everything gets delayed, that pushes your cash could disrupt your cash flow, which is super dangerous for a lot of companies.

And then, of course, the whole traveling, of course, also impacted it. So, we had to start all the production in China without be so everything was virtual classes and online. But that was difficult. And of course, it has also shown given some benefits, the travel budget is much less than what it was before, it's easier and more common and more natural to choose to have a team's meeting instead of having we are having right now. If this had been two years ago, we wouldn't have done it this way. Right? Pre COVID, we wouldn't have done it this way, so, that is more common and that's of course good for the savings you can have in terms of traveling. It's good for the environment also, which is also a big benefit, I think. But of course, there are also limits to what kind of business it makes sense to do online instead of meeting face to face, especially if it's cross cultural. It can be a challenge, and I would say that's my personal experience is easier to do if you have an existing customer relationship but building customer relationships online takes a lot more. Because right now we are talking I can see your face, I can't see your hands. I can see if you are jumping with your foot or whatever you're doing. So, there's a lot of things that are mentioned communication meetings especially because all ability to do a good presentation online, it's a different media. So, you need to, to learn how to do that. So, there are pros and cons in that regard and settings on travel benefits for the environment, but also some business may customer wise be impacted. But I think it's also a question of professionalizing, the online meeting, the online commercial dealing, the online negotiation is a new skill set that needs to be developed, like our, our boss has, he invested in the right lamps, and super green background and all that to really have a professional appearance in online meetings. So, so there's been a lot of professionalization of the online meeting. But we also

receive training in how to do product presentations online. So then that I think, overall is a benefit that will save time, cost and money going forward. But of course, there are some people where it would probably have been better if you had been able to sit down with him. Because you tend not to small talk as much. This is the salesperson talking. The small talk is always important around establishing relationship, getting to know the person and you tend to Small Talk less online. Yeah, except if you know people very well, yeah. And it's all straight to the point. That sometimes also is very beneficial, because you save time, and you can do more with less. So that there are definitely pros and con in that in that regard. And I think for the especially in our case, for all our employees in China, they haven't had a receipt from management or for the head office in one and a half, two years. Which is not ideal. So, yeah, okay, so that's some of the impacts, I would say. So, we learn new skills, which is good, we save money, which is good, but we also lost something, you know, some closeness to customers, and also employees and colleagues.

Z- *So, do you think this hybrid model is here to stay in your company?*

M- Yeah, definitely, we'll use both. And I think it's, now people are accustomed to it. So, I think we will, we will use it more. And you I think you would consider if you said if you were to go to a meeting that will only be one hour, or one and a half hour, maybe you would consider is it worthwhile going. spending an entire day, buying plane tickets, maybe taxi fares, lunch, maybe even a hotel, meeting a one and a half hour, I think you would consider more before spending that money. So, I think that's good, then it needs to be a combination, I think online is difficult, but also it can be done. Okay. And also, because your counterpart is used to it as well. So that's sort of the possibilities available that forces you to work with it and try to prove it.

Z- *What about the demand of your product, how was affected?*

M- Yeah, for some customers sort of had a job in, in the activity. But and then you can say, because we, we sell to customers that sell to someone else. So, in Denmark, we didn't have stopping production, like they had many other places in Europe. But then maybe some of our customers were not able to place orders because their customers had experienced a big stop. Okay, so, so was not because of the drop, maybe a little drop-in activity. But basically, it has been pretty much business as usual, with the restrictions that and the limitations that COVID implied in terms of not being able to meet and travel and all that. But business has been ongoing, I would say. But we also felt that after the restrictions were lifted, that we sold have felt a surge in activity level, because there were other things that had not been carried out. And then when comes the crunch on the supply chain, because that have impacted and already impacted supply chain now with an increased demand, which made it worse. And then on top of that we had the war in Ukraine. So, this is very much a story of us not being able to get the parts we need in time for us to meet the deadly times of our customers. So, I think it was pretty much the same. If I look at the numbers, it's not a big difference. Maybe a little bit below what it could have been. But you also have to look at the effectiveness of the

