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**Backshoring of Danish manufacturing companies:  
A learning process perspective**

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A learning process perspective

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# Executive summary

**Purpose:** The main purpose of this thesis is to research the topic of backshoring with the focus on how companies deal with the learning process and how they insure that the experience gain through this process is not lost. Based on the analysis of collected data the findings will be described. The findings will be used as a ground on which the authors will strive for making a recommendation for companies that will go through this process in the future. The authors will endeavor to make suggestions for the companies in terms of how they can go through the process of backshoring, how they can insure the learning process and the fact that the learning experience gain through the process is not lost.

**Methodology:** For finding the answers to the research questions and the problem formulation a qualitative approach was considered to be best suitable for this type of research and therefore was employed throughout the thesis. To see how the companies, deal with this process and how they insure the learning process the authors conducted interviews with four Danish companies that have previous experience with backshoring. These companies were selected based on some selected sample criteria's. This helped the authors to collect primary data that served as a basis for further analysis.

**Findings:** From the interviews that were conducted and the collected data the authors found several important findings. The first finding was that all the researched companies had very different approaches to how knowledge sharing should be done and how to ensure that the learning is not lost. Some of the companies had a written process while other focused more on verbal knowledge sharing. Further the difference between how companies' knowledge share was very dependent on the size of the companies. The research showed that small companies tend to do more verbal knowledge sharing because of the importance of keeping everyone up to date. Bigger companies tend to focus on a written process because of the difficulties of verbally sharing knowledge with a large amount of people.

Further the research indicated that some companies might have followed a trend of relocating their production because of a Bandwagon effect where multiple of their competitors and suppliers were offshoring activities. The authors found that this is a dangerous way of offshoring but it makes data about offshoring more available which help companies avoid the same mistakes as others.

Finally, the research showed that Danish manufacturing companies that backshored focused on whether the decision made sense from an economical or value creating perspective. Further the research showed that the offshored activities might still be beneficial from a cost perspective. But because of new technology and the advantages of having production close to R&D the decision to backshore production was made.

**Recommendations:** based on the findings and the research made the authors made a recommendation chapter to give their point of views on how the process of offshoring, backshoring and knowledge sharing should be done. The main suggestion was that companies should focus on both verbal and written knowledge sharing. Further they should work in a structured way to make the process easier.

The analyses made prior to backshore should not just be based on the cost aspect but also focus on risk and stakeholders.

**Limitations:** This thesis was limited by three different limitations. The limitations were made to help the reader understand what the research was limited to and how this affected the research.

The first limitation seen was size. This limitation was made because of the newness of the topic. Since the topic is still relatively unsearched the authors had to include both MNE's and SME's simply because of the limited amount of data.

The second limitation seen in this thesis was production. This limitation was necessary since the way companies' backshore are very different depending on what type of activities they backshore. The authors therefore had to limit the research to one type of activities.

The last limitation for this thesis were Danish companies. This limitation was necessary since companies' backshore very different depending on what country they have to relocate their activities to. Further the governmental and political initiatives are very different from country to country. The authors chose to focus on Danish companies because of the lack of research in this field.

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# Introduction

During the last twenty years the market environment has become highly competitive and many companies have had to deal with the growing pressure from other companies coming from low wages countries. Therefore, in order to stay competitive and to keep the position on the market, companies are following several types of new strategies (Stenthoft et al, 2015).

Striving for lower cost companies started employing the offshoring strategy to help them remain competitive by keeping their production and operational costs on the lower level (ibidem). Offshoring have counted for important business strategy since the 1990s (Bals et al, 2016a).

However, the situation on the market together with economic and political situation in the world, has rapidly changed since then.

In order to adapt the new market condition companies recently started reshaping their businesses and reconsidering the offshoring decisions (ibidem). Moreover, the companies were able to see the impacts of the offshoring strategy on several aspects of their business which were not taken into account earlier (Gylling, 2015).

These unexpected effects that have led to weakening in the position of the company on the market, and falling behind the competitors. This is forcing companies to rethink their strategy which resulted in the situation where companies have started to consider relocating of their activities either to another place or back to the country of origin. This reversed strategy can be described as the process of backshoring.

In comparison to the offshoring strategy the backshoring process is considered as an emerging research area in the literature (Bals, 2016a). Since the topic of taking the activities back is relatively new, the literature does not provide a deep academic description of the process itself. The areas of decision making and learning process are barely described in literature. Therefore, the main purpose of this thesis is to look closely at the backshoring process itself with the focus on the learning and knowledge sharing aspect of it.

Further the thesis will focus on Danish manufacturing companies and how they do backshore. The

focus on Danish companies was chosen because this is also a relatively un-researched area so by focusing on this the authors could contribute to the research in this area.

With focus on the previous paragraph the problem statement for this thesis is as follows:

*“Why and how do Danish production manufacturers backshore and how can they insure the learning process is not lost when moving production”*

This thesis will be divided into 13 chapters. To get a better understanding of the process itself the authors will explore the company's incentives behind relocating some of their activities abroad. Secondly, the reasons that led companies to take the production back will be examined. Further the authors will take a closer look at the decision process itself to see, who is usually involved and based on what analysis the decision was made. Afterward, the main focus will be put on the topic of learning process. The main aim is to investigate which steps is taken by the companies in order to ensure that the whole experience of backshoring is not lost in case that the company will repeat the process in the future.

In order to collect all the necessary data and information, the authors will work both with a literature review and with collection of primary and secondary data. To gather primary data and get insightful information from the companies the authors will conduct several interviews. These data will thereafter be analyzed and the findings will be discussed.

The authors will strive for finding different patterns and possible room for improvement on which they can eventually base their suggestion and recommendation on. Finally, the authors will reflect upon their work and the philosophy of science used in this thesis.

# Acknowledgment

In this part, the authors would like to express their sincere gratitude to people who helped them during the process of writing this thesis.

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Secondly, we would like to express our thanks to all interviewees for taking their time for us and for providing us with interesting data about their companies. We would specially like to thank Bendix Lehmann, Ib Gosmer, Henrik Hagens and Rasmus Bech Christensen.

All these data were very useful and gave us insightful information about the backshoring process.

# Definitions

The purpose of this chapter is to give the reader a better understanding of some of the most used terms of this thesis and how they differentiate from each other.

Offshoring = in this thesis offshoring will refer to the process where some of the company activities are shifted geographically from the original country to be performed in a foreign location either by making their own production or by a supplier in the foreign location (Stentoft et. al., 2016).

Outsourcing = Outsourcing refer to the process where company shift all or part of the activities that were previously perform in- house to the external supplier (Stentoft, 2016).

Reshoring = The term Reshoring refers to the process of relocating a part or all of a company's activities which was previously offshored to a new location. This is not limited to the country of origin so reshoring also includes other destinations (mlody, 2016).

Insourcing/Backsourcing = Backsourcing refers to the process of bringing the previously outsourced activities back in-house (Veltri et al., 2006).

Backshoring = In this theses backshoring is defined as a strategic process where company relocate their own foreign activities back to the country of origin or taking back activities that were performed by an outside supplier to the country of origin (Stentoft et. al., 2016).

De-internationalization = The action of making a fully or partial withdrawal from an international market (Dauth et.al 2015). This thesis will use de-internationalization as the broader term for making a withdrawal of different types of value chain activities. Therefore, backshoring will be a part of this term but de-internationalization will not be limited to backshoring.

# Previous research by the authors

The purpose of this chapter is to give the readers a better understanding of what research the authors already have done within the area of backshoring. Further, this chapter will explain the research design, the purpose and the potential of that research. This will give the readers a better understanding of where the pre-understanding and inspiration for this thesis came from.

The aim of the previous research was to make a theoretical and methodological understanding of the researches which were already made within this study area of backshoring. The study therefore included all the steps needed to conduct a research but did not include an analysis because of the limitations of the project. The main purpose of the project was to conduct a literature review and learn how to identify gaps in the literature.

The research first introduced the concept of offshoring and backshoring and how these terms are connected to each other and where they have arrived from. This was followed by a definition chapter where all the relevant terms were explained to give a better understanding of the difference between them and how that research was going to use them.

This led to the main part of the research which was to conduct a systematic literature review. The literature review was based around a search protocol which helped the authors to ensure that the papers used were useful. After the reading, the papers the authors came up with three main themes for the topic of backshoring. These three topics were namely:

- Reasons to backshore
- Ways of backshoring
- Risks and opportunities

The most important parts of the papers were then put under the relevant topic. All the three main topics had subchapters to make it easier to analyze later.

Because a systematic literature review was chosen, the papers were also divided according to methodology and theories used.

The theory chapter was done to see which theories was used by other scholars and how these helped them with their findings. Further this chapter helped the authors to find the most prevailing theories which could be useful in the research.

The methodology chapter helped the authors to get a better insight of how the other scholars were conducting their research and if they used qualitative, quantitative or mixed methods to research their

specific topic. This chapter also helped the authors in the decision about which type of research should be conducted and what methodology should be used.

From the theory chapter in the literature review the most prevailing theory was Transaction cost theory. This theory was thereafter explained more in depth to give a better understanding of why this theory was relevant for the research topic and how the research itself was influenced by the theory.

From the literature review the main findings were evaluated and authors explained how they would impact the research. This led the authors to looking at the gaps from the literature. These gaps in the literature were the basis for formulating project's problem statement which was

*“How has backshoring affected high-skilled German manufacturing companies?”*

To answer the problem, statement the authors set up 4 hypotheses to be confirmed or rejected based on the result of the research. To give the best answer to the problem statement and to be able to confirm or deny the hypothesis the research should be based around a questionnaire to reach as many companies as possible.

To be able to make the best questionnaires and get the most relevant answers the authors set up a sampling strategy. The sample size included German manufacturing companies who went through the process of backshoring. Further the sample should only include high skilled companies.

From the sampling strategy, the authors created the questionnaire based on the four hypotheses. Each hypothesis led to four to seven questions which in the end could help to confirm or deny them.

Since the analysis was not conducted the authors only found access to databases with information's about the companies who matched the criterion but did not send out the questionnaire.

Therefore, the analyses part of the project was only briefly explained as analyzing the data via spss and after that include the transaction cost theory to see how these fit together and finally confirm or deny the hypothesis. The main goal of the project was to learn to investigate a topic with an academic approach and to learn how to make a literature review and how to conduct an analysis. The authors were also introduced to the topic of backshoring and de-internationalization which led to this thesis. This will be elaborated further in the literature review part of this thesis.

# Methodology

## Design model

In order to see the steps that will be made throughout this thesis, the research design model will be introduced below.

To gather the information needed for the data collection and data analysis, first a qualitative analysis will be made based on the secondary data found from the different sources. Later on, sampling method and sampling criteria will be brought out in order to describe the process of selecting the companies for the interviews. Afterward the collection of the primary data itself will be presented and the process of interviewing will be described. A qualitative analysis of the outcome of the interviews will follow. Lastly the discussion chapter will be used to discuss the findings with the theoretical views found in the literature.

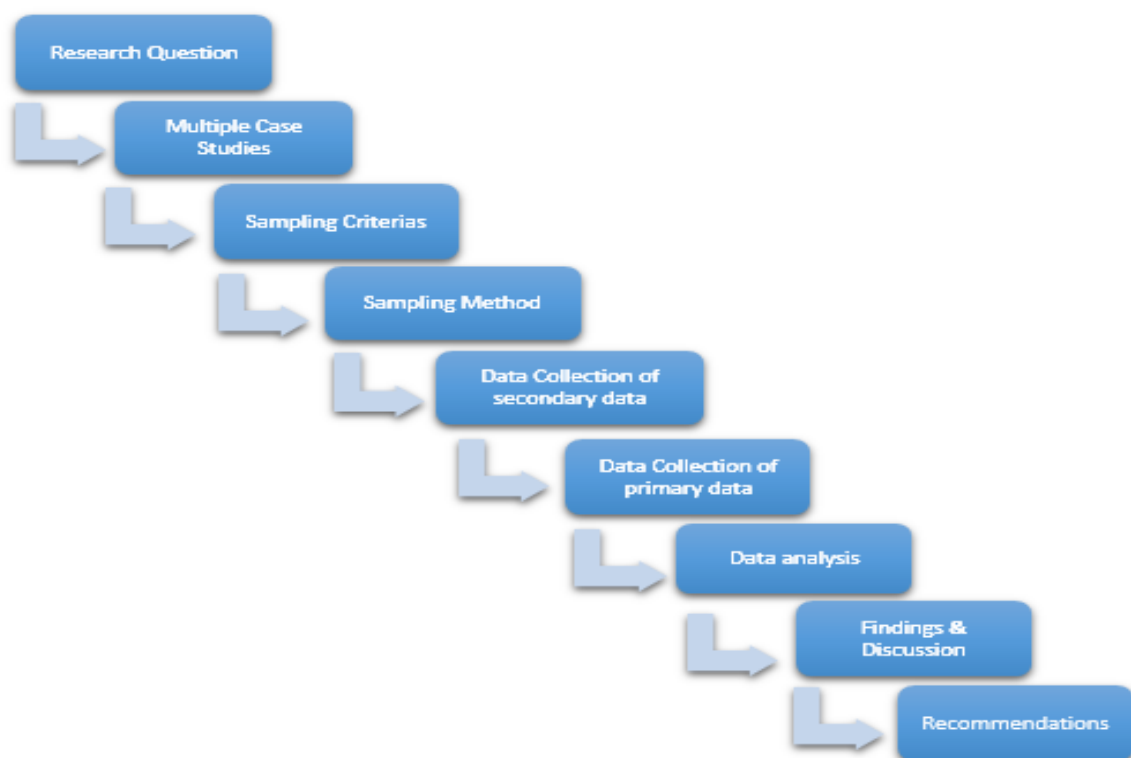


Figure 1, Design model, Own creation



# Problem statement

## Research questions

To get a better understanding of how the problem statement was created and what questions were asked before choosing the problem formulation, this chapter will explain the research questions and why they are relevant for creating the problem formulation.

From the author's previous research, it was learned that more knowledge and research were needed in the area of backshoring both regarding what, how and why (Fratocchi et al. 2014). Furthermore, since the research will be based around Danish companies and their backshoring activities, which is a relatively unexplored topic, the research questions will be based around this topic.

The research questions were formulated as follows:

- What part of the value chain is being offshored?
- What part of the value chain is being backshored?
- What are the reasons for backshoring?
- How do companies make the backshoring decision?
- Who was involved in this decision?
- What analysis were made prior to the decision?
- How do companies share knowledge about this process?
- How do they insure this learning is not lost?
- Are companies sharing knowledge with each other?
- How did the decision to backshore influence their performance?
- Do they keep serving the market even after backshoring?

All of these questions have been asked in order to explore more in depth how Danish manufacturing companies backshore their activities which helped create the problem formulation, which will be elaborated further in the next subchapter. Further the research questions will be used as an inspiration for the interviews and for further investigation in the analyses of this thesis.

## Problem formulation

The purpose of this chapter is to give the reader a better insight into how the problem formulation was developed and which factors made the authors choose this over other alternatives.

As previously stated the Authors made previously some research within the area of back shoring and de-internationalization. This had a big impact on the choice of thesis work. The previous research focused on a quantitative angle on German manufacturing companies. To get a completely new point of view on this thesis the authors wants to research Danish companies by employing a qualitative research rather than a quantitative one.

The purpose of this thesis is to understand how Danish manufacturing companies' backshore their production and which factors impacted their decision to do this. Further the analyses will show how they share knowledge and insure that the learning process is not lost.

Further the literature review of this thesis led the authors to a gap which has not yet been focused on by any of the top scholars within the study area, and specially not with focus on the Danish market. Therefore, the second part of the problem formulation will be based around this gap, which is the learning process as a result of backshoring activity.

With the previous chapters and knowledge in mind the authors specified the problem formulation for this thesis as:

*"Why and how do Danish production manufacturers backshore and how can they insure the learning process is not lost when moving production"*

The authors find that this problem formulation covering all the topics they want to investigate in this thesis. Furthermore, it includes the gap about learning process from the literature review and adds a new angle to the whole research.

## Data collection

In order to fully explore the topic of this thesis and to answer the research question. The combination of both primary and secondary data will be used. The sources and the process of data collection methods will be described in the following.

In order to capture the experience and meaning of the interviewee's world, a qualitative research was employed. The benefit of a qualitative research is that it provides a sensitive method to collect data and is perceptive to the situation of a human being because it comprises of dialogue with the subject studied (Kvale, 1996).

The qualitative interview method of data collection was used to gather primary data.

The interview can be described as a type of conversation between unequal partners, that has both structure and purpose. It has the approach of asking questions and answering them with the aim of obtaining carefully tested knowledge (ibidem). The main reason behind choosing this method is that interviews can provide in depth information with both factual and a meaning level which can help provide a better understanding of the research topic (ibidem).

Face to face interviews were conducted with people that had different backgrounds and diverse experience with the topic of production relocation. Therefore, they were able to provide answers from different points of view on the researched topic which gave the authors interesting perspectives on this phenomenon.