organization and the people employed to do the job and all that. So, if we look at the numbers, there's not a huge impact of it now, and that would be the case this year is that we can get the orders, but we are not able to deliver when the customers would want to receive. So that means that we will have to push. We will build up a pipeline to deliver to customers, which is, of course, at the same time they will close orders and build up a pipeline. Still, we won't get paid until next year, because we can't get the parts that we need to manufacture what we need to manufacture and eventually get paid by our customer. So that that's the huge impact right now that we are struggling trying to find alternative components will be the lead times and all these things are maybe waiting for just one component. But if that's one component, you still can't finish. Yeah, that was super, super critical right now. And that was definitely impacted heavily by it and what has happened.

Z- What about the documentation? Do you have any problems documentation requirements or extra document that you need to fill out while exporting?

M- I think maybe but that's related to transport. And then of course, if you were to travel there's a whole set of extra requirements there and in some cases you can't and if you can you need you know the testing and pension Geolocator forms whatever it is that's required for certain destinations so there's of course is a cost and I think a more stress and time spent preparing compared to what you would normally just book a plane to get an off your goal, no concern, but now you spend time and you evaluate and what if what if I get corona while on there, then what are the quarantine situations would I have to spend 10 days and then maybe is that is the case then you need to prepare if that was to happen and make sure you have your PC cord and headset or whatever it is you need if that should happen. So, I think the whole stress around the travel situation has that cost money and take time and takes focus away from other things compared to before. So that is clear. And for some countries say, this constant chasing, when can we go there like the US, for instance? So, we can get researchers maybe try again next month and back and forth. So, there's a lot of time spent on that finding out what are the rules and regulations around the world also, when we have shipped? Remember, we had to ship some service technicians to Holland. So, so many people involved in trying to find out what are the rules? And if they go there and stay less than 24 hours, can they leave again? Or do they need to be in quarantine and or if they are special green people, then they don't need any of that at all. That caused a lot of time and money and concern. I was in general, to manage that situation.

Z- So you could say that that was mainly about requirements and documents for people.

M- Maybe for transport because I know that things are things going to China, they, the goods have been quarantined in China, as well as being sprayed with anti-virus, whatever. Okay. That that has happened.

12. How did you cope with these hurdles?

We usually have a good stock, and we just react to the problems as they come, I tried to solve them as soon as they came to be able to deliver to our customers.

13. *Did it have an impact on your customer relationships? Was it flexible or was it governed by the contract?*

Would say it's the customers that we have very, very different. And we do have a segment of smaller customers where the sales guys tried to come driving around working into the workshop to talk to the boss. A lot of those didn't want to have visitors. So, it's definitely impacted some segments of our business and they are also the type of customer that because they are you know, in the workshop with their hands dirty. They don't so much sit down in front of a computer screen and have an online meeting. So all these elements were it's important to also for the engineers, I would say to be able to go out and look at and feel uncharged and walk around and smell and whatever you need to do, or the machine or whatever that's been broken or to verify the quality that is different to do online. It can be done but it's not the same thing. experience, too. So that has definitely impacted the fact that we haven't been able to, to do the same things as before. And of course, you know, everybody has been covered in facial masks and so, of course, there's also been spent time when that making sure that was available, making sure that test kits were available, etc. Yeah, yeah, I think that's pretty much the impact is different, and follow customers not so important. If you haven't established business relationship, only by primarily components that we are supplying to them, then that's not a big deal, then that business can call on us usually, because typically, we just totally, the seller will just talk to the buyer on the company, and then it's a standard business transaction with the appeals and confirmations, order confirmations, etc. So suddenly, it has not been impacted, and some of it has been impacted a lot, especially in the sales, the sales area, go out and interact with people to create the business and pursue the opportunities you need to interact with video customers and customers are not easily accessible because of either the function that they have in the company, or the size of the company, whatever that has been impacted for sure. Sure.

Certain segments of our customer base, interacting with them has been difficult in terms of creating new business or making sure that you maintain the relationship because we have not been able to be there. So that there are actually a lot of in the machine industry, especially if it's smaller companies that are not very digital, if you like, because it may be a small company, or I don't know, 12 people, maybe less, that builds a specific piece of equipment that we supply valves or engines or whatever it is for. And if they don't want to see you, then it's difficult to interact with them, because they're not spending time in the office, except if they have to pay bills or issue invoices. So yeah,

14. *Did you have any problems with you supply of raw material?*

We can see that our value chain, our supply chain has been affected heavily by COVID. Because we are waiting forever, for the components that we need to build what we are actually selling to customer. So, I would say is pretty much a global supply chain. If you put it all together, we of

course, our sub suppliers are affected by the times and increase in raw material in order for them to build what we need from them, yeah.

That's what we struggle with the most right now, both to get parts but also to ship things to customers like when we source something for, for, say one of our big OEMs like Siemens Gamesa, maybe that's produced in China, and we buy it in China, and then we had to ship it to Europe. And then suddenly, there's a huge increase in lead time compared to what we had before. So that is both a lead time issue and a cost issue. So, that's it Supply Chain is global, I would say. And we are therefore we are impacted heavily by it because our suppliers are impacted heavily. So, yeah, yeah. And it makes us Yeah, have to think of it that we have our customers have other customers, so we will get there. And then if we do, then we need to, we can't source A lot of times while we're waiting to get the order, because we only produce to order so you have limited ability to maneuver while waiting for orders. Yeah, in order to protect your business, you can say, Yeah,

15. Did you consider leaving some specific market? Which one?

Yes, we of course, reflected on the situation that difficulties in supply chain etc. has imposed on us and we have also, and we are still doing that, looking for if we have super long lead times for specific components, trying to see if we can find another supplier for that same piece of equipment if they could improve our business and secure order and cash flow faster than normally.

For example, you can also, you know, scan the market, and talk to more people to find if they could improve or advance or speed up. And of course, you think it makes you reflect save the business in China, how that impacts us. We should reflect on, are we doing it as possible way today? Can we improve it? Can we reduce complexity? Can we speed up? Can we? Can we do this another way? Of course, because it's been so difficult also to visit them. But I would say, specifically for China, is such a big market, that it's a marketing itself. And it's more like in China approach, that, at least have been a lot of people had thought about that before, it's definitely super clear today, that you need to have a strategy for serving different markets. And that could be for many different reasons. It could be political. It could be transport costs related, it could be qualitatively, there could be other things. But I think that's something that will only be enhanced, I will say, oh, there's been more spotlight on it, because of the issues that we have seen and actually are still seeing that makes our business difficult.

Z- *Do you have a specific example for that?*

M- To ship in or out of China today was definitely impacted by the long lead times, and if you're also on the other end, bring components into China's manufacturing and ship out afterward, your supply chain has problems, and your time is suddenly increasing a lot, therefore, needs a lot more careful planning and a lot more visibility that you may not always have. For certain business deals where you are expected to be able to react faster, then, we are actually physically capable of doing it right now. For some items that we are buying from a sub-supplier in China right now, lead times

have increased dramatically. And that actually impacts our ability to secure orders if we are in competition with others that do not have the same time for those particular components. So, it does make you reflect on your setup and your focus in different regions. I think there's more attention on how to serve an individual region in the best possible way, all across, I mean, in terms of people sourcing and transport, customer types.

Z- *What about leaving China, have you thought about that?*

M- Maybe for some components, we would think about it. Is it right to do this here? Should we do somewhere else? Okay. And it's not just COVID related. That could also be I mean, the, the trade war that we've seen between the US and China, of course, also makes it less attractive to ship from China to us because of the tax reps pay, or the toll we have to pay. So, but I think these changes you always see. And of course, that you need to respond, you need to assess the impact, and then you need to take the measures needed to optimize your business. Okay. I mean, in the area that we are in right now, we are seeing a lot of increased focus in India instead of China. And that's not the only COVID is one thing, but also the political situation that we had years ago, the Trump and the trade war, so to speak. Of course, that's another example of why companies may you know, assess the situation. So maybe this is not feasible in the long run. Maybe we need to try to find another location in that geography and then India's and a turn us into China. Yeah, yeah. So yeah.