In all of the cases semi structured interview were employed. That means that most of questions were prepared prior to the particular interview in order to cover sequence of themes but there were some questions that emerged during the interview itself. Openness to the change in sequence of themes and questions gave to the interviewers possibility to follow up answers and stories given by interviewee. These types of interviews provide the interviewers with reliable data and the possibility to identify a new angle and understanding of the topic (Cohen, Crabtree, 2006).

The secondary data used in this thesis came from different sources. To collect these information, sources such as newspaper articles, previously made studies, surveys and relevant statistics were used in order to cover general basis of the phenomenon and to create a ground for future research. Moreover, some of the secondary data came from websites of the researched companies which provided important information and a necessary knowledge about the companies which gave a baseline for formulating questions for interviews.

## **Sample criteria**

To get a better understanding of how and why the interviews include some companies and not others this chapter will explain more in depth the sample criteria. This is done in order to ensure that the interviews will have some relevance for the thesis and therefore keep the quality of the interviews up. This is also done to make sure that the right companies are chosen since a company might have some relevant information but because they operate in another field their answer will not help the authors answer the problem.

The sample criteria are as followed:

### **1. Danish companies**

The research for this thesis is as previously explained focused around Danish companies and how these backshored their activities. Therefore, the first sample criterion is that the companies must be Danish. This will limit the amount of companies a lot because of the limited amount of companies in Denmark compared to the rest of the world. Even though the research is limited to Danish companies our sample will not exclude companies which are owned by investment funds or other organizations outside of Denmark. As long as the decisions to make the initial offshoring happened from the Danish part of the company and the backshoring also happened within this part they will be included in the sample size.

This decision is made since the activities and the process about this is kept in the Danish part and is therefore still relevant for the research since the whole process happened within the Danish part which make their answers equally relevant with other Danish companies.

### **2. Manufacturing companies**

The second sample criterion is a company has to be characterized as a manufacturing company since this is the type of backshoring that the authors are trying to research in this thesis. This criterion is made to ensure that these backshored activities are relevant for the research.

From the previous research made by the authors it was learned that the reasons for backshoring and the way of backshoring were very different depending on the type of offshored activity. Companies that backshored activities like R&D and HR will therefore not be included since the answers would most likely not be relevant for the research.

Companies who have backshored more than one part of the company will still be included in the sample as long as production or manufacturing was included in this.

### **3. Experience with backshoring**

The final sample criterion for selecting companies will be, that the company will have to have some experience with backshoring and production relocation.

This criterion is made so the research will not include companies who does not have any relevant information about the research topic.

This criterion is important because the authors want to investigate something as specific as backshoring and how companies are sharing knowledge. Therefore, the interviewed companies will have to have some sort of knowledge within this topic to be able to answer the questions.

As stated the companies will not necessarily have to have gone through a backshoring process but they will have to have knowledge and experience about this, in a way that makes them able to answer questions about all aspects of the process.

## Data collection methods

In this part, the particular method chosen for data collection will be described and the interview progress will be outlined.

To get the necessary data about the researched topic, five interviews were conducted in total. Each interview was carried out with a person from a different company, one interview was conducted with a private person with long time practice and experience with backshoring process, and a final follow-up interview with one of the interviewed companies.

The companies were chosen based on the fact that they had previous experience with moving production out of Denmark and later on with taking some of their activities back. The sampling criteria and the relevance of the chosen companies were more in depth discussed in the previous chapter. In each of the chosen companies one interview was carried out with the selected person based on contacts. Each of the interviews was different in terms of the time taken. Two out of the five interviews were accompanied by a presentation of the company and by showing the plants and working environment.

As mentioned before in all of the cases the interviews can be described as semi-structured therefore only some of the questions have been prepared prior to the interview. Questions were chosen based on the information gained from secondary data about the company. The interview guide which is describing the interviews more in depth will be described later in the chapter Interview guide.

The knowledge about the companies were acquired mainly through articles on the internet and the company's websites. This helped the interviewers to get a better knowledge about the background of the processes and to select relevant questions and themes for the interview. While interviewing some new information came out and therefore some new questions were added along the way.

## Interview guide

To give a better understanding of the process of making interviews for the purposes of this thesis and to outline what questions were asked, this chapter will go through the interview guide made by the authors prior to doing the interviews.

The purpose of creating an interview guide prior the interviews is that the researcher will make sure they ask all their questions. Moreover, by making an interview guide the authors also try to increase both the validity but also the reliability of the interviews the topic of reliability and validity will be covered in chapter Data reliability and validity.

As stated in the previous chapter all the interviews were conducted in a semi-structured way. This means that all the questions in the interview guide were asked, but they only served as a basis for the interviews. During the interviews, more in-depth questions was asked depending on the situation and the answers from the interviewee. Further each interview had some questions which only relates to the case of the interviewee's company. This was done to get a more specific knowledge about their case. Had the authors asked the same questions to all the interviewee's the results would not have been as in-depth.

Each interview started with a formal greeting and a short presentation of our self and the project before the interviews started. As previously stated two of the interviews included a tour of the production facilities. Further each interview ended with a small talk about the future of the project.

The general questions which were asked were:

- 1) What were the main drivers for moving production from Denmark?
- 2) What was the advantages of having production Denmark?
- 3) Can you briefly describe the process?
- 4) What types of analyses were made prior to the move?
- 5) What was the role of the stakeholders?
- 6) When closing down activities what are your standard procedures?

- 7) How did backshoring affect the company's performance
- 8) How was the decision made and who was involved in the process?
- 9) Did you keep serving the market after you backshored?



## Interview description

The main purpose of this chapter is to give a better overview of the companies that were interviewed, to give provide brief information about each of the companies and about the person who was interviewed and their relevance for this thesis. To start off this chapter a table with all the relevant information will be shown. The transcript of all the interviews can be seen in Appendix,

Inter-view	Company	Person and position in the company	Date	Employee-s	Year of outsour-cing	What was out sourced	Year of back-shoreing
1.	Bendix Lehmann Consulting ApS.	CEO Bendix Lehmann	7/3/2017	1			
2.	NECAS	CEO Ib Gosmer	9/3/2017	30			
3.	Hagens Spring Group	CEO Henrik Hagens	15/3/2017	110	2011	Production of springs and sales	2014
4.	Man Diesel & Turbo SE	Purchase Coordinator Rasmus Bech Christensen	11/4/2017	14.200	2010	Production of engines	2017
1. Fol-low-up	Hagens Spring Group	CEO Henrik Hagens	30/4/2017	110	2011	Production of springs and sales	2014

Table 1, Company overview, Own creation

## **Bendix Lehmann Consulting ApS**

The first interview was conducted with Bendix Lehmann managing director of Bendix Lehmann Consulting ApS. Bendix Started his own consultancy company in early 2017 after working for bigger Danish firms over the years like Maersk Oil and Vestas. further he has worked as project manager of many different international projects with special focus on china (LinkedIn, Bendix Lehman, 2017).

After starting his own consulting firm Bendix is focusing on Management, Project training, pace of production development, Optimization of production, Planning – Making the right things happen, evaluation of suppliers, quality control systems and Production relocation – Backshoring which is where our interview will be focused (Bendixlehman.dk, 2017).

Within backshoring Bendix offers many different solutions from being an evaluating consultant to being responsible for production relocation. He therefore offers a wide range of opportunities for the companies who hire him (Ibidem).

At the moment, Bendix is the only employee at Bendix Lehmann Consulting ApS (Ibidem).

The vision for the Consulting firm is, to be the preferred partner when the need for adding project management capacity is rising. The mission is stated as: my enthusiasm for using technology, knowledge about complicated technical solutions, business understanding and the ability to execute will enhance my customers' competitiveness.

The interview will as stated be based around his knowledge about backshoring and relocation of production. The interview will ad and angle from a private person who previously worked with this process and now offers to share his knowledge with companies facing difficulties with this process (Ibidem).

## **NECAS A/S**

NECAS A/S (NECAS) formerly known as Nibe electronic center is one of Denmark's most experienced producers of EMS solutions with focus on markets the industry market, marine/offshore and defenses and aerospace.

They also work within other markets as they focus on being a "on the top shelf" company in terms of process technology, logistics and certification (NECAS, 2017).

NECAS was created in 1982 by Flemming Brandt Clausen who named the company Nibe Elektronik Center A/S based on the city it was created in. The focus back then started as a test center, to test customers' products since the equipment was very expensive and only a few companies could afford this by them self. The company later shifted towards a more production based view where they now focus on delivering full solutions to their customers (Ibidem).

In 1993 NECAS was bought by Eltomatic A/S who then hired Ib Gosmer as CEO of the company. With IB as CEO the company has changed from being a supplier to now focusing on being a partner who delivers high quality with the ability to adapt to changes and delivery in time (ibidem).

NECAS has around 30 employees working with everything from sale to production and everything in between (Electronic-supply, 2017).

NECAS works in an industry where many competitors decided to move production to the far east but NECAS always stayed in Denmark which helped them gain a big advantage over their competitors who changed production site and then had to deal with quality issues and slow delivery (Ibidem).

The interview is conducted with CEO Ib Gosmer, who made the decision to not move the production to the far east even though the trend in the industry was to do it. The interview will focus on Ib's knowledge about backshoring and why their customers changed from their suppliers in the far east to have a partner in Denmark.

## **Hagens Spring Group A/S**

The third interview was conducted with Henrik Hagens, who is managing director of Hagens Spring Group. Henrik is the third generation of the company's founder.

Hagens Spring Group is a company located in Støvring, Denmark. The company is considered to be the leading producer and a global supplier of all types of specialized springs and spring solutions, that are in line with international standards. The main focus of the company is to provide high level of customer service and to guarantee high quality (Hagens-fjedre.com, 2017).

The company has a long history of performing on a global market within the spring industry. The company was founded in Copenhagen in 1945 originally as a bicycle shop. In 1966 the company decided to move to Støvring in Northern Jutland because they wanted to be closer to the customers. Based on the same reason in 1982 the company started a new production near Copenhagen. Being close to the customer and being able to have close relationship with them is important part of Hagen Spring's Group strategy. Therefore in 2011 the company decided to build up its own factory in China with the same focus on quality as in Denmark (ibidem).

With the aim of saving costs company move the production to Poland but due to several internal changes, the company took the production back from Poland in late 2014 and starting the processes in 2015. Especially this strategic move will be the subject of our interview where we will investigate more in depth the reasons and the process of backshoring itself (ibidem).

## **MAN Diesel & Turbo SE**

MAN Diesel & Turbo SE (Man Diesel & Turbo) is a multinational company resides in Augsburg, Germany. The company was formed in 2010 and focuses on production of large-bore diesel engines and turbomachinery for marine and stationary applications (MAN Diesel & Turbo - About Us).

The company produces both two- stroke and four- stroke engines to which the company use its own manufacturing and licensees. Among the engines, the company's products range consists of propellers, gas engines, chemical reactors and turbochargers. The company has around 14,500 employees and it resides in more than 100 international sites located all over the world (ibidem).

One of the research and development centers is located in Frederikshavn, Denmark where also the fourth interview took place. The interview was conducted with Rasmus Bech Christensen who is in charge of purchasing. The main focus of the interview will be about the production in Frederikshavn which they decided to shut down in 2010.

The company decided to bring back production to Frederikshavn after the new testing center opened which enable testing and further development of engines (Marquart, 2017). This strategic move is about to bring new jobs in Frederikshavn and therefore it is a relevant subject for our study. The interview will also investigate the company's foreign activities, focusing mainly on reasons for moving the assembly and other activities to India and future performance on Chinese market

# Data reliability and validity

## Reliability

Reliability of the data can be defined as a consistency of the research findings over time. Research data are considered to be reliable if the data collected as an outcome of the study can be repeated under the similar research in the future (Joppe, 2000).

When it comes to qualitative interviews the reliability of the outcome is rather low. This is due to many factors which have an influence on the results and mainly because of uniqueness of each interview. The less structured an interview is, the lower the reliability of the outcome is (Conway, 1995). The reliability of the data has to be in mind throughout all the parts of the research process such as interviewing, transcribing and analyzing (Kvale, 1996).

Another way of looking at reliability is presented by Bryman & Bell (2015). The researchers divide qualitative reliability into two categories, External and internal reliability.

The external reliability explains the possibility to replicate an interview. Here the researchers agree with Conway, and states that it is impossible to recreate the exact settings for a new interview. They do however suggest that this can be done somewhat by recreating some of the scenarios and the environment the interview is conducted in (Ibidem).

The internal reliability refers to when there is more than one observation and whether or not the researchers in the team agrees about what they see and hear in the interviews (Ibidem).

## Validity

Looking at validity, according to Joppe validity of the data can be explained as an extent to which the research can measure what was primarily intended to be researched. Validity is a term used to describe how truthful the research outcome is (Joppe, 2000).

This topic of validity is also explained by Bryman & Bell who describe validity as whether or not the researchers are investigating, observing or measuring what they say they want to research (Bryman & Bell, 2015).

Bryman & Bell also divides this topic into two different categories. As with reliability the external and internal type of validity is presented.

The internal refers to if there is a good match between the researcher's observation and the theoretical ideas they create (ibidem.)

External validity refers to if the findings can be generalized in other social settings (ibidem).

## **Reliability and validity in the interviews**

The previous chapter described the terms reliability and validity and why these are important for a research. The purpose of this chapter is to give an insight to what the authors have done to insure both the reliability and the validity when conducting the interviews and making the analysis.

As stated in the previous chapter it is hard to keep the reliability high when conducting a qualitative interview. But one of the things that can help with keeping up the reliability is by creating an interview guide and also following it. Prior to conducting the interviews, the authors created an interview guide with the purpose of having a good basis for the semi-structured interviews. This helped the authors keep up the reliability since each interview was based around the same questions. Of Course, each interview had differences and questions specific to the companies and their case of backshoring.

Further the interview guide helped the authors insure that the questions asked helped answer the research questions and therefore investigating what the authors say they want to investigate. Therefore, the interview guide also helped the validity of the research.

Throughout the interviews the authors are staying as neutral as possible and therefore focus on not asking leading questions.

# **Limitations to data collection**

While collecting both primary and secondary data, several limitations that might have influence the outcome have to be mentioned. The limitations are as follows:

## **1. The number of interviewed companies**

First of all, the number of conducted interviews might be considered as a disadvantage since it will be more difficult to generalize conclusions. As mentioned before, four interviews and one follow up interview were carried out in total. Even though the collected data primarily provided an insight into the backshoring process of the sampled companies, having more than just four interviews would be more advantageous in order to see if the patterns in this process is similar in other companies across industries.

## **2. Issue of confidentiality**

Another limitation that could have impact on the results is the issue of confidentiality. The research topic of this thesis can be seen as a sensitive and sometimes a negative issue for the companies. Because of the importance of this strategic move is relatively high, in some cases the companies keep some of the information to them self in order to protect the future steps of the company. Therefore, some of the information about how this process has been done, are considered to be confidential, and were not mentioned during the interviewing. Furthermore, no numbers were given out during the interviews because of the confidentiality and how this could potentially hurt their business or give competitors an advantage from having this knowledge. Therefore, the thesis will not take numbers into account but focus on the impacts based on what was said during the interview

## **3. Reliability of secondary data**

Also, secondary data that is used in this thesis might have has some limitations. Even though the authors were trying to find different sources for the data, all of them might not be considered as reliable. Apart from the companies websites, some of the data about the companies and how they bringing the production back to Denmark came from Danish articles found on the Internet. Since this move can be seen from the Danish point of view as a positive phenomenon that brings the jobs back to the country, some of the information might not be objective and as reliable. Therefore, the authors kept this in mind, when this data were used.



# Thematic literature review

This chapter will focus on the description of the literature review which was done by the authors in order to get academic background for the topic they are going to research. The authors decided to use a thematic literature review where all the papers and literature were organized according to the specific theme and topic they cover.

Firstly, a background for the research will be described. This will be followed by the literature review itself where all the paper used will be presented and afterwards the main topics covered in the literature will be examined.

## Background for the research

As mentioned before the topic of backshoring was previously investigated by the authors of this thesis. This research included a systematic literature review of the articles within the area of backshoring, production relocation and de-internationalization. The main purpose of that research was to find gaps in literature and how to structure a research. The research was limited to the literature review and making the research design which is what open the opportunities for this thesis. The previous literature review showed that much research was still needed in this area and that a lot of new research was made. This information was found from the search protocol which showed an increase in papers being published over the last ten years.

The fact that this topic is highly relevant in the increasing interest from scholars and is also still lacking research makes it a relevant topic for this thesis.

The topic of the last research focused on German manufacturing companies since this at the time was the country with most cases for the topic. Since then there has an increasing interest from Danish and Scandinavian scholars to research how Danish manufacturing companies' backshore. We therefore decided to narrow the thesis to focus more on Danish manufacturing companies instead of other bigger markets which have already had a lot of research and attention from scholars.

For this literature review a thematic approach was chosen since the authors already have acquired some knowledge within the existing literature and are not directly searching for a gap but more find literature which fits more precise on the research topic. This also means that the search for papers will be made more based on known literature which focuses directly on the research topic instead of making a wider research to be able to identify the problems and gaps in this literature. This will bring the

amount of papers down but it will make the papers in the literature review more relevant.

The literature review will be based around the main topics for this thesis and the papers in the literature review will then be categorized according to which areas they cover and then what angle and type of research they bring to this topic.

Further the literature review will also have a theoretical part where the used theories will be discussed and how they affected the research area.

From the previous research the authors made a literature review of the existing papers with in the research area. The literature review included a search protocol which explained the search criteria and how the papers were selected. From that literature review, a few papers arose as “mother papers” a paper which most of the other papers refer to. The paper is therefore seen as highly relevant for the research of other papers. This do not mean that these papers are necessary relevant for this thesis but the authors will investigate the previous literature review to find the papers which also have relevance for this thesis.

This thesis will therefore include some of the papers from the previous research if these papers which is still relevant for this research. This means that the papers will be analyzed based on the thesis problem statement and therefore might bring new information than what was found in the previous literature review.

# Literature review

The main purpose of this chapter is to look into the existing academic literature in order to get a better theoretical understanding of this phenomenon and find research gaps that can be further elaborated. Firstly, the logical process of finding relevant papers and criteria chosen in search protocol will be described. Secondly the articles related to the research question will be presented and main finding will be examined.

All papers will be clusters according to the main themes that were found throughout literature review. The main topic that emerged from the literature review are as follows: Reasons for offshoring, Drivers for backshoring, Decision making process, Learning process and Impact of de-internalization on company performance.

To get a better overview of the articles used in the literature review the following table will present each paper with name of the paper, author and the year it was published:

Name	Year	Author
The path from Outsourcing to Backshoring	2011	Madsen, Slepnirov
Recreation of jobs through workplace innovation in the light of outsourcing and insourcing of manufacturing	2016	Stentoft
Exploring the reshoring and insourcing decision-making process	2016	Bals, Kirchoff, Foerstl
Flexicurity and relocation of manufacturing	2016	Stentoft et.al
From Offshoring to Rightshoring: Focus on the Backshoring phenomenon	2016	Bals, Daum, Tate
The consequences of De-internalization	2016	Onkelinx, Manolova, Edelman

De-internationalisation: A review of empirical studies and implications for international business research	2016	Trąpczyński
De-internalization: Past research and future challenges	2015	Dauth et.al
Coming home	2013	The economist
From global to local: reshoring for sustainability	2016	Ashby
Manufacturing relocation from and to the Nordic countries: comparison across countries and manufacturing firms	2016	Heikkilä et.al
Making decision on offshore outsourcing and backshoring. A case study in the bicycle industry	2015	Gylling et. al
Future and impact of backshoring- Some conclusion from 15 years of research on German practices	2014	Kinkel
Trends in production relocation and backshoring activities	2012	Kinkel

Table 2, Literature overview, Own creation

## Reasons for offshoring

Before looking closely at the process of backshoring and taking the production back to the country of origin reasons that led company to shift all or part of their activities to foreign location have to be explained. Drivers for offshoring plays a significant role when it comes to understanding the process of taking the production back. Therefore, several reasons for offshoring found throughout literature review will be described below.

### Offshoring as a strategic decision

Since the competition on the market is growing fast, finding a way how to achieve greater efficiency and overall effectiveness became necessary part of strategy for most companies. Therefore, many companies are looking into the structure of their value chain and are starting to focus more on the option of moving parts of their business to another destination where location based advantage can be gained. By relocating parts of the production abroad companies also gain the competitive advantage by striving to become core and focusing on their core competences while the other activities of the value chain can be done somewhere else (Madsen, Slepnikov, 2011).

When it comes to the strategic move, a company have two options that differs in terms of who is in charge of the production. The company's production can stay under the control of the company itself while being relocated to different location (captive offshoring) or the company can outsource the production to external supplier after they made the decision of relocating it from the country of origin (Mlody, 2016).

The decision about location is considered to be highly important mainly because it has impact on the competitive position of the company in the long term and therefore affect the profitability of business itself (Gylling et.al., 2015).

The activities that are chosen to be relocated to other locations differ based on each company. Some activities are considered to be more suitable to be performed outside of country of origin whereas other activities are found to be better handled in house. Activities that consist of common routine processes that can be easily codified and transfer such as production activities are most frequently the ones being offshored. However, activities that require a certain level of control, key knowledge and know how are preferred to be performed domestically. (Madsen, Slepnikov, 2011).

As described in literature there are several different reasons behind this strategy of moving the manufacturing activities to countries described as low- waged. As mentioned in the beginning, increased global competition force companies to seek effectiveness is considered to be one of the main reason (Madsen, Slepnikov, 2011).

## **Being close to the customer**

One of the most important decisions to make when offshoring is the location decision (Stentoft et. al., 2016). Moving some of the activities to low wages countries results in lowered operational costs and smaller capital that needs to be invested. Another reason that frequently appears when it comes to moving production to different location is that the company can get access to other advantages than the internal competences and quality (ibidem).

The paper Coming home (Economist, 2013) brings attention to the topic of new markets and being close to the customer in new markets. Here the paper argues, that most of the companies who decided to take production to China or other far eastern countries did it from the point of view that these countries had low wages (Ibidem). Another reason for this change was that companies wanted to be close to the customers in the new big markets in Asia (Ibidem).

Economic environment and level of uncertainty on the market have a significant influence on the decision whether the company decides to relocate part of their production abroad or keep it in the country of origin. Kinkel (2012) focuses on the economic crisis in 2008 and the impact it had on the offshoring decision. The findings from this paper was that there has been evident decline in offshoring activities during the global economic crisis. Therefore, the higher uncertainty in the economic environment caused that the companies preferred not to offshore which goes in line with transaction cost theory (ibidem).

The paper written by Ashby (2016) also presents a literature review with advantages and disadvantages of offshoring/outsourcing to get a better understanding of why companies decided to take production away in the first place. The main reasons for offshoring was categorizes into three main groups 1. Economic factors such as, wage differentials, interest rates and energy costs. 2. Political/legal factors which includes trade barriers and tariffs which mainly influence where to offshore to. 3. Socio demographic factors which is described as the availability and access to skilled and motivated labor, transportation possibilities and general technology (ibidem).

The literature review ends up with a table of benefits and disadvantages of offshoring/outsourcing:

Benefits	Disadvantages
Low cost materials	Supply chain complexity & loss of control
Low cost labour	Visibility of processes & practices
Access to qualified labour	Quality of materials & production
Access to resources, knowledge & expertise	Loss of skills/manufacturing in 'home' country
Focus on core competences	Loss of core competences
Access to new/broader markets	Geographic distance, longer leadtimes and delays
Beneficial trading conditions	Quality of communication/cultural differences
Organisational flexibility	Increased inventory
Access to technology	Environmental & social standards

(Table3, Benefits and Disadvantages of offshoring, Ashby, 2016).

## Drivers for backshoring

The previous chapter described different reasons why companies decide to implement an offshoring strategy and move some of their activities abroad. This chapter will focus on the opposite process which means what happens when the advantage of having the production in location other than country of origin is not gained and original expectation are not met.

The process of backshoring has shown significant growth during the last 15 years. The result of the analysis from the data from the European Manufacturing Survey focusing on German market is, that every fourth to sixth activities that has been offshored are being taken back to the home country within two to five years (Kinkel, 2014).

De-internalization can be understood as a process where the company either by being forced or by free choice decrease its involvement in international activities (Benito, Welch, 1997). The decision to take some activities back can be made either as an operative correction to offshoring decision or as a strategic decision in order to adapt to changes in the local environment (Bals et.al, 2016a). This shift can be done due to several reasons which will be described below.

**Reasons for backshoring**

<b>Firm specific</b>	<b>Market specific</b>
Quality issue	Governmental incentives
Control issue	Psychic distance, misunderstanding
Lead times	Labor market conditions
Hidden costs	Political insecurity
Being closer to the customers	Changing competition condition
Lack of managerial resources	Risk in the country

Table 4, Reasons for backshoring, Own creation



A study by Dauth et.al (2015) which focused on de-internationalization and the drivers for this divides the reasons into firm specific and market specific reasons. The paper describes the most prominent reason for de-internationalizing as low profitability on operations in foreign countries. Furthered reasons as difficulties in the parent company, opportunities in other foreign markets and lack of managerial resources were mentioned as the main drivers (Dauth et.al 2015).

Looking at the market specific factors adverse environmental conditions were the most common reason, political insecurity, changing competitive conditions and general risk in the country were mentioned as other reasons for de-internationalizing (ibidem).

Further the paper discusses the advantages of having subsidiaries in more than one foreign country since a company will be more flexible and able to make changes to their value chain activates according to where they can create the biggest value (ibidem).

Another paper which focuses on reasons to backshore comes from Heikkilä et.al (2016). The paper describes the main drivers for moving production back as: being closer to customers, time, quality and flexibility as the main factors for moving production back. Further the paper argues that more and more companies are starting to focus on “right shoring” which is focusing on internationalize activities but with more care and focus on doing the process right (ibidem).

The paper is based around a web based questionnaire in the Scandinavian countries. The research found that Danish companies had the highest number of companies who offshore production activities. Looking at companies who backshored Swedish companies where the most active. Finally, the Finnish companies where the least active to do any of the two type of activities (Ibidem).

The paper from the Economist, Coming home (2013), describes the case of ET Water Systems, who previously outsourced their production but after only 5 years in China they moved all of their activities back home. The paper explains that it was not the fact, that they had a lot of resources bound in shipments which took 3 weeks to deliver, but more the fact that the production now was too far away from the design and R&D department which the innovation of the products suffered from. This also had an impact on the quality which also suffered from the move (Economist, 2013).

Further the paper explains that after the company backshored they realized that when all cost were calculated, like custom duties and shipping, the cost of having production in China were only 10 % higher than having it in America (ibidem). These calculations were made only based on the direct cost therefor it did not bring in the advantages of having production and R&D right next to each other which to begin with was the main issue of having production in China (ibidem).

The case of miscalculating the cost also appeared in the case study focusing on Finnish bike manufacturers Helkana Velox. An increase in prices after the company offshored the bike production from Finland to Taiwan was caused by underestimated the costs. These costs included higher price of contract manufacturing, currency ratio development and most importantly cost of administration of managing long distance relationship between supplier (Gylling, 2015).

## **Labor market conditions**

Backshoring together with offshoring are considered to be processes based on location decision. Therefore, the situation of local labor market played a significant role in this decision. The costs of labor, stability and overall conditions on the labor market are important drivers when it comes to backshoring decision (Stentoft et. al., 2016).

The paper from the Economist, *Coming home* (2013) focuses on the labor market condition in China. In this paper, the author brought higher educated Chinese labor to attention. The paper argues that this is one of the main factors for companies to bring back production since the salaries in China will be close to American anyway it will be better to have production close to the headquarters (ibidem).

Further there are several other important issues associated with labor market than just labor cost. Another factor that needs to be mentioned because of the impact on the backshoring decision is the overall labor productivity that can be explained as the amount of labor and capital that is needed to transform the input unit into an output. To ensure the work efficiency there has to be a direct proportion between production costs and productivity (Mlody, 2016).

Skills and level of education also represent one of these factors. To stay competitive and fulfill customer satisfaction quality of the products is highly important. Therefore, hiring skilled workers is necessary. When the offshored country is lacking qualified workers maintaining the certain level of quality might be an issue (ibidem).

The paper *Coming Home* (Economist, 2013) talks about the structure of the Chinese labor market and the evolution it is going through. Over the last years new laws have been implemented so Chinese employers now have the right to a permanent contract after one year of employment. This makes it more difficult to fire employees if the need for workers will fall. The evolution of more and more companies having production in China also means that the need for qualified workers is too high, so companies must hire less qualified people which can lead to lower quality in the products (ibidem).

In the article Flexicurity and relocation of manufacturing (2016) Stentoft et.al. focus on the phenomenon that flexibility and security of labor market goes hand in hand. Countries differ in terms of how much costs need to be expended in order to fire and hire workers. Some countries have stronger protection of employment which makes it more difficult for the managers to lay off workers. On the other hand, countries with flexicurity of labor market can be seen as an attractive location where the company activities can be transferred to and attractive location for doing business in general. Example of such a market could be Denmark where the market is characterized by high level of worker mobility between jobs, generosity of social systems and great unemployment benefits (Stentoft et. al., 2016).

This can be an issue when it comes to businesses where the market differs depending on seasons. Seasonal increase in demand requires an increase in production which means a higher number of employees are needed. When the labor market is lacking flexibility, and laying off people demand higher costs, flexicurity can be seen as a driver for taking production back to the country of the company (ibidem).

## **Psychic distance and cultural issues**

As said location factors are of great importance in this process. Therefore, having perfect information and knowledge about the offshored market is crucial. In many cases the offshored location can differ from the country of origin which can result in difficulties that the companies have to deal with. Not only the geographical distance but also cultural distance can be the cause of troubles. Different cultural backgrounds, mindsets and languages can cause numerous misunderstandings and poor collaboration (Bals et. al., 2016 a).

Cultural and geographical distance are not the only source of additional resources, to keep the same level of standards but both distances have mostly negative impact on daily operations which can result in poor performance and insufficient quality. (Bals et. al., 2016 b).

## **Lead times**

Lead times are another important driver of this decision. Overcoming big geographical distance can be a big challenge for the company's, especially when it comes to managing fast deliveries that are increasingly required from the customer side. Due to the pressure on costs minimum order quantities are demanded which also significantly prolong the lead times (Bals et. al., 2016 a). Companies that are focusing on more customized product with highly seasonal and unpredictable demand have to deal with the issue of production flexibility. In these particular cases having production distant from the final market and customers might be challenge for managing the logistic and ensuring a balance between demand and supply (Gylling, 2015).

Secondly, long delivery time can be the source of customer dissatisfaction. Moreover, in such a competitive environment where products have to be delivered fast to the customers this can be seen as a big competitive disadvantage (Bals et. al., 2016 a).

The issue of having long lead times due to the distance between manufacturing location and market for the final products appeared also in the case of Velox, the Finish bicycle company. After their production was moved to Taiwan, frequent changes and unpredictability in demand caused that the time which customer had to wait for his order was unreasonable. This showed to be a big issue since the company was operating in a highly competitive market. Therefore, Velox decided to start making the paint-to-order back in their home country in order to be closer to the customer and shorten the lead time. The result was that this time was cut down from previous six months to 2-3 days. (Gylling, 2015).

## **Governmental incentives**

Stentoft et.al (2016) discuss another angle on backshoring. In their paper, they discuss the impact on governments and why they have a higher interest in bringing back production. The topic is gaining more and more interest from governments and more and more are starting to make “bonuses” for companies that take production back. The paper discusses the reasons for the interest from governments. The first and main reason for it is the job creation, here they also use the argument of more tax payment. Further this also tend to make companies spend their R&D money locally which can help generate key innovations, high value jobs and so on. Finally, the argument of better export and lower level of import is brought to attention (ibidem).

Therefore governmental incentives in the home countries are considered as another significant incentive for a company to take their production back (ibidem).

Taking production or other activities back to the home country also means that new jobs are being created. Therefore, this phenomenon raised government interest to create better environment and conditions for doing business in back in the country of origin. Governmental incentives such as tax reduction or providing any kind of subsidies are also considered to be important driver for coming back to the home country (Bals et.al, 2016 a).

## **Quality issue and control and sustainability**

The paper by Ashby (2016) discusses the challenges of having a global supply chain and still trying to focus on sustainability and the environment. Ashby argues that the bigger the distance is between headquarters and production the harder it is to be in control of the process, the materials used and how the workers are treated, this is especially a problem when the company is using a supplier in a new country and therefore decide not to do the production them self. If companies still prefer or must use outside suppliers it is better to use an established long-term partner with a few selected suppliers to make better use of coordination, sharing of knowledge, information and skills (ibidem). The paper therefore focuses on how sustainability and environmental care influences the decision to go back home instead of the more direct reasons to backshore (ibidem).

When the decision about the offshored location is made in many cases managers underestimate the flexibility of the production. When the production is located near the location of the domestic market business control adaptability and flexibility are the source of the competitive advantage. In the opposite case this advantage is lost. Therefore global supply chains may seem to be low cost solution on one side but on the other when the situation is not favorable this might be a very expensive solution (Gylling et.al, 2015).

The issues of quality are also mentioned in the paper by Heikkilä et.al (2016). When researching the drivers for offshoring vs the reasons for backshoring the result of their study differed a lot. Labor cost were the most seen answer when asking for drivers for offshoring while quality was the most common answer for backshoring. Further the research showed that most of the time there were more than one driver for moving the production back and the answers were more broad than when looking at reasons for offshoring (ibidem).

The paper by Ashby (2016) also introduces the advantages of having closer suppliers as an opportunity to create stronger ties and better relations with each other. The case study is used to exemplify how one company was not making any money in the first few years because they choose a new European supplier, but the decision to do so was based more on the possibility to create a better and stronger partner than making money from the day one. By using a European supplier they also increased the possibility of having better control (ibidem).

Here Ashby also includes the Social network theory and the importance of trust and how a company can gain strategic benefits of collaborative relationships with suppliers. Here Ashby again refers to the case and how story building would not be achievable with a far eastern supplier (ibidem).