16. Has been difficult to open new markets? (New business developments)

We, we have because I also think the fact that we have been pushed, or some of the sales peoples that are normally on the road have been pushed to sit behind the desk. And that gives you an opportunity maybe to go through the old customer lists and see oh, look at the numbers, or oh, he hasn't bought anything from us in three years, maybe, maybe now I should give him a call. So, I think there are also some benefits of that, that you've been forced to, to think more, reflect more on your business, because you have not been caught up in meetings and traveling, which can easily happen, happen in an international sales organization, that you are always so much on the road that you'll never get any work done if you understand what I'm saying. Because typically, when you go out to have a meeting, you have activities when you come home, and then you don't have time to sit down and reflect on what is the most appropriate are the best opportunities right now. Should I plan for what we're going to sell next month and other some people I need to activate now, in order to be able to make that deal later this year. That can if you pay See, they can often disappear and maybe drown a little bit. And I think there's been more time for reflection, which I think is super positive about both strategies, but also customer management and many other aspects of your organizational work, because you have been restricted in many ways and people have been forced home. Also enlarge time. So quieter environment, less disturbance from colleagues also tend to give you more time to reflect when you're by yourself. You can spend more time thinking about things because you don't get disturbed by conversations or questions or whatever it is during the day. And that's a positive I think, but of

course the downside of that is that you miss out on some of the social yeah, there's social things in being in a workplace with colleagues and also from a learning perspective because you learn a lot by being around colleagues and having small conversations by the coffee machine and just across the desks. So, it's like you know everything else in life it's not black and white. Some pros and some cons

Z- So, have you been able to get new customers?

We have some, but we have definitely also lost some I think it's in spite of maybe it's a little more on the positive side in some respect. But yeah, I think yeah, I know we have got new customers for sure. But we have probably also lost some we may not know yet, because we have a large customer base. So, it may not be until next year that we discover that one of our customers stopped ordering parts from us. Because we have thousands of customers, that's really a statistical discovery you need to make eventually. Oh, why is this he bought this and these the last three years and suddenly this year, we haven't had any orders why that is and then somebody needs to follow up on it.

Z. Can you say that it necessary to travel there to get new customer?

Depends on what type of customer there is. And there's not one fit all because customers also very different, like to meet and some prefer not to. So, you always have to adapt to whatever customer is in front of you, and how they business and I think the sales processes can be very long, right? So, you can have established contact, finding out who to talk to start building that relationship. And since people have more time in front of their desks, they've had more time to be on the phone. And then you can initiate these contacts slowly. And that takes time. You know, it's very rare that a customer new customer calls and say, I find this to be ugly, to have a process before normally. And so, and I think the phone time is that the phone is a very powerful tool for salespeople. So typically, Everything starts with phone calls. And then in this case, probably teams called right after that. Yeah. So, it's difficult to be very generic in that answer. Okay, some customers don't like it. And for some, it's fine. But almost every, every meeting would have some sort of phone dialogue before it happens. Except for some few segments. I mean, we do have salespeople that just find a customer and drive by and see if they have time. But that's only in some segments, you can do that. That was put typically be the smaller ones that I talked about before where the boss's himself is in the workshop. Today, you just walk in from the street, like old school door salesperson, okay. And it doesn't exist a lot anymore, but it does exist in some of the segments that we are serving.

17. Did you receive any advice or help from the government during the crisis?

I'm sure we did. But not related to the business. But obviously, he has good agents, and webinars about how to do this and that and recommendations, but everything related to COVID has been communicated by government in terms of rules and regulations, emitting number of people per square meter, this, and that. That's all been regulated by the government in Denmark.