Ashby then goes on to focus more on the factors of Reshoring. The research is based on a UK clothing

company and the main advantages of having production close to the headquarters are explained as, easy and more available but it also makes sense from an environmental perspective since the company will be closer to the process and it will be easier to control. Furthermore, transportation also plays an important role and is both costly for the company but also damaging for the environment. Having a fully UK based production also opens image opportunities since the company will now be able to brand them self as both “made in UK” but also a fully UK based supply chain which opens a new possibility of storytelling via UK’s long history of “textile brotherhood” (Ibidem).

## Decision making process

In comparison with the drivers that lead company to take the production back home description of decision making process itself has not yet been given that much attention in the literature. Who is in charge of the decision? What analysis are made prior to the decision? What is the role of the stakeholders? Answers to these questions among others are important in order to understand the decision making process.

Making a decision about both offshoring and backshoring has in most of the cases several limitation for the managers specifically in terms of amount of information they have and also amount of time available (Gylling, 2015).

In the article From Offshoring to Rightshoring: Focus on the Backshoring phenomenon (2016a) Bals et.al describes how is this decision is made based on cases of four companies that undertook this process. In all these cases decision about shifting the production back was made by more than one person, more specifically by a project team consisted of people from different departments. Since the decision about backshoring has a significant importance in overall strategy of the company, people involved in this process are in most of the cases senior managers or owners. However, despite the importance of the decision in many cases only management level in the company influenced the decision. That means that the representative from the manufacturing department are not involved even though they might be able to offer interesting perspective and important points (ibidem).

Prior to the decision several analyses have to be made in order to consider all possibilities. As mentioned earlier one of the main reason why companies shift some of their activities to other countries is the seeking of effectiveness and better efficiency (Madsen & Slepnikov, 2011).

Therefore when considering taking the production back home calculating the costs plays an important role. The main purpose of the cost analysis is to consider whether backshoring can bring greater advantage in terms of cost and resources than previous offshoring (Bals et.al., 2016 a).

An article written by Bals et.al. (2016 a) claims that half of the companies made redesign of processes, cost analysis and analyses of location factors before they decided to take the production back. When it comes to rebuilding of already existing processes in many cases it is also restructured the product itself when the production is being moved. Analysis regarding the location focus on the condition in terms suitability of labor market, availability of skilled personnel, infrastructure and so on (ibidem). Location decision also consists of calculation of how much costs it takes to fulfil the demand, optimizing levels of volume of production and search for the suitable logistic solution (Gylling et.al. 2015).



## **Impact on the company's performance**

Onkelinx et.al (2016) describe that most companies will face a lot of “sunk cost” and this will be a barrier of entry to any new market. Companies will have some knowledge of this cost, but they will not be able to make a full calculation of this cost. Therefore, companies will have some insecurity about the investment they will make since a lot of the investment will be locked and not able to be returned on exit. According to the paper this makes it so only the most productive companies will have the option to take activities outside the domestic market. Looking at this from a de-internationalization perspective there are a lot of companies who decide to keep activities even though they might not be economical beneficial. But the fear of having to re-enter the market later and do the same investment into sunken cost keep them there until they fall under a certain level (ibidem).

Furthermore, the research shows that SMEs that are not able to cover the lost sales from markets they have left with more sales in domestic or other international markets will have a higher chance of total failure. The research also shows that the sunken cost plays an important role here since the sunken cost often are “usage-specific” resources which means they are only useable in this specific market, country or so. Some of these resources can be transferred but it will be in exchange of an additional cost which will require an even bigger increase in sales activities in the other markets (ibidem).

## **The process of de internationalization**

The research from Dauth et.al (2015) shows that top managers are not only the once responsible for creating international expansion but also the most common decision maker when the question about de-internationalization comes up (ibidem).

The study also showed that the process of de-investment often was a long process which according to the paper often takes from 12 to 30 month (ibidem).

In the process of de internationalization the paper also explains the term of tactical and strategic withdrawal. This term tactical withdrawal is used to describe the process of de internationalizing as a top management decision to shut down ongoing underperforming activities. Strategic withdrawal is used to explain middle managers initiating the withdrawal based on external factors where they propose alternatives to the top management. This can include the single operation but also be a suggestion to a change in the overall portfolio (ibidem).

Further the paper explains four different theories used as “best in practice” to de-internationalize. The four theories are as following:

- The FAST divestment programs
- The Five step approach
- The Four phase process
- The Framework for proactive divestiture

## **Outcome of de internationalizing and the impact on performance**

Dauth et.al's (2015) research shows that most de-internationalization processes will end out with a total negative outcome. This is argued based on that most companies who de internationalize are not able to gain advantages in the domestic market equal to the loss of activities in foreign markets. The research does indicate that this effect was the result of one survey while other survey had showed no change in the outcome (ibidem).

The research from Heikkilä et.al (2016) looked at the relations between performance and the drivers for both off- and back-shoring. Here the research showed that even though lower labor cost were the main driver for offshoring this was not significantly related to the performance of a company. This could indicate that even though it was the most dominant factor for offshoring this might not have a direct impact on the overall cost performance (ibidem).

Further the result of the relationship between performance and logistic cost showed that there was a positive relation between these two there for the this showed an economical positive effect (ibidem).

## **Backshoring decision**

Even though companies take their production back they might have moved it to Asia to be close to the customers or to gain an in on the market. Therefore, they will not move all their activities back to the country of origin because they do not want to lose the in they gained on the market. Therefore, a lot of companies will take back some activities but still stay in the market to be close to the customer (The Economist, 2013).

## Conclusion of literature review

In this chapter, the knowledge gained throughout the literature review will be explained from the author's point of view where each topic from the literature will be explained. This is done to give a better understanding of how the authors see the findings presented in the relevant literature and which important conclusions can be drawn from the it.

The first topic from the literature review was reasons for offshoring. The authors see this topic as an important factor for why companies did the initial decision to either offshore or outsource their production activities. The authors found that the main reason for offshoring was to be more competitive or to find new competitive advantages from lowering their cost of production or other cost reducing activities. Further the offshoring is not necessary all parts of the company but only the parts of the value chain where you can either create more value or lower cost by having the production done elsewhere.

Another big reason for offshoring is to be close to the end customers. More and more customers are putting greater focus on having production done close to their own activities. Therefore, companies do the offshoring activities to add value and strengthen their relationship with their customers. Further some production companies decided to move with their customers when they decided to offshore their activities.

Getting access to new markets is also a big factor when deciding to offshore activities. Moving production to a new market is adding the opportunity to do business within the market. This also make the location decision very important since companies will have to choose a market where they have greater chances of entering it.

The next topic presented in the literature review was reasons for backshoring and important factors for this decision. The authors saw that one of the main factors for taking production back or relocating was seen as a correction of previous actions. This means that the initial decision to offshore activities was not beneficial enough or some unforeseen cost impacted the offshored activities enough to make it a bad business.

Another reason that influenced companies to backshore are changes in either internal or external environment. Here the biggest factor are changes to the labor market. A lot of the offshored activities are done because of cheap labor cost in the far east or eastern Europe, but a lot of these countries have seen big changes in the labor markets which made the salaries rise because of the better living standards which make the products more expensive.

Another factor can be described as lead time. Having to transport goods from one end of the world to the other is a long process which makes the lead time long for products. Further customers are starting to focus more on “on time” delivery and are willing to pay more for a flexible delivery.

Quality and the ability to keep track of this are also a reason for taking production back. Since production is made far away from the headquarters and R&D departments companies are not able to insure the quality of the products. Further changes in production is a longer process which could be done quickly with production closer to R&D.

Another common topic found in the literature is the decision-making process and who was involved in this process. The authors saw that most decisions were made based on a group decision in the companies and were results of an open discussion with different managers. It is important to bring in different aspects since companies often made a big investment in offshoring and the decision to backshore therefore needs to make economic sense.

This also aligns with one of the most common analysis made prior to backshoring and offshoring which is cost analysis. Cost analysis are helping companies evaluate if an investment is economically beneficial. Further location analysis plays a big role. After offshoring the decision to relocate production has change to focus on right shoring and moving production to the location where most benefits can be gained and not just where it is cheapest.

The last topic from the literature review was the impact of backshoring on companies’ performance. The main point here is that companies were not able to gain all the economic factors lost on other markets from the domestic markets. This means that most companies will have to serve a market after moving production out of the country. This also aligns great with companies making the initial offshoring to gain access to a new market.

## Theoretical frameworks from the literature

To get a better understanding of the theories used in the literature in order to explore this topic, this chapter will explain each theory and how these have an impact on the research topic.

### De-internationalization theory

To get a better theoretical understanding on De-internationalization this chapter will present a framework for de-internationalization. This is done since the thesis wants to research the de-internationalization process and the impact on the company and how this relates to backshoring.

The theory of de-internationalization is a topic discussed by many different scholars. This thesis has chosen to focus on the framework presented by Ele Reiljan in his paper “DE-INTERNATIONALIZATION MOTIVES: A THEORETICAL FRAMEWORK” (2004). This framework is used because it includes multiple aspects of de-internationalization and includes the aspect of changing strategy during de-internationalization.

The framework starts out with explaining different motives for de-internationalization and what factors make this motive relevant. The first motive for de-internationalization is “*Lack of international experience*” (ibidem). This motive can be based around wrong market decision, to rapid or early expansion or just the lack of knowledge about entering a new market (ibidem).

The second motive is “*Change in strategy*”. Here the decision to focus on other markets or core activities are the main factors, but also the forecast to growth in other markets and new management goals are factors for de-internationalizing (ibidem).

The last big motive is “*Poor performance and increased cost*”. This is of cause related to an increase in either production or transportation cost which makes the activities less attractive. This could also relate to general bad performance or the fact that competition is simply too high (ibidem).

Finally, the motives called “*others*” includes external shocks such as governmental inventions which makes the activities less attractive.

Based on the different motive and factors the framework explains how different factors and motives influence the decision to de-internationalize. The framework is presented in the following figure.

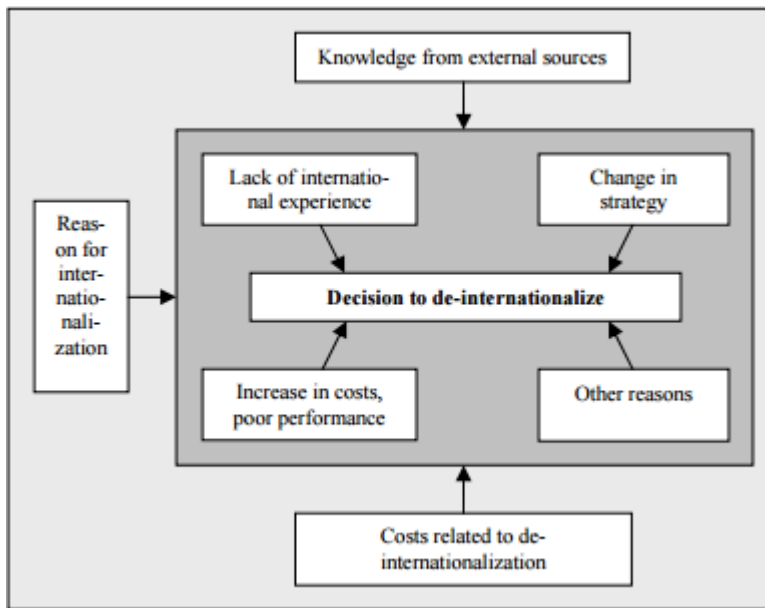


Figure 2, De-internationalization theory, Ele Reiljan, 2004

The framework divides the motives into three main categories, knowledge from external sources, reason for internationalization and cost related to de-internationalization. As seen in the figure different motives can have the same effect but can also be completely unrelated to each other. Each motive can have different effects. The effects are described as lack of international experience, change in strategy, increase in cost, poor performance and other reasons. Each effect can lead to the decision to de-internationalize (Reiljan, 2004).

Furthermore, Reiljan adds another model to the framework to explain the motives based on which stage of internationalization the company are in.

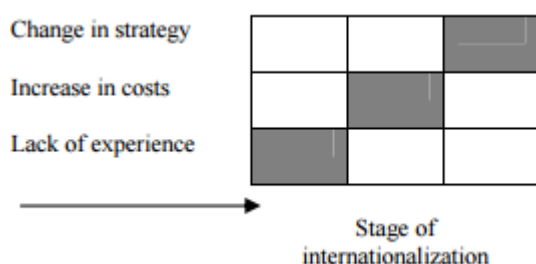


Figure 3, De-internationalization theory part 2, Reiljan, 2004

As seen in the figure above companies that just started international activities will often fail and de-internationalize based on the lack of experience (ibidem).

Companies with some international experience will have a much more selective and well thought process of which countries to enter, therefore experience is not a common factor here. For these companies, the increase in costs are often what makes them to fail and force them to de-internationalize (ibidem).

Finally, companies with a high degree of internationalization will tend to not de-internationalize because of change in cost since they can easily use transfer pricing and other tools to decrease the effect of a change in the cost (ibidem). Companies in the final stage of internationalization will often de-internationalize based on a change in their strategy such as focusing more on core activities or core markets which makes this market irrelevant to operate on.

These motives are of course not locked to the stage of internationalization but are used as a good indicator for which issues companies in the different stages of the model will face.

## Escalation of commitment

Since this thesis focus on de-internationalizing and relocation of production it is also relevant to look at how companies de-internationalize and how big part of their activities is involved in the process. To get a better understanding of the process and time frame for de-internationalizing activities, this chapter will explain the term escalation of commitment.

Escalation of commitment is defined by Sleesman et al. (2012) as:

*“the proclivity for decision makers to maintain commitment to losing courses of action, even in the face of quite negative news” (Sleesman et al. 2012)*

This refers to manager’s decision to either pull the plug on activities or keep them running even though the activities have no or negative turnover. As explained by straw and Ross Companies will also be put in the decision to add extra found to a project to try and save it or shut it down and take the loss in form of sunken cost (Straw and Ross, 1987) Escalation of commitment can be seen as a down going line with the activity turn over and time:

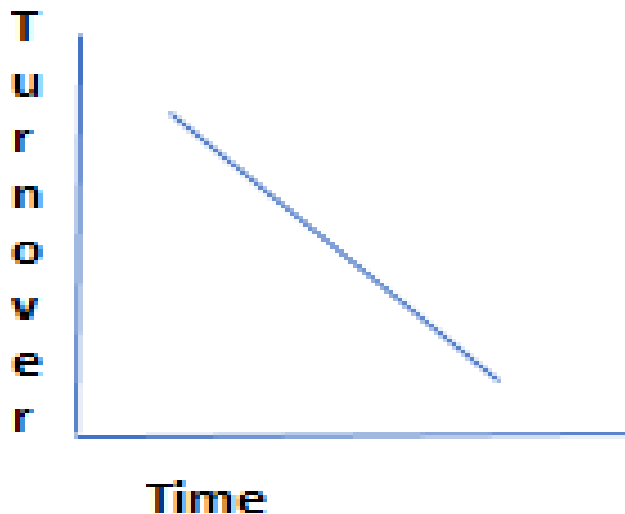


Figure 4, Escalation of commitment, Own creation

Here the relations between time and turnover are explained as the more time passes the lower the turnover will be.



As previously explained an activity can see renewed turnover if a new investment is put in the activities (ibidem). This can be seen in the following figure:

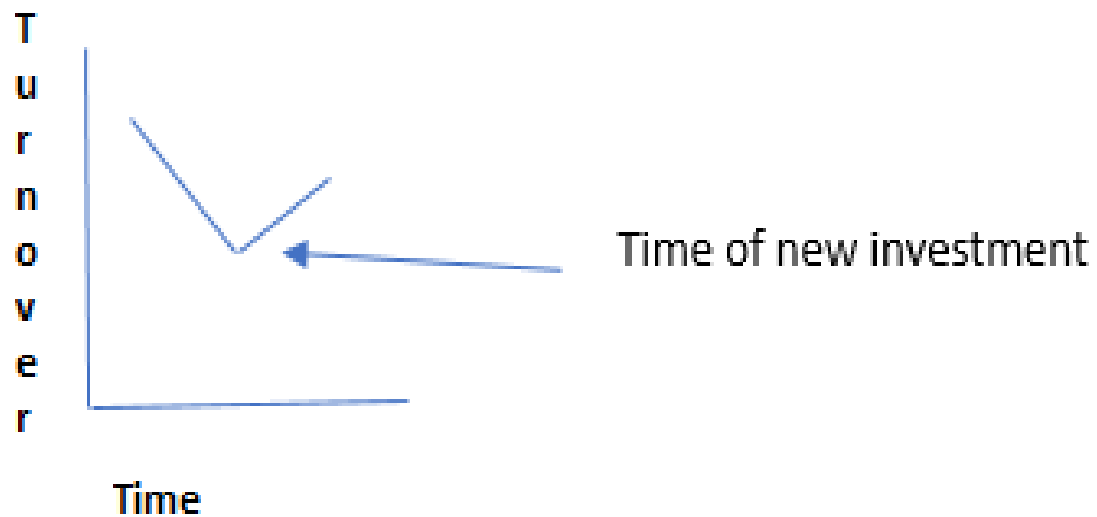


Figure 5, Escalation of commitment part 2, Own creation

As seen in the figure the new investment can create new revenue. This of cause is not always the case and the new investment can lead to an even bigger amount of sunken cost (ibidem). Escalation of commitment is included in this thesis because it helps to get a better understanding of managers decision and companies decision to either continue a project or shut it down and deal with the sunken cost. Further it will be used in the analyzes of the interviews to understand the process.

## **Robinson theory on decision making**

In order to better understand how the decisions about taking production back are made in the company's, Robinson theory on decision making is introduced.

This theory emphasizes the importance of such a decision in overall strategy of the company and focuses mainly on persons involved.

Robinson theory from 1967 claims that when company decides to make such a significant and complex decision about backshoring, it is usually not made by one person. In most of the cases there are more people involved. In order to ensure that the decision is in line with overall strategy of the firm, people from different department as well as different backgrounds are involved (Bals et.al, 2015).

## Transaction cost theory

As mentioned in the previous chapters costs play an important role in the company's strategic decision. When a company is about to decide whether to outsource some of their activities to other company or to perform them internally by themselves theory of transaction costs can be applied (Williamson, 1985). Therefore, this theory can be seen as a highly relevant one for the research topic of this thesis since it can help to get better understanding of the reasons for the decision to de-internalize and move activities that were previously offshored back to the country of origin.

Transaction cost theory was firstly introduced by Ronald Coase in his paper *The Nature of the Firm* in 1937 where he elaborated mainly on the different costs of market transaction. Coase argue that the decisions are made based on whichever solution minimize the total costs that arise from that transaction (Coase, 1937).

When the company considers outsourcing some of their activities, there are inevitable additional costs that have to be taken into consideration. In the case that these transaction costs are higher than the costs associated with performing these activities in-house, offshoring might not be considered as advantageous in terms of costs. After offshoring some of the company's activities, several additional costs that were not previously taken into account, might appear. With a bigger special and mental distance between these two locations and with a higher uncertainty in the economic environment additional transaction costs tend to rise (Williamson, 1985). Therefore, transaction costs can be seen as one of the most significant factor when it comes to this decision.

According to Dahlman transaction costs can be divided into three main categories. Firstly, the costs that are associated with searching for the goods and acquiring information about the market itself (Search and information costs). Secondly, costs arising from making the contractual agreement about the transaction (Bargaining costs). And thirdly, costs that emerge while making sure that everything goes in line with the previous contract or in other case, costs of taking the steps in order to take legal action (Policing and enforcement costs) (Dahlman, Carl, 1979).

This theory was introduced in 1930s and since then the nature of the firms and the economy itself has rapidly changed. The companies have to operate in totally different conditions. Therefore, some limitations while applying this theory nowadays need to be mentioned. Instead of only physical transactions of goods, electronic transaction focusing on services became of great importance. Companies have to shift the focus also on social needs, highly developed skills and other transaction benefits. This theory is also criticized for its one-sided approach of humans and its focus only on costs perspective of

transaction itself. Despite these disadvantages transaction cost theory is considered as a highly influential theory that offers deep explanation of company's behavior (Boudreau et.al., 2007)

# Data analysis

The purpose of this chapter is to analyse the collection of primary and secondary data. Data from interviews and other different sources will be compared with the data found throughout the literature review.

In order to do the analysis, this chapter will be divided into subchapters according to several themes. These themes will be based on the research questions and also on several common topics that have emerged during the interviews.

Firstly, the topic of “What is being backshored” will be focused on. Afterwards the “Reasons for offshoring” and “Reasons for backshoring” will be examined. This will be further elaborated on in separate chapters aimed on the topic of external changes influencing the relocation of activities. These topics will be followed by analyzing the data regarding the decision-making process trying to answer the question “How are backshoring decisions made”. The topic of company’s commitment to the foreign market will follow. Another topic that will be described and analyzed within the chapter is the topic of Bandwagon theory, that has emerged as a common topic during the interviews. Last but not least the topic of “Learning process” will be examined in order to be able to answer the question about how companies insure that the learning is not lost.

In order to analyse the data from the interviews, Ad Hoc approach described by Kvale was used. This form of interview analysis can be described as a mix of various types of approaches and methods in order to analyse the meaning of the interviews. During Ad Hoc analysis, no standard method is used, instead there is a free combination of techniques (Kvale, 1996).

To find out connections and similar patterns in the interviews, firstly interviews were read through and based on the research questions and other relevant phenomenon that appeared in the data collection, statements indicating similar or unlike arguments about the same topic were put together. In order to generate the meaning of the interviews, other secondary data and various approaches will be used to support or deny the statements (Kvale, 1996).

## **What is being backshored**

In the first part of the analysis the primary and secondary data will be look into in order to answer the question regarding to the topic of what part of the value chain companies decide to firstly offshore and afterward several reasons to take it back.

### **Suitable activities for backshoring**

The paper written by Madsen and Sklepnikov argues that the activities that are chosen to be performed in another location or by another company can be very different based on the company. Some activities are more like to be offshored because they are more suitable for this process than others. Madsen and Sklepnikov claim that these activities can be usually characterized as activities composed of routine and more simple processes. On the other hand, processes and activities that are very difficult to codified, to transfer and that are demanding high level of control are most likely being kept in house (Madsen & Sklepnikov, 2011).

As an example of activities suitable for relocating, Madsen and Sklepnikov referred to production activities (ibidem). This statement can relate also to the examples given by Bendix Lehman and examples of companies with which the interviews were conducted. In all the cases, the activities that were relocated to another location were part of the production lines. The reasons for these decisions will be described below in the part describing the reasons for backshoring (Lehman, 2017).

In the case of Hagens Springs Group, the production was relocated to Poland and several years after moved back to Denmark. The production that was offshore was according to Henrik only a small part of the total production. Therefore, it did not have a big influence on an overall performance of the company (Hagens, 2017 a)

## **Accounting and administrative work**

When asking Henrik from Hagens Springs Group whether they have considered to offshore other activities besides the production such as an accounting to Poland or to other Eastern European countries, the answer was no. But he also noted that this might change in the future. They are open for change and they can also see that other companies have already offshored these activities. Therefore, in order to stay competitive from the cost point of view, offshoring other activities to low wages countries might be a scenario for Hagens Spring in the future (Hagens, 2017 a).

During the follow up interview he also mentioned this trend again by saying that even if you are able to produce in Denmark at price that is competitive, administration costs might be too high. That is the reason why companies considering moving these activities somewhere where the costs are in general lower. According to his opinion this trend will probably continue in the future since accounting and other administrative processes can be easily done somewhere else (Hagens, 2017 b). This statement corresponds with argument from paper written by Madsen and Sklepnirov about how more simple processes are more likely to be offshored (Madsen and Sklepnikov, 2011)

Another Danish company can be mentioned as an example for this trend. Dansk Supermarked one of the country's biggest detail sales companies recently moved there bookkeeping to Poland. This was done because the process of making bookkeeping was performed cheaper in Poland and it did not create any extra value to have these activities near their headquarters (Tv2.dk, 2013). This correlates with what Madsen and Sklepnirov found about more simple processes being offshored.

## **Assembly activities**

With the reaction on the current changes in the world's economy Henrik also talked about increasing number of companies that will offshore the assembly part of their value chain. He is expecting that in the future for instance more Danish companies will have assembly lines in USA. So, they will just send the components and the product will be assembly there. This is mainly due to the increasing demand for local production (Hagens, 2017 a).

Relocating the assembly part of production was also the case of Man Diesel & Turbo. In this example the company move the assembly lines to India, where the assembly halls were built.

Three years ago, the company was considering whether to move also the production from Frederikshavn to the suppliers in China but after the analysis were made and the company decided to keep the production in house (Christensen, 2017).

As mentioned by Rasmus, the main reason for not outsourcing the production was to keep the flexibility and avoid a huge cost down on outsourcing. Related to the Henrik statement about local production, Rasmus also emphasized the importance of having own production in China. He argues that if you want to be successful with your strategy on Chinese market, you have to be there and not just have a Chinese supplier and stay in Europe. According to his world, that does not work (ibidem).



## Reasons to offshore

Why do companies relocate some of their activities abroad by either by having their own production or to be performed by other companies. This question will be subject of analysis in this chapter. The reasons for offshoring process will be explored based on primary and secondary data.

### Cost perspective

As described throughout the literature one of the main reason why companies offshore some of their activities can be explain as an attempt to lower their operational and production costs and to improve the overall effectiveness of the company (Ashby, 2016).

This is in agreement with the statement from Bendix Lehman who talked about how low wages countries attract companies because of the possibility of the cheap prices of the production. So, getting the low cost on the product is the initial incentive for the company to move some activities to the countries such as for instance China (Lehman, 2017).

During the interview with Ib Gosmer, the factor of cheaper production was also described. He explained the fact that companies are looking for more advantageous solution by offshoring some of their activities abroad because they are forced to purchase cheaper products and there is also a significant press on earnings in order to stay competitive. So, looking from the purchase department point of view, moving the production to low wages countries such as Far East can bring a big advantage in terms of cost for the company (Gosmer, 2017).

## Offshoring as a market entry strategy

Another reason for offshoring can be seen as market entry strategy. Moving the production in order to get access to the market and fulfill the requirement of local production was emphasized in the interview with Henrik from Hagens spring group. He was talking about preferences of Asian customers to have products manufacture in Asia. Therefore, it can have a significant impact on the decision where the production should be based. So even though for many companies the low level of costs in Asia might be the main reason for investment to Asian market, in the case of Hagens Spring, getting access to the market and have a local production was the main motive for investment to China (Hagens, 2017 a).

*“We did not go to China pro produce low costs and then sell it in Europe because the distance is too far. We invested in China to be local on the market. “(Hagens, 2017 a)*

He also noted that the company is open for offshoring other parts of the value chain other than production in the future. Henrik emphasized the importance to listening the customers and also trying to find way how to stay competitive from the cost point of view because if the company insists on keeping all the activities in for instance Denmark then some customers might not be willing to pay for the extra costs.

He also mentioned that it is important to keep pace with other companies that are also offshoring other activities such as accounting to low wage countries (Hagens, 2017 a). This can be related to the Bandwagon theory that will be explained later.

## **Following the customer**

During the follow up interview Henrik, topic of moving the production abroad based on where the customers are being approached. He pointed out the importance of following the customer in order to meet the market (Hagens, 2017 b).

*“Our goal is to meet the market, so if the customer wants us to be in China we will go to China and then we must find a way to earn money here. So, we need to go to China no matter what then we will need to make a scenario where we can make money.” (Hagens, 2017 b)*

To support this argument another example of a Danish company can be mentioned. Moving the production based on where the customers are can be also seen in the example of company Niebuhr Gears A/S. Niebuhr Gears is a manufacturer of gear wheels and transmission elements for the machine industry founded in 1972. One of the biggest customer of Niebuhr is Vestas, global energy company to which Niebuhr has delivered since 1979. In 2009 the company established its manufacturing in China. This strategic move was basically based on the reason to follow and support Vestas business in China (Niebuhr gears A/S, 2017).

Both topics of following the customers and lowering the costs as a reason for offshoring were also discussed during the interview with Rasmus from Man Diesel & Turbo. The reason behind the decision about changing the assembly location was that moving it to low cost country brought the benefit of cheaper production. And since the company put emphasis on the price of their product moving assembly to India was a strategic move. Because as Rasmus mentioned it would be very difficult for the company to earn money if the company would keep the assembly in Denmark (Christensen, 2017).

## **Requirement of local production**

Rasmus talked about changes in Asian market and the trend of demanding the local production which can be considered as a significant reason for moving the production to this market. He described the trend in Japan very similar to the one China emphasized by Henrik Hagens. Rasmus pointed out the increasing protectionism of the local market from the Japanese people. He said that it is very difficult for European companies to do business there therefore if the company Man Diesel & Turbo should consider offshoring of the production or of assembly again somewhere at some point in the future, company would choose the Asian market (Christensen, 2017).

## Reasons to backshoring

The previous part of the analysis was focused on the different activities that are being offshored and after that several different reasons for taking it back. This chapter will analyze several motives for backshoring that emerged from literature review and the collection of secondary and primary data. A deeper understanding of why companies decide to take some of the activities back is an important part of the understanding the whole backshoring process therefore the purpose of this chapter will be to analyse the interview by looking closely at the incentives that led the companies to this decision.

Taking some of the activities back can be perceived either as a decision on operative level that aims to fix previous offshoring actions that did not fulfil the expectations or it can be seen as a decision arising from strategic incentives of the company (Bals et.al, 2016 a).

According to Dauth et.al (2015) reasons can be both associated with the company itself or with the external environment the company is operating in. Therefore, when it comes to drivers for backshoring one can distinguish between two main groups, firm specific and market specific incentives (Dauth et. al, 2015).

### Quality issue

One of the significant firm specific reason to backshore that appeared in literature (Heikkila et.al 2016, Ashby 2016, Gylling et.al, 2015) is quality issue. Insufficient quality of the product after company off-shore some of their activities can result in unfavorable overall performance of the company, in additional costs and in loss of customers (Heikkila et.al., 2016).

To this statement Rasmus Christensen from Man Diesel mentioned during the interview that a decrease of quality of their products caused by moving the production to China would result in huge increase in additional costs. This is mainly due to the fact that it takes another five months to manufacture a new product and ship it back to Europe to do the control test. So, if the problem with the quality is not discovered in time and new product has to be manufacture, the time spent by transporting on the sea is lost which is very costly for the company (Christensen, 2017).

Quality issue has also appeared during the other interviews. Bendix Lehman confirmed during the interview that ensuring processes that can improve quality of the production and maintaining them is typical and one of the most common issue for the companies when they approach him (Lehman, 2017).

Companies demanding higher quality are also the customers of NECAS. Almost 98 percent preferred to have NECAS as suppliers to the suppliers from Far East to ensure higher quality and delivery on time. The fact that NECAS has many certificates assuring high quality and also use high quality method during the manufacturing process represent substantial reasons for companies to switch their production to NECAS (Gosmer, 2017).

## **Relationship with suppliers**

Besides reasons of high quality and delivery on time, Ib also related to the issue that was mentioned in paper written by Ashby (2016). Ashby based on the case study points out the importance and benefits of having close and strong relationship with supplier. Therefore, he argues that choosing European supplier can bring many advantages resulting in better control and performance of the company (Ashby, 2016). During the interview with Ib Gosmer he touched this topic by explaining that close relationship with their customer and good communications are crucial for NECAS and companies value this close collaboration. Ib mentioned also the importance of having close collaboration with R&D especially during when the new product is introduced or when the big changes of the products are made. It can not only save time but it can also significantly affect the final costs (Gosmer, 2017).

*“It’s more strategic collaboration than just a simple supplier- customer relationship It is a partnership that we have with our customer” (Gosmer, 2017)*

Reasons for the company Hagens Springs Group to move the production from Poland back to Denmark also fall into the category of firm specific reasons. As mentioned during the interview with Henrik Hagens, the incentive to backshore the production was a new investment into an automatic line which made the production in Denmark more suitable. In this case the biggest advantage of this move and so the reason was not only having lower costs but also, again, having the production closer to the R&D that was located in Denmark (Hagens, 2017 a).

## **Loss of flexibility**

Another view on reasons for taking the activities back to the original location is that after offshoring some of the production far from the other part of the value chain of the company, companies might encounter disadvantages that force them to rethink the strategy. One of the negative aspect of this move was described by Bendix Lehman based on his own experiences with the companies as a lack of flexibility. By having the production far away from the original location companies can come across the

difficulty with being forced to buy big numbers of products that can result in many products stocks. Therefore, companies are not flexible when it comes to fast changes in productions which can lead in competitive disadvantages and weakening the position on the market (Lehman, 2017).

## **Cost perspective**

Finally, the topic of costs need to be analyzed more in depth in this chapter. Economic factors were described by Ashby as one of the most significant group of reasons to offshore the production (Ashby, 2016). Low wages countries offer the possibility to lower operational costs and so achieve better effectiveness (Madsen & Sklepnikova, 2011). But since both external and internal condition might change, making a decision based only on the economic factors might result in rethinking the strategy and after that taking the production back.

When asking Bendix Lehman about the main issue that companies are demanding the help with, the answer was that it is typically to reduce costs in the production. He also emphasized the importance of governmental funding that can help cover some of the costs that company have and so gain a competitive advantage. Related to this issue he emphasizes the example of Poland where the low wages together with governmental founding attract many companies (Lehman, 2017).

Economic factors were also mentioned as a reason for companies to take the production back during the interview with Ib Gosmer. He pointed out the topic of miscalculation that were made during the decision to offshore the production. Despite the fact he can see a significant progress in how the companies make these decision, in many cases companies still overlook other important factors besides low costs of material and wages, that are associated with that decision. These hidden costs are afterward reasons why company rethink their strategy and move the production back (Gosmer, 2017).

## **Labor market condition**

Another reason why Danish companies decide to move the production back to Denmark instead of other countries could be the Danish flexicurity model. The Danish flexicurity model is a combination of labor market flexibility and security (Ministry of employment, 2017).