18. *How this drive you to redefine your export strategy? Have you thought about changing your export strategy?*

I think we are focusing on being less dependent trying to cut out the lead times that we can cut out or remove the trying to simplify and save time and money wherever we can. And to have a more standalone approach to China, like I said before in China for China, but that is more the way to go forward. So you do have less dependency on too many forced border transactions of goods will have to pay duty, either one or the other way and lonely times and the inflexibility that we have seen in China, so also our customers, I mean, they close down factories, we have had power shortages, so that they convert, the factory has only been able to operate X number of days, or these very rigid image measures taken by the Chinese government, of course, makes you look at that market in a different way. Because it's less flexible suddenly. And that limits what you can do or what it makes sense to do. Because you have risks, suddenly they close the region and then at transport can even go to the other another region where the meaning to go in order to reach a ship. Things like that makes you think, Am I doing this the right way? And how can we make our system more robust? Even our Chinese sales, people have not been able to travel to other cities in China. So right now, they can't travel because they're in China, they can't travel to Beijing. So that's affecting business in China that they cannot meet the customers. So, I think the impact is very different depending on what geography you like. And it certainly has made us reflect on how the optimal way is to do business in China, I think it has really emphasized that, okay, relying on massive transport of goods needed for the production in China from abroad is not the way to go forward, because we are too exposed. And it's too expensive. And so, it ruins the business case of actually having a cheap production in China, in favor of transport increases and rely on goods to be shipped from Europe. So, I mean, it's nothing new in that as such, but it is just a product to a new level. Whereas it becomes obvious that, hey, the business is disappearing, if we don't change our mode of operation. For this part of the business, I think there's a lot of learnings in terms of how to set up your entire supply chain for a given market for a given group of customers with specific requirements for reaction time and delivery time and whatever it is. Because in some cases, we have been super blocked, but we also have the thing going on our customer or our suppliers have those that have a lot of their production taking place in China, I have not been able to ship it to Europe, so and flying has been too expensive. There's not been any ships and they tried trains and then somewhere there's only one track and then that got corrupted, and they basically had to remove all the goods from Donkey bag to go somewhere. So, I think that supply chain thing is one of the major things that's been impacted during COVID. and expose how sensitive it is to even minor disruptions, just having containers. buildup in one area of the world can impact supplies in the rest of the world. Yeah, because these containers were actually supposed to be somewhere else. And that just makes the whole chain break.

Present Situation

19. What the today situation looks like, in terms of exporting?

Now? Right now, it's getting worse for us at least being in Europe, because now we have even more uncertainty because of the war in Ukraine. So that's nothing to do with Covid, but the kickoff that we were beginning to see has suddenly been worsened. Because the increased activity in combination with more pressure on the value of supply chain and the value chain in general, I'd say because of the shortages and that we've seen in in Europe, taking out steel suddenly from the whole value chain in the steel production and manufacturing. Removing 30% of raw material has a huge impact and will cause cost increases and delays again and COVID was super unpredictable was always more and yeah in inflation is going up. And that's not the war is not helping either. So, there's a lot of uncertainty. And when you have a war situation like we have right now, there's also some insecurity in general of, we probably haven't seen the full effect of anything yet. So that to some extent, can use, you can say, as the new normal that things are changing and much faster than we've seen before. So, so we are maybe out of COVID here. But some of our, our counterparts and customers and their customers are not, because maybe they are somewhere else in the world where the situation is different. So even though we have lifted restrictions, here, they are the places that are still impacted. And we have also seen this wave or the virus traveling around the world. So, then the bans are lifted in one place, but then suddenly, there's a major issue near the end of the world. And now with the war on top of that, it's I think it's pretty much one day at a time. Yeah. And that makes it very difficult when we are typically entering contracts that sort of stretch out for maybe a year ahead. Very difficult to get prices. Because you don't know what the end cost would be when you're supposed to deliver stats, a super big challenge for procurement supply chain right now.

20. Have you change anything regarding exporting since the pandemic, did you use different strategies?

As I said before, we are just reacting as it comes and keeping the same strategies. We want to deliver the product to our customers and this situation is changing all the time.

3.5 Interview Transcription- Energy Solutions ApS - Supply Chain Manager to

Basic Information about respondents

1. *Please introduce yourself (Position, years in company)*

My name is Catalina it was to reduce the supply chain manager at the heavy energy solutions formerly is called if his energy and I had been here almost 15 years and been working, very aggressive for transport and export and import the last 2 to 3 years. Okay, so that's yeah, I have old operations besides the production but so also delivery to customers and deliveries from suppliers. That's perfect.