By giving the flexibility for companies to hire and fire without bigger problems makes the decision to hire when more manpower is needed easier since they can be laid off when the need for the extra workers fall without any bigger problems (ibidem). Further the model makes the security for workers better both for those with a job but also for those without a job. This makes workers more flexible and make the whole job market more flexible (ibidem).

From the paper “flexicurity and relocating manufacturing” which was presented in the literature review. The researchers wanted to know how the Danish model influenced company’s decision to take production back to Denmark based on both interviews and questionnaires (Stentoft et al., 2016). As mentioned in the literature review the research gave different results since the interviews made it clear that the flexibility in the labor market did influence the decision. But the questionnaires only somewhat confirmed the hypothesis of the research (ibidem).

From the interviews made in this thesis the topic of flexicurity and the Danish labor market also came up. When talking about flexicurity the topic of hiring and firing Danish employees to get the opportunity to cut cost informs of salaries in case of production influenced by seasons or other factor which lower the need for production. In the first interview with Bendix Lehman he mentioned the flexicurity as one of the reasons that Denmark were attractive for production (Lehman, 2017). He also put emphasis on the fact that both employer and employee is gaining from this model and that many other countries would love to copy this model but simply cannot because of the complexity of the model. Here Bendix also talked about the easy to hire easy to fire principle as a factor for companies with changing needs and why they could see benefits of choosing Denmark (Ibidem).

Further Bendix talked about the Danish education system and explained that even lower educated people will have some basic knowledge and understanding about what they are doing and you will therefore get a more proactive worker in Denmark than many other places in the world which also makes the Danish workers more attractive. Here he also points out that blue collar people in Denmark are some of the best educated people in the world and this also is a very big advantage (Ibidem).

In the interview with Henrik Hagens he also talked about the Danish labor market. Here Henrik stated that the flexicurity model could be a reason for companies choosing Denmark but also that the higher wages could keep some companies away from Denmark. Hagens spring group decided to take the production back from Poland because an automation made it possible to cut down on the amount of work force needed and the general cost for producing goods (Hagens, 2017 a). Henrik mentioned the Danish model as an advantage for companies who needed flexibility in their production because of the easy hiring and firing process which Bendix Lehman also mentioned.

Henrik also talked about the downsides of the Danish labor market and as previously mentioned the high cost of labor. Here Henrik mentioned that some companies might decide to take the production to other European countries simply because of the high wages. This would often be companies who does not need a big amount of flexibility in the number of workers (Ibidem). Here Henrik mentions

Germany and Poland as countries with lower wages who are able to maintain a good quality. But here the process of firing employers is much harder and more expensive so these locations is better suited for companies with constant need for production (ibidem).

*“It all depends on the company and on the size. Some companies think it’s better to go to Denmark because you can hire and fire. But I also hear a lot of companies talking about the cost of wages, (Hagens 2017 a)”*

In this interview, Henrik talked about the skill of Danish as Bendix did and came to the same conclusion, that Danish workers were delivering what was expected and were proactive in their work. Henrik did mention that they at the time had no trouble finding the right personal with the special knowledge for their production but mentioned that this could be a problem in the future because the low amount of applications for the education. To this Henrik replied that they might have to move production in the future based on where they actually can find workers who fulfill the requirements they have (ibidem).

In the interview with Rasmus he also talked about the Danish labor market and mentioned that the when the decision was made to offshore the activities it was easier to start with Denmark because of the flexicurity model (Christensen, 2017). Here he mentioned that the German part of the company had a lot of troubles laying people off because the labor market laws forces them to keep their employees for up to two years after firing them (Ibidem).

This chapter has analyzed the most significant reasons for companies to take the production back to the country of origin. The table below will summarize these incentives that were found by looking at the data from conducted interviews.

#### **Reasons for backshoring**

<b>Firm specific</b>	<b>Market specific</b>
Quality issue	Labor market condition
Lead times	Governmental incentives
Relationship with suppliers	
New investments	
Lack of flexibility	
Cost miscalculation	

Table 5, Reasons for backshoring, Own creation



## **Changes in external environment**

Following the chapters describing the reasons for both offshoring and backshoring, this chapter will focus on the changes in external environment and their impact on company's decision to relocate their activities. The main reason for having this topic as a part of the data analysis is that the impact of external environment was described throughout academic literature and also appeared to be a common topic of the interviews.

Many researchers focused their research on this topic. According to Dauth et.al, market related factors that have a significant impact on the decision to take the activities back to home country include adverse environmental conditions, changing competitive conditions, risk/uncertainty in the host country, political and exchange rate instability and firms foreignness and national differences (Dauth et.al, 2015).

Bendix Lehman mentioned during the interview that companies reacting on changes in economy by rethinking their strategies. He mentioned as an example the financial crisis in 2008. He argues that before this the trend to offshore the production was significantly higher than after the crisis. He explains that the disadvantages resulting from moving the activities abroad impacted the cost of the company which especially during the financial crises caused a lot of trouble. Therefore, as a result of the crisis the years after companies changed the strategy to focusing more in their own production (Lehman, 2017).

The topic of financial crisis also appeared in the research made by Kinkel. In his paper, the influence of global economic crises on activities relocation was described. He concluded the article with the statement that is in agreement with the argument from Bendix. Kinkel also argue that economic crisis declines the trend of offshoring the activities (Kinkle, 2012).

## **Political factors**

Changes in market based on political decisions were mentioned during the interview with Henrik Hagens. He talked about uncertainty for the companies when it comes to American market. From his point of view in the close future company will have to rethink the strategy to supply American market by having the assembly halls there due to the requirement of having the local production (Hagens, 2017 a).

He also described changes in Mexican market. He stated that Mexico was before considered as an

attractive location to invest in. But current changes and pressure situation in Mexican market has rapidly changes and companies that has invested in this market before might face many issues. Regarding the uncertainty about the future, he highlighted the importance to following their own strategy (ibidem).

*“On the other hand we cannot change our business based on what is happening in the world so we need to follow our strategy and be flexible if we need to change a little. “(Hagens, 2017 a)*

In contrast to this, he argues that there is a big difference when it comes to Chinese market in terms of certainty for the companies. Even though he can see many changes on Chinese market influencing performance of the company, the company is already aware of the changes in regulations which makes it easier to adapt to them. That is something very positive for the company's strategy from his point of view (ibidem).

Not only in USA but also in Asia a trend of governmental incentives to have local production can be seen mainly because of the reason to ensure their own labor. That is something that companies have to be aware of since it influences the way perform on the market. During the follow up interview with Henrik he mentioned that companies are forced to produce most of the parts right there. So, based on his opinion he sees these changes influencing the company's decision. (Hagens, 2017 b).

This also relates to the statement from Rasmus from Man Diesel & Turbo who also described the trend of local production in Asia. He talks about Japan where the requirement of having local production is the result of protecting the market. And since these markets brings many opportunities when it comes to shipyard industry, company have to consider entering this market only by having their own production there. He also noted that this trend appeared during the last year in South America, more specifically in Brazil so it is more difficult to do business there (Christensen, 2017).

From his point of view this trend will continues in the future. He believes that the governments will try to protect their markets by setting up the import taxes as in case of China. Therefore, having local production is more beneficial. He also mentions that in the future this might not be only issue related to Asian market but it will also be more seen in Europe as well (ibidem).

*“So, there is an advantage of having local production in China because you can get rid of tax. And you can be a part of the local project. But then you have to do the same in Brazil, India, Korea but maybe that is the future. They are protecting their own market and we are doing the same in Europe.” (Christensen, 2017)*

As mentioned in the chapter about reasons for offshoring companies are relocating their activities to low wages countries with aim lowering their production and other costs. But some of those markets also experience several changes. As mentioned by Economist, China was a location that attracted companies mainly because of the lower labor cost. But during the last decades American companies took their activities back to America because of the fact that the Chinese labor costs were significantly higher (Economist, 2013).

Bendix Lehman reacted to this by saying that based on these changes companies rethinking their strategies. So even though the main reason was to go to China to get cheap production that will be afterward ship and sell back in Europe, companies decide to use the production from China in order to serve the Chinese market (Lehman, 2017).

## Decision making process

How are the decisions about taking the production back made? This is a topic that is relatively unexplored in the literature so far. Therefore, this chapter will look closely at the data collected through interviewing the companies from the decision-making point of view. The focus of this part of analysis will be to explore the themes of who was involved in the decision making, what analysis the companies made before the decision and how has this process develop during the last decades.

### Who is involved in the decision-making process?

As mentioned by Bals et.al, the involved in the process is dependent on the importance of the decision for the company. She argues that if the backshoring has a significant impact on an overall company performance, it is mainly the top management level who is in charge of this decision (Bals et.al., 2016 a).

Bendix Lehman related to this statement by talking about the complexity of the decision. From his experience, he stated that if the it is the complete production that is being backshored, it is usually the management task to take the decision. If the decision is about taking the complete manufacturing back then the decision is made on director level in the company. He also argued that most of these decisions are made on the lower level in the company. If there are issues with the product such as not being able to adapt changes in short period of time or quality issues, it is normally decision made caused by pressure from R&D or service department (Lehman, 2017).

When talking about this topic with Ib Gosmer, he put emphasis on lately development he could see in this issue. He could see that before these decisions to move the production were made by people who were in charge of purchases in the company with the main focus to lower cost. But nowadays the decision is considered to be more strategic oriented at top management level. So, it is broader and not only focused on purchases. This is also due to the fact that the companies are looking for not only suppliers but partners they can have closer and stronger relationships. Ib believes that this change is a result of experience of the companies and their need for better collaborations in order to be successful as a company (Gosmer, 2017).

When it comes to the customers of NECAS, their decision to change supplier from far East to supplier from Denmark is usually made on top management level of the company. The decision is made by close collaboration between each other and discussing details in close dialog. (ibidem).

During the third interview, making the decision to move activities from Poland back to Denmark was discussed with Henrik. The decision was made on a team level by making a business case. Afterward because of the size of the investment the board was involved.

In this team decision not only top management, but also people from purchase, production and technical managers were involved. Henring explained that the reason for involving all persons in this decision was to ensure the product quality and to meet all requirements. The decision was made gradually in several steps in order to precede any problems (Hagens, 2017 a).

This statement agrees with the Robinson theory that was introduced in the literature review. This theory claims that when it come to the decision of high level of importance and complexity, it is usually team decision. To ensure a successful process in all aspects the project team that is comprised of all different departments is in charge of this decision (Bals et.al, 2016 a).

A different approach could be seen during the interview with Man Diesel. When talking to Rasmus he described the decision-making processes in the company as very confidential and as decision where not so many people were involved in. When discussing the offshoring decision, he explained that only one board member had the lead on the decision. He also stated that it is usually the top management that has the right to make the final decision. He noted that not that many people in Frederikshavn knew about it. These facts caused confusion and many people were upset about it (Christensen, 2017). While talking about the decision to reopen the factory back in Denmark he also confirmed that the decision was made in Augsburg, in Germany, on the management level (Ibidem).

## What type of analysis do the companies make?

Moving to the topic of the analysis that were made prior to the decision, very similar conclusion came from all the interview.

Bendix Lehman related to this topic by pointing out the differences between various type of analysis made by different departments. For instance, if the biggest focus is on the quality, then the quality department make an analysis on the amount of cost necessary to ensure the quality and solve quality issue. Other case might be analysis on what are the costs of changing the products. As he mentioned some analysis are focused on calculating the time it takes to bring the product to the market and also analysis focused on sales figures. Nevertheless, he put emphasis on the fact that based on his experience cost analysis is usually given the biggest weight to. According to his opinion the companies should not be carried away only by the low costs while making the decision. There are many other aspects that need to be taken into consideration when making the final analysis. Because in the end benefits of having the activities closer can outweigh the cost price (Lehman, 2017)

*“If you are looking on a very specific cost of a product it could be that the product is more expensive if you produce it here locally but the benefits of having a better flow in the production line could mean that the cost price is less important” (Lehman, 2017)*

This statement corresponds with the argument written by Bals in her paper about making backshoring decision. Bals argues based on her research that companies are using rather narrow range of analysis when backshoring. The paper mentions that companies confront several issues after this process that we unexpected. Bals et.al believe that having wider range of analysis could help companies to lower the number of unexpected events. She points out analysis such as for instance strategy analysis, risk analysis or stakeholders analysis that are often underestimated by companies (Bals et.al., 2016 a).

Ib Gosmer from NECAS can see a lot of development in this issue. He believe that companies look more into other aspects than just focusing on low cost of products, wages, labor and transportation. Although from his point of view the problem is that it is rather difficult to calculate all costs and create a figure. Some aspect is difficult to put the price on (Gosmer, 2017).

However moving the production from Poland back to Denmark as in case of Hagens Springs Group was based only on cost analysis to calculate the costs saving resulting from this move. As Henrik argued it was mainly because other things were the same, no matter if the production is in Poland or in Denmark such as the same level of risk. The company also did the scenario planning to see which location is

better in terms of cost to ship the raw material. But in the final decision the scenario planning did not have a big impact. When it comes to stakeholders, the analysis was not made either. The analysis that the decision was based on was made before the stakeholders were involved. After the company made the decision, the investment case was developed and introduced to the stakeholders. So, in this case the stakeholders are first involved on the investment level (Hagens, 2017 a).

Making the decision based on developing a business case is also an example from interview with Rasmus. When deciding about shutting down the project the company carried out benchmarking analysis where the internal costs were compared by accounting department. Here Rasmus needed to say that these decisions are not based only on costs but other factors are included. He emphasized the importance of considering quality and flexibility. He also mentions that in comparing different suppliers trust plays a significant role (Christensen, 2017)

*“Lot of things are behind the final decision. In our situation, the soft facts are more important than actual costs” (Christensen, 2017)*

## Level of Commitment

In the analysis, the focus on commitment will be based around the theory, explained in the theory chapter from the literature review, which was escalation of commitment. The analysis will also focus on the general commitments made by the companies in the interviews and how they decided to deal with the issues they faced by making these commitments.

Looking at the theory chapter escalation of commitment was defined as committing to a negative investment even though it might keep on having negative effects (Sleesman et al. 2012, p. 541). The purpose of this chapter of the analyses is to investigate the interviews and analyze how level of commitment have influenced Danish manufacturing companies and whether escalation of commitment have influenced their activities on foreign markets. Further the analyses will look on secondary data and analyze this to compare it with the interviews.

## Adapting to market changes

One of the issues found from the first interview was, that companies were not able to adapt fast enough to changes in the environment. This led them to either fail in the course of action or having to invest more to turn this around (Lehman, 2017). Here Bendix used the example of the cellphone industry, where being able to push out new products and technology is everything and being behind a month or two can destroy your whole company. A great case relating to this and escalation of commitment comes from the secondary data, where the case of Nokia can be used to illustrate this.

Nokia was a well know Cellphone producer and was in 2007 earning more than 50 % of all profits made in the industry (James Surowiecki, 2013). Nokia decided to stick with their own operating system in the time of smartphones arrival where systems such as android and iPhone OS. Even though their brand was well known and the previous products were having great success their smartphone division kept failing and by 2011 they had an operating loss of 1.073 billion euros compared to 2007 where their profit was 7.985 billion euros (Lomas, 2012). The loss of profit kept coming even though they made new investments to try and save the division. This commitment ended with Nokia first partnering up with Microsoft and after another year with failure selling the whole division to Microsoft (Warren, 2016). Over the following years Microsoft lost around 8 billion dollars on this investment before deciding to sell it off as well (ibidem).



This is a great example of how a commitment to a new market can change a successful business around quick. Even with multiple new investments and partnerships it was still not able to survive in the new market conditions.

## **Process of shutting down**

From the third interview with Henrik Hagens, the process of shutting down their production in Poland was seen as a rather smooth process compared to many others from the literature and our other interviews. The only real issue Hagens Spring group faced was the level of sunk cost and the time it took to shut down the activities (Hagens, 2017 a).

The amount of sunken cost will always be an issue but depending on the type of production and so these can of cause be minimized (ibidem). In the interview, it was also described that the amount of sunken cost was taken into account and the decision to take production back was still made even though they were aware of these irreversible investments. Henrik describes it this way when asked to their sunken cost and irreversible investments:

*“Yes, we had a big investment. And it was also taken to the decision. A lot of them were lost we have to say but this was also part of the decision so everything was taken into the decision and the bottom line was about if Poland or Denmark” (Hagens, 2017 a)*

When we look at the other factor which was the time it took them to shut down the level of commitment gets more interesting. From the interview, we learned that Hagens Spring group shut down the production in Poland gradually to insure they did not do anything wrong and were still able to serve the market if the part in Denmark should fail (ibidem). The process was done this way to get through back shoring in the best possible way and not the fastest. Henrik did admit that the process was too slow and this could have been done way faster if they had the right knowledge and courage to exit the market faster (ibidem).

This relates to the escalation of commitment in the way, that Hagens Spring group stuck with the investment in Poland even though the goal was to shut down the production there and they were having to pay money to both Polish and Danish workers at the same time. This was also the first time Hagens Spring group shut down a major activity so their amount of experience was focused also a big factor (ibidem).