2. *What's major responsibility in this company?*

Okay, so that's yeah, I have old operations besides the production but so also delivery to customers and deliveries from suppliers.

General Questions

3. *Where is your raw material supply from?*

Raw material comes from Europe, or from China.

COVID-19

4. *How well prepared would you say your company was for the challenges posed by the pandemic?*

You can say our pace was actually okay. And we had quite a case safety stock, actually. So, we will not like hit in the beginning at all, actually, the COVID hit us more, I think here in November December 2021. When the raw materials situation, everybody's got hit, especially on the electrical parts. That came a year later, I would actually say then they then when COVID started, okay. Also, because COVID was actually very fast over in China. China locked down you know, in week four, and was open again in week eight or nine so you can say at that point, we were it's the chain was not that it affected actually.

5. *What was the impact of the pandemic on your exporting operations? Specific hurdles (transportation and logistics (air, road, maritime, documents), Industry hurdles, HR (employee travelling)).*

It was more like, if we sent from Denmark out to China then containers have to be you know, it has to be clear it has to be sprayed for infection, then all the time it was extended, and you can get fees because it took too long. We also saw that the harbors closed down so we couldn't get parts and product out and the containers were not emptied, so, you can say that the lead times on transport had doubled almost because of the capacity and the waiting time outside the harbors that they can not get the containers ships in. So actually, it's the time that has been a problem, that ships cannot get in couldn't get into the harbor so things that should take six weeks to 10 weeks, and that problem cost and you get a fee of course on that.

The timing has been fluctuating because then in China, there was no COVID And then in Europe, we had COVID And right now, one of my colleagues has been in Shanghai has been in one month of quarantine. And today they were informed that they have to be one more month. So, they cannot go out of their house before we make and so Shanghai has closed down right now. Also, the airport so they don't know if it would open before one month.

Z- And, how could you say the lead time was before covid?

M- six weeks, seven weeks. Okay? And now we are lucky if we can get it in 12 to 15 weeks. It's all over the world. You can see that it just they are standing outside so the price was before 5000 USD USD is now 14,000 USD is due to lack of equipment.

Z- What about freight prices, how do did change?

M- Around to triple, 300% almost. And that's also why you see like when you go to supermarket that all prices are gone up now. It is part of the same.

Z- Can you tell me if you need to fill any extra documents in COVID times?

Just people requirements to travel.

6. *How did you cope with these hurdles?*

Information to the customers because they know that it's all-around same problems. So, people are quite more understanding that this is a global challenge and not company to company challenge.

Z- So you communicate with your customer being transparent and what about your stocking? Were you having or order more than normal?

M- We took the chance to order more longer in the longer timeframe. You can say, okay, but it's just doing the bottleneck. So, it's not helping you're just making the supply chain worse if everybody has the bullwhip effect, if everyone orders because they're fearful, you're just making the supply chain worse, that won't help, it'll just make the market over or under demand and as a result, I will say that we did not go to the degree that you could. So, we were just trying to find a better-balanced solution to the challenges and reacting to them as they arise.

7. *Did it have an impact on your customer relationships? Was it flexible or was it governed by the contract?*

Everybody were hit, so everybody was more flexible I could say

8. *Did you consider leaving some specific market? Which one?*

No

9. *Has been difficult to open new markets? (New business developments)*

I would say it's the same. You can say it has been an issue that it's still an issue. You can't go to China but that's the only thing, and you can say the wind turbine business is what it is right now. So, the demand is low, but that's a general thing.

10. *Did you receive any advice or help from the government during the crisis?*

No

11. How this drive you to redefine your export strategy? Have you thought about changing your export strategy?

No, we are trying to stick to the same.

Present Situation

12. What the today situation looks like, in terms of exporting?

Today's for example we have the problems in China, you cannot use the train and air transportation are very costly so it's just affecting the whole way around. And even if you say Covid is just in China.

But the effects from the COVID is still affecting the markets on longer lead times and prices and that we can take up to 2024 as we are expecting.

13. Have you change anything regarding exporting since the pandemic, did you use different strategies?

No really as I said before, we are just reacting and trying to stick to the same

Z- Thank you very much for your time

M- Yes, of course