The answers from Henrik relates a lot to the information gained from the fourth interview with Rasmus Christensen from Man Diesel & Turbo. Here the focus was on shutting down their Danish production to move it to India. Here Rasmus explained that the process also went rather slow but mainly because of the knowledge sharing and Danish workers knowing their jobs would be lost when the process was over (Christensen, 2017). But Man Diesel& Turbo kept some of the production in Denmark while they started their production in India first as a gradually process with the end goal of closing. But a lot of their customers wanted to have engines produced outside of the far east, so the Danish department kept getting orders even though they were supposed to shut down (ibidem). Rasmus describe this like this when asked about the process and shutting down:

*“We were producing 120 engines and in 2010 we were down to 10 or 15 engines that were required to be produced in Europe. And then it was little bit up again so maybe it was 20, 25 engines (Christensen,2017)”*

Rasmus explained the initial process as taking 2 years to start up in India and lower the production in Denmark while keeping a lot of employees both places and having storage both places. Eventually the top management decided to shut down production in Denmark since they could simply not produce the same engine more than one place. The decision was therefore made even though the Danish part of the company was still selling engines and getting new orders (ibidem).

The process of shutting down therefor took more than 4 years because they decided to keep both production for a longer period of time. Opposite of Hagens spring group, Man diesel & Turbo had a lot of experience with shutting down operations and the amount of time was therefore not based on them lacking experience. But more based on them wanting to serve their customers’ needs/demands even though it went against the strategic decision of the company (ibidem).

Both companies were slower than expected to shut down the production than they initially expected but both had motives for it and did what at the time seemed like the best way to do it.

## Sticking with a decision

Finally, from the follow up interview with Henrik Hagens he elaborated on their Chinese activities and the market there in general. Here the topic of shutting down activities came up and when asked if he had knowledge about competitors shutting down because they were not successful he answered:

*“No, they are still there. Because this market is so big that they simply have to be there “(Hagens,2017 b)*

This was also his answer when asked to confirm if they stayed even though they were still not earning money in this market (Hagens,2017 b).

This highly relates to escalation of commitment. Even though Hagens Spring Group found success in China some of their competitors have not but are still, to Henrik's knowledge, active in the market simply because of the size and potential of the market.

When Asked about serving the market via export or moving more expensive parts to the country of origin he answered:

*“No because we are only in china because of the market so we must make the right products for the market. so, we must be there and we must produce there (Hagens,2017 b)”*

Which once again imply the importance of the market and being an active player on the market. The competitors who are not earning money will still be active in the market simply because they have to and because they cannot serve the market from their domestic production as they are able to do in Europe (ibidem).

## **Bandwagon effect**

The topic of Bandwagon came up for the analysis after all the interviews were conducted and the authors started to see a pattern in the answers. The topic is new to this thesis since none of the existing literature has talked directly about this effect. This chapter will first introduce the Bandwagon effect and the importance of it. After this the data from the interview will be analyzed to see how this matches up with the Bandwagon effect.

### **Bandwagon effect in general**

The Bandwagon effect is in its basics the effect of something gaining popularity based on the fact that others are starting to do this/buy this (Allentuck, 2000). The effect can therefore both be viable when talking about purchasing but also when talking about decision making. Dahlgaard et.al 2016 describes in there paper how Bandwagon effect has taking its impact on Danish politics. The paper explains how Danish voters base their decision based Bandwagon effects. The Bandwagon effects in this part relates to voters making their decision based on who is gaining popularity in pools and therefore they will vote what others are voting for (Dahlgaard et.al, 2016).

The decision making is what makes Bandwagon interesting for this thesis. Bandwagon is interesting to look on when talking about decision making because others decision can be influenced by what others are doing and therefore not solely on what they think is the optimal thing to do (ibidem).

Throughout the interviews conducted for this thesis, different topics were discussed to find reasons to offshore and under this which factor was relevant for the decision. This data will be analyzed to see how this relates to companies making their decision to offshore or backshore their activities based on what other companies in their environment are doing.

From the third interview with Rasmus Christensen he elaborated on their Chinese activities and how he thought the future would be for them. Here he mentioned, that both the Chinese and Brazilian market will see local production from Man Diesel & Turbo in 2018 (Christensen,2017). This would be done to insure local content and because of governmental initiatives. Here Rasmus also went more in depth with the discussion of a new Bandwagon effect happening. Because of the governmental initiatives Man Diesel & Turbo were thinking about taking in a Chinese partner to be able to stand against future initiatives from the Chinese government to protect the market. Rasmus explained that a lot of their competitors are already doing this even though they are unsure if they will even have the needs for this partner in the future (Ibidem).

The topic of Bandwagon was also discussed in the interviews with Henrik Hagens. Here Henrik mentioned that the entrance to the Chinese market happened because they had to be there because all of their competitors were there and this was where the market was seeing growth (Hagens, 2017 b). Henrik further elaborated that companies simply had to be a part of this move if they wanted to survive. Here he also said that to his knowledge none of the competitors went back on their investment on this market even if they were not performing as well as they hope. But because the market potential is so big they had to stay (ibidem).

Henrik also mentioned that a lot of the moves from competitors happened just around the time they started to move their production which also indicates the Bandwagon effect (Ibidem).

## **Administrative work**

Another topic which is based around the Bandwagon effect is outsourcing of administrative work. More and more companies are starting to outsource or offshore administrative work such as bookkeeping. As mentioned earlier a lot of Danish companies are starting do this such as Dansk supermarked, Flügger (Tv2, 2013) and Carlsberg (Business.dk, 2008).

In the paper by Business.dk the move from Carlsberg is mentioned as:

*“Carlsberg started to move bookkeeping in 2006 and is now following the trend which is seen in many other Danish companies such as Danfoss (Business.dk, 2008)”*

The statement confirms that this trend is growing and more and more companies are doing this. Through the interviews the topic of moving simpler and non-value creating activities also came up. In the follow-up interview with Henrik Hagens he mentioned that they are always open for new strategical moves, so if they see an economical advantage or a way to save cost they would be open to do this (Hagens, 2017 b). He further elaborated that he has seen the trend of moving accounting and bookkeeping to Poland but as of right now they are sticking with their Danish activities. But as stated they are always evaluating these activities and Henrik was open for this move in the future (Ibidem)

## **Going against the Bandwagon trend**

From the interview with Ib Gosmer where the advantages of having production in Denmark was discussed it was learned, that NECAS customers choose them because they were more a partner than a supplier (Gosmer, 2017). NECAS went against most of their competitors who went to the far east for production at a lower price but still managed to get great turnovers (ibidem). Both the interview and the article by Eilers supports the idea of a Bandwagon effect since both saw the tendency of moving to far east countries for lower production cost. The reasons behind moving the production is mentioned as lowering the cost and creating turnover in a hard-competitive environment but here NECAS managed to go against the odds and create a positive turnover by doing the opposite of their competitors (Ibidem).

The part of going against the Bandwagon and create success can also be seen from the case of Hewlett-Packard Canada who also addresses their success to the fact that they are flexible instead of cheap (Arellano, 2006). The paper also Compares American and Canadian companies and argues that Canadian companies have not been as swift to jump on the Bandwagon to outsource activities based on labor laws and political activities which discourage outsourcing activities (Ibidem).

## Learning process

From the literature review the authors found that one of the big gaps in the literature was about knowledge sharing both internally but also with other companies. As stated in the problem formulation this thesis wants to investigate this learning process and how companies can insure their learning will not be lost when moving production. The questions asked during the interviews therefore had focus on the learning both before and after they moved production but also how they stored or made sure the information was kept.

## Issues with knowledge sharing

In the first interview with Bendix Lehman the topic of knowledge sharing came up. Bendix was quick to answer that this is a common issue and that he sees this problem a lot when he is out helping companies. He further states that this is not only an issue when it comes to moving production but more a general issue about sharing knowledge in companies (Lehman, 2017).

*“There are not that many companies who are good at doing this. I don’t think this is only an issue here but generally an issue about how companies share information.” (Lehman, 2017)*

Companies often come in the unfortunate situation that they have to go through the same operation more than once but then do the same mistakes all over again because they simply did not insure the learning from the first process (Ibidem).

Here Bendix add that some companies do not go back and ask the people involved in the old process even though they are still in the company and have knowledge which could be useful for this process (Ibidem).

*You could be in the situation where you have taken a product back and then half a year later are in the same situation again and some companies won’t even go back and ask managers and people involved in the process how their experience was and so (Lehman, 2017).*

He also mentions the problems of not writing the process down or storing the information since there can go multiple years between similar processes and the people involved in the first process might be gone or have forgotten the main issues or how they were solved. Therefore, the knowledge would be

lost and even though you had the resources and knowledge previous this is now lost because they did not have a process or a way to store this knowledge (ibidem).

Ib Gosmer also added to this topic and stated that he often found that the communication or more the lack of communication was the main issue. The fact that information might only be shared with a couple of employees does not make this available for later use since the company will also be in doubt of who this information was even shared with (Gosmer, 2017).

In the case of Man Diesel & turbo they don't have any specific ways to insure learning. Further they were lacking information about how to start up new process. Rasmus explained that most decisions in the company were made on a much higher management level than where he was operating. Therefore Rasmus was rarely included in big decisions even though he had a lot of knowledge about the process being made in Frederikshavn (Christensen, 2017).

Rasmus did state that they have a lot of processes about how to do some assignments but not shutting down production or starting new production up. As the top management are making the decisions they often look into different business cases and evaluates based on these and not the employers who has the knowledge (ibidem).

When asked about a way to store and share knowledge about process in a joint database Rasmus answered:

*"So, we don't have a standard procedure or place to go and ask about what are the disadvantages. But that would be very beneficial (Christensen, 2017)"*



## Knowledge sharing possibilities

When talking about process and knowledge sharing with Henrik Hagen's he mentioned learning as one of the most important factors for them to succeed. To solve the issue of starting up new production Hagens Spring Group build up a stock of goods incase production failed or came behind. Further the process of shutting down were done gradually both to insure everything went right but also to insure all processes were evaluated (Hagens, 2017 a).

They normally have an evaluation team included Henrik himself who looks more in-depth on the business cases for larger investments and how these should be shut down. The same team will also be a part of the process after the process is over since Hagens want to store this knowledge. The team therefore meet up after a year or two to evaluate the case and see what was done right but more what they could have done better or improve the next time a similar case appears (Ibidem).

Henrik describes this process as followed:

*"we normally do the evaluation of large investments one or two years after. There we go and see how the case was, if it was correcting or of we have paid more than we should, or was there anything not clear from the start and so (Hagens, 2017 a)."*

For Hagens it is also important to get the knowledge from all parts of the company and not only from the desk workers who did the managing parts. Here it is important to include people from the production as well. What might seem as a good decision and process on a management level might not be the same for the people in the production therefore all parts of the process should be included in this evaluation (ibidem). Furthermore, each of the meetings will be transcribed and key points will be made available so this information is easily accessible in the future.

Ib talked about the same way of insuring knowledge. In NECAS the way of sharing knowledge is a two-part process. First each part of the proves is written down and presented for the management so they are aware of what was done right and what could have been done better. Second the knowledge needs to be spread on a wider basis. This will be done via verbal communication throughout the whole organization so other managers but also the people in the production will be aware of what was learned (Gosmer, 2017).

Ib describes the positive effect of this process as:

*“When the employees are catching the meaning of it and understanding it they will be better and more interested in using the knowledge, but if you don’t tell them you prohibit that they cannot use the knowledge they don’t have. So, you need to work on the human factor throughout the organization” (Gosmer,2017)*

Finally, NECAS works closely with their customers to ensure that they gain the same knowledge since NECAS often work with patent’s given from their customers. Here NECAS invites their customers to a meeting with their staff and show them how NECAS document and stores information gained. Here Ib made special empathies on the customer's’ ability to go back and see all the changes made to their product and the way they are produced since each change will be saved so they can easily go back if an error happens (ibidem).

## **Opportunity of joint knowledge sharing**

Rasmus from Man Diesel & Turbo explains that they of cause always look into their competitors and focus on what mistakes they made or what they did right which gives them some information about how they could do things better when starting or shutting down a project (Christensen, 2017).

This way of sharing knowledge was also a topic Bendix talked about. Here he explained that his previous workplace Maersk Oil had a specific way of insuring knowledge when shutting down bigger off-shored projects.

After shutting down a project they collected everyone involved all the way from to management to platform worker and spend a whole day where all points were discussed and lessons learned were written down before presenting these to the board. This process gave around 200 bullet points with what was done right but more interesting what could they do better next time. Finally, the management team meet and discussed all the inputs and bullet points before cutting this down to 3 main points which was stored in a company wide database with information about all projects. This database both held bullet points for starting up but also closing or changing location (Lehman ,2017).

This database was made so managers could go back and look on similar process in the future and either gain the knowledge from the bullet points or make contact to the people responsible for the project if these were still in the organization (Ibidem).

This way of knowledge sharing was very effective but also very time consuming. further Maersk Oil was only able to do this because they worked in a very structured way. Bendix explain the process as:

*“This is the best way I personally have seen this done. And this was mainly able to happen because we work in a very structured way. I don’t think this would be as easy for smaller production companies. Unless you have a very organized flow or description of how you do things” (Lehman, 2017)*

Another process about knowledge was how knowledge was gained about new markets. Here Henrik Hagen’s talked about how they found information about new markets and did their research before starting up production in a new country. Mainly they set up a one on one meeting with companies who already went through this process. Here Henrik explains that they often trade knowledge with other companies who are already active on a market they want to gain information about (Hagens, 2017 a).

In the follow-up interview this was further elaborated on. When asked about who they share and gain knowledge from Henrik answered:

*“it was many different. on our level, it was bigger companies with final sales but also sub suppliers and many other so a big range of different companies which was important for us. Because if they tell the same story then we can see there is some truth to it (Hagens, 2017 b)”*

This process of asking both suppliers, competitors and customers end up with them getting the whole picture and make them able to get a better knowledge on what is general problems and what is only a problem for that type of company. Henrik gives this process a lot of credit and explain this as the main reasons they did not face a lot of startup issues in China (Hagens, 2017 b).

Another way Hagen’s share knowledge is through different industry unions here specifically the Confederation of Danish Industry. Hagens used Danish industry to gain knowledge about others who went through the same process but also to get feedback on their own activities. The union was mainly used to create connections for the one on one interviews since an online database would only include small bullet points and the interviews can create more specific knowledge. Further Hagens are not interested in sharing bigger information in these databases because they do not know who will have access to this information (Hagens, 2017 a).

## Findings & Discussion

The purpose of this chapter is to discuss the outcomes of the analysis that resulted from comparing both primary data collected through interviews with the theory in literature as well as comparing the data from companies between them self. In this chapter, the author's interpretations and meaning of the finding will be described.

### Bandwagon effect

The first subject that will be discussed in this chapter is the topic related to the trend of following other companies with offshoring and backshoring of their activities. As mentioned earlier in the analysis chapter, some companies tend to follow the trend based on the decision made by others instead of making the decision on their own (Dahlgaard et.al, 2016). While comparing the data from the interviews related to this topic, some various and interesting outcomes were detected. Each of the interviewed companies had a different approach to following the trend on the market which will be examined more in depth below.

A significant difference in this approach was noticed when comparing especially the company Man Diesel & Turbo and the company NECAS. Man Diesel & Turbo related to the Bandwagon effect when discussing the performance on Chinese market. When deciding about whether to or not to cooperate with Chinese partner the company looked at what their competitors are doing and try to follow the trend. The opposite approach for this theme was seen in the interview with Ib Gosmer from NECAS. This company employed the reversed strategy from what their competitors were doing. While the trend was to move activities to Far East in order to lower cost, NECAS managed to keep the competitive advantage despite the fact that they decided to keep the activities in Denmark.

These examples illustrate the absolutely opposite behavior of interviewed companies. When looking at both companies, a significant difference in size of the companies was seen by the authors as a possible source of this various behavior. Man Diesel can be characterized as a rather big, multinational company that has around 14 500 employees and 100 international sites whereas NECAS, the company with about 30 employees in total can be consider as rather small.

The decision about whether to follow the trend that is set by other competitors on the market can result in both advantages and disadvantages for the company, depending on several circumstances.

When a company employs same or similar strategy as the other companies on the market it can be considered as a rather safe move. Companies can get access to the information that are necessary in order to ensure the smooth process of either offshoring or backshoring. Moreover, by looking at other companies and their performance it might be easier for the company to gain important knowledge about the market. Another thing that was noticed by the authors is that following the trend might be an option for the company how to keep pace with their competitors.

For instance, Henrik from Hagens Spring group mentioned that in the future the company might move activities such as accounting to low wages countries because most of the companies are employing this strategy. Therefore, they are able to lower their operational costs and it could result in competitive disadvantage for Hagens Spring in the future since some of their customers might not be willing to pay extra price for having this process done in countries where the cost level is comparably higher as for example in Denmark.

However, when employing this kind of strategy, company has to be aware also of some disadvantages that can result from it. Despite the fact that the strategy of moving some activities abroad might be suitable for some companies, it might pose a significant issue for the other. Even though the company has knowledge about the market and information about the performance of their competitors, the company itself might not be ready for this move.

Therefore, even though at some point doing exactly the same thing as others do might seems to be beneficial for the company in the future, doing the opposite and go against the trend might be in a better interest of the company. As it was seen in the example of NECAS, not following the trend resulted in competitive advantage and successful performance in the future.

So the authors can see the importance of looking at the external environment and analyzing the trends on the market so that the company do not fall behind their competitors. But based on the example of NECAS the significance of following own strategy that is in the best interest of the company need to be emphasized since it might bring more benefits for the company than blindly follow what the others are doing.

When comparing the data acquired through literature review and data collected through interviews, an interesting new perspective related to the reason why companies moving some of their activities was noticed. As the result from literature review, one of the most significant reasons for moving some of the activities to one or another country has an economic character. Companies seeking for opportunities that would enable them lower operational cost therefore they are moving activities to low cost countries.

This reason together with the ones mentioned in the literature correspond with the incentives that have appeared during the literature review. However, outcomes from interview have brought up additional interesting perspective. The reason that was repeatedly touched upon during the interviews can be explained as an attempt from companies to move their activities to the market in order to fulfil the requirement of local production. This was mentioned in relations to not only to Asian market but also both North and South American market as well as European, where this trend is slowly growing.

The argument for this rather new point of view could be the rapid changes in the external environment. Nowadays the trend where governments endeavor to protect their own market by increasing for instance import taxes force companies to rethink their strategy if they want to serve that particular market. As we can see for instance on example of USA, the situation has rapidly changed in this direction after the presidential election in 2017. The other examples could be Chinese, Japanese or Brazilian market as mentioned in the interviews.

## Why companies backshore

Another topic that arose from the interviews and the literature review were reasons why companies decide to backshore their production. From the literature review the authors found two main reasons for backshoring the activities. The first one is when companies realized that the initial decision to take production out of the country of origin was not as beneficial as previously expected and that it brought a lot of new issues to the company, such as quality, delivery and cultural issues (Bals et.al, 2016a). Therefore, the first reason to backshore would be to correct a previous mistake because the strategy did not fulfill the company's expectations.

The second reason is based around the company strategy. Some companies who are backshoring are not doing this because they are facing difficulties in the foreign markets but mainly because they can see some strategic benefits by having their production in the country of origin. This can both be to be closer to R&D but also be because of customers wish to have production closer to them (Ibidem).

Further the reasons can be divided into firm specific and market specific reasons as seen in the analyses chapter (Dauth et.al 2015).

From the literature, the authors saw that a lot of the companies who did outsourcing or offshoring was facing a lot of difficulties in the new markets. The literature therefore mainly focuses on the first issues which was correcting a bad investment. The papers both describe how the companies were facing difficulties within the company (Company specific) but also how the issues of having to deal with foreign governments and new initiatives from these influenced their decision to backshore (ibidem).

From the interviews the authors saw that most of NECAS customers had previously either made production in the Far East or had others to do it for them before turning to NECAS. The decision to backshore this way can therefore be seen as a way of correcting their previous actions. Companies who chose NECAS wanted a proactive partner than just a supplier which could indicate that they previously have faced issues with suppliers who were not good enough or simply could not live up to the standard they expected.

The other reasons touched in the literature were changes in the strategy. Here the companies made the change not because they didn't perform well but because they could see advantages of having the production done somewhere else.

As seen during the interviews this was the case for both Hagens Springs Group and Man Diesel & Turbo. For Hagens Spring Group the decision was made purely based on the fact that there were way more

advantages to gain from having the production in Denmark. Henrik even described the Polish operations as running smoothly and creating positive turn over (Hagens, 2017 a). Therefore, this decision was strategic because they could produce the same things in Denmark at the same price or even lower with new machines. Hagens Springs Group did this to get their production close to R&D but also to go one step up and produce with new machinery which could also be seen as a strategic move towards being a more atomized company. The decision also affects the future of the company since this static move could be applied to other markets as well (ibidem).

Another case where this type of production relocation was seen was the case of Man Diesel & Turbo. Here the production and assembly activities were moved to foreign locations based on a strategic decision. The operations were previously running smoothly but there were seen more advantages of having the production somewhere else. Furthermore, Man Diesel & Turbo were looking into bringing new production to their department in Frederikshavn. This was also done because of the strategic advantages. Man Diesel & Turbo already invested in a big test center in this department. Moving a production here could therefore be a great advantage because they can use the knowledge gain from the test center and go directly out and test the effects of it on the machines they are building.

To conclude the reasons for backshoring for the Danish companies from our cases highly relates to those mentioned in the literature and it can therefore be argued that the trends seen on the international markets are also highly relevant for the Danish market.



## Learning process

From the literature review the gap of this process arose which made the authors wonder about this process. This led to including it in the problem statement and further research throughout the interviews. In the analyses of these interviews, different opinions and ideas on how learning process should be done and how this could be improved arose. This Discussion will focus on these information's and bring in the author's own perspective to the topic.

From the interviews it was clear, that most companies do both knowledge sharing and the learning process very differently. In all cases the decision to do it this way was of cause based on a management decision which was carried out by project managers or whomever was responsible for the task. But when it comes to the process of actually doing it the companies had very different ways which led to some interesting findings.

The first conclusion the authors could draw comes from the big vs small argument. From the author's point of view the way learning process and knowledge sharing was handled was very different depending on the size of the company.

For small companies the authors noticed that the learning process often went smoother since there was no chain of command and everything happened on a more common ground for all levels of the company. This was especially seen with NECAS where everyone was included in all the processes and the opinion of the employees in the production was just as valuable as the managers. This was done to ensure that all workers were active and up to date with these processes. But also, to ensure that employees in the production were thinking about what they were doing, so if they could improve a process they would not be shy to go to a manager about it.

Furthermore, smaller companies need everyone to have knowledge about these processes since this can determine the success or failure of the company.

Here the authors saw that verbal communication about the process was just as important as the written explanation of it. The verbal communication gives companies an easier way to share knowledge across a lot of people and the information can be given to multiple people at once. Of cause, there is a downside to this way since information can be misinterpreted or simply forgotten. Another downside to the verbal communication is, that this can only touch the surface of the topic. It is very hard and time consuming to inform everyone in the organization about how a specific process was done and what was good and bad about it. Therefore, the process about sharing knowledge verbally should not

stand alone. Therefore, companies should insure that the knowledge shared is written down and presented to the right people so they can store the knowledge and bring it on to others. This process was especially seen in NECAS and Hagens spring group and supported by Bendix Lehman when talking about how to do the process right.

Bigger companies often tend to have other problems than smaller companies. Since most bigger companies have some sort of organizational structure, chain of command will be needed and is seen at least to some degree in all multinational enterprises. This will be done so employees know who to respond to and also where to get assignments from.

The thing that makes knowledge sharing hard in these type of companies is, that they are so big that you cannot inform everybody verbally since this would take too much time and a lot of people who will never be involved in the process will get irrelevant information. Therefore, this will simply be too cost full.

Further most bigger companies work with a sudden level of confidentiality. As seen with Man Diesel & Turbo the process was mainly decided from their head office in Germany and no one in the local departments were included. Here the top management did not use the resources and knowledge from the specific departments because everything has to be top secret. Further Man diesel & Turbo did not have a standard procedure of how to write things down and what to do when shutting down a process. Therefore, it will be very hard to access the information gained if the people who actually have hands on experience is never included in the process.

Further this way also limits the companies to only have the knowledge for the time these people are working for the company since this knowledge has not been shared with others or through a specific system.

Bigger companies can share knowledge and insure learning process. As seen in the case of Maersk oil, they worked in a structured way and had a process which had to be done every time a project was set to shut down. This way everyone included in the process will know exactly what to do and what is expected of them (Lehman, 2017). This process also insures that the learning will not be lost since everybody is discussing the process, what went wrong and what went right. By doing this they force their employees to think critically to the process they went through and therefore they will be able to learn something.

By doing the learning this way companies also insure that the learning will never get lost since the end goal is to make two to three main lessons learned from the project. In this way managers can always go back and see what went wrong and what went right if they have a similar project in the future.

The downside of going through this process is that it is very time consuming and the amount of work you must put into it is a really big cost. Bendix described it as a whole day of work for everyone included which quickly add up if you are running a bigger project.

Another thing from the analyses was that the structured way of working to insure learning was both relevant for big and small companies. Companies who generally work more structured and have specific guidelines for how processes are done will most likely have more success with them. Therefore, it does not matter if the company is big or small as long as they keep the process structured and well organized.

Finally, the authors saw, that companies have more difficult time going through the process when they are backshoring for the first time. Of course, they don't have the experience and knowledge about the process and the information they can gain from outside the company is also limited since companies will not give a way too much information about them and their operations.

This was seen with Hagens spring group who committed too much time to their operations in Poland simply because they did not want anything to go wrong. As previously mentioned nothing went wrong but the process could have been optimized and done way quicker if they had the necessary knowledge and experience.

This also relates to the importance of the learning process and knowledge sharing. If companies are not investing the time and resources into these processes the learning will be lost. Companies can therefore be in the same position one or two years later and then have to do the same mistakes again simply because they didn't learn from their mistakes the first time.

The influence from other companies also play a big role. But as mentioned companies only want to give a way to a sudden degree since giving away too much can harm their business. As learned from analyzing Hagens spring group most industrial associations were used to gain knowledge about which companies went through similar process but the information's given there was not in depth enough. This led to one on one interviews which can be a very good idea since you will gain information on a one on one basis so no one else will be able to obtain the knowledge shared other than the parts involved. By doing this neither of the companies give information to the public about what and how

they did things but they still help each other. The pros of this way of knowledge sharing is of cause that you can gain knowledge from companies who went through similar process and you therefore can gain some knowledge before you start the process yourself.

The downside is that most cases cannot be copied a 100 % so there will always be some new challenges or changes which makes the process different. Further the one on one interview will require intensive research prior to the decision of actually doing it which will be costly.

# Recommendations

The purpose of this chapter is to give the author's point of view on how the process of both offshoring and backshoring should be done and what companies should be aware of when they are making the decisions. Further these recommendations can be used for policy makers to adjust their agenda to improve the market conditions for companies that want to take production or other activities back. Further the chapter will give an insight to which analyses should be done prior to both moving production out and back. As stated this is the author's point of view and the recommendations will therefore be based on their opinions and what was learned throughout the work with the thesis.

## Offshoring strategy

When a company is thinking about offshoring production to a new country a lot of things should be analyzed before making the final decision. The types of analyses will firstly be discussed in this subchapter before the arguments for offshoring and what to be aware off will be presented.

When outsourcing productions the main thing companies should look at is why? Why do they want to move their production out what are the benefits of doing this and what can they gain from making this move? Further they should set up goals or expectations for what they want to gain from the move. This makes it way easier when they have to evaluate whether or not they should make the moved based on how close they are to fulfilling their goals.

## Analysis for offshoring decision

Looking at the types of analyses which should be made prior to offshoring a cost / cost benefit analyses is essential. Companies need to know how much the investment in offshoring will potentially cost and further how much they can save from doing it. This type of analyses will help a company with the hard facts such as seeing how profitable the investment will be.

Information for an analysis like this can be gained from other companies who went through the same process or via industry organizations. Of cause a company will need to make the estimations for the analyses based on their own numbers and expectations, but learning from others and gaining information will help a lot.

Further companies will need to add some extra cost to this analyses because of potential miscalculations and more relevant unforeseen cost. In some cases, the cost of entering a new market and starting up production there will have some unforeseen costs it is therefore better for companies to expect these to happen than making the move and then realizing that this was not beneficial because of the hidden costs.

Other than the cost analyses a company needs to look into their own strategy and see if this aligns with where the company wants to go and more important where the customers want to go. This is important since the interaction with customers is so essential. If the customers want a partner where they can easily change product designs or visit the production site the decision to move production to the far east might not be the best. But if the customers have no preference or the market in the far east has great potential this will be important to research.

Another analysis which can be made is a make/buy analyses. Here the company will need to analyses whether it is beneficial to make the product them self or it makes more sense to buy it. Here it often comes down to whether the product is a part of the company's core activities or not. Further this analysis will help the company see the benefits or dangers of having others make their products.

## **Company's skills and knowhow**

The company needs to evaluate them self and see if they actually have the capabilities which is needed to expand and move production out. If the company does not process the necessary skills and knowledge about handling international activities offshoring production might not be the right move.

Looking at the arguments for offshoring production these should align with the types of analyses made. The main arguments for offshoring should be, that it is cost beneficial. If the move is not either saving you money or making you more money it is hard to justify why a move should be made. The only argument for doing this is customer need and/or the market potential. If the market in a foreign country is having growth, or is expecting growth, in a company's business area they can consider making the move to get the advantages of being first mover. By being the first on a new market companies can gain great advantages and make deals with local suppliers and customers before their competitors are on the market.

Further some customers might force or request their suppliers to move with them because they see benefits in the market. Here the company again needs to look at the cost of doing this, the potential business in the foreign market and finally the importance of the customer.

Further a company can offshore activities because of the lack of resources. This can be, that the company is in need of a specific material to produce their product and therefore can see some potential by moving production closer to this product.

This can also relate to human resources. If a company is not able to obtain the right employees with the right education they might need to either offshore production to find workers with this education or import these workers. Both ways are very costly but can be necessary.

## **Benefits and dangers of offshoring**

As seen above there are some benefits by having production done in foreign locations but companies also need to be aware of the possible downsides and dangers by offshoring or outsourcing production.

First a company need to be aware of the control they might give up by having production done far away from the main office. This is mostly relevant for outsourcing but also for offshoring. When having your products made in a far east the intellectual property rights and patent laws might be different from the ones we are used to in the west. Therefore, companies need to be aware of whom they give the intellectual property to and how they can insure that this information is kept in house.

Further a common failure for companies who offshore is quality issues. To solve this companies, need to ensure that the quality is right and the products are made in the right way. To insure this, they can keep their domestic production until they have reached the right quality product in the offshore production. This process will of cause be smoother if the company is in control of the foreign activities and if they keep their suppliers from the old production. Further it is important to keep up the quality control and make sure the same control is the same if not better than the old one.

Finally, companies need to be aware of the cultural issues and the cultural distance there might be when entering a foreign market. The cultural differences can lead to both quality issues and delivery issues. This is common problem and a very hard one to solve since the culture can be different from country to country but also from city to city and business area to business area. Companies therefore need to keep an open mind and do a lot of research about the market and the culture before making the move.

## **Backshoring strategy**

In this part of the recommendation chapter, the authors' suggestions for how companies should go through the process of taking their activities back home will be described. To make these recommendations the authors used materials from literature review and data and examples from interviewed companies.

### **Backshoring in general**

Firstly, before looking at the process of backshoring itself the reasons why companies should consider rethinking their strategy and taking their previously offshored activities back will be examined. Even though backshoring might be still perceive as a negative move, many arguments for this decision can be found. The backshoring process can be seen as a strategic move seen as a process that enable a company to fix their previous actions that did not have the intended results. Whether the reason behind it is associated with the firm itself such as insufficient quality, unveiling of hidden cost, other firm specific factors or reasons resulting from changes on the market, the decision to backshore can improve company performance and help them regain a competitive advantage in case it was lost due to the offshoring strategy.

Another argument for when a company should employ the backshoring strategy could be that changes have happened on the market where the company originally performed. The condition on the market that were previously one of the reasons why a company moved to other market might have change in the way that created an environment where the company can perform better. In this case the decision about going back can improve company performance.



## **Analyses for backshoring decision**

Secondly, the topic of what analysis a company should focus on before they implement this strategic move will be examined. As previously described in the data analysis chapter the companies that were interviewed for the purpose of this thesis have made quite narrow range of analysis. The companies mainly focused on the costs as the most important factor of this process.

When it comes to the topic of making analysis the companies should be not only focused on one factor even though it might be the main reasons for backshoring. There are many other important factors that have to be taken into account because the oversight could cause the trouble for the company and its future performance.

To avoid this situation where important things will be neglected, people from different department and with different focus should be involved in the process of making the analysis important. This could combine different points of view on this problem and could lead to creation of broader portfolio of analysis focusing on different aspects of this strategical move where both benefits and disadvantages will be more easily recognized.

## **Learning process**

When the actual process is done and activities are taken back, the focus of the company should be shifted towards the learning process. Whether the process was carried out successfully or not, the company should always do a learning process in case the company will be forced to do similar move in the future again. This will ensure that the learning experience is not lost and might prevent a company from repeating the same mistakes. Even though the backshoring process was considered as successfully, looking at the process with the benefit of hindsight might be helpful for the company's future actions.

Since this topic was barely covered in the literature, the authors' recommendation will be based on the examples of interviewed companies. Especially when it comes to the topic of learning process, information gained through interview with Bendix Lehman, who has several experiences with different approaches to this problem was found very interesting and useful.

As mentioned before, the information about backshoring process have a significant value for possible similar actions of the company in the future. Retrospective evaluation after the process has been done is very important to see all the features, possible mistake and potential room for improvement. Not all

of the outcomes of this action might be visible right after the process was carried out. Therefore, looking at the process itself with at time interval is necessary. In order to ensure that the experience is not lost, keeping this information inside of the company is crucial. And that is where the topic of communication between employees is growing in importance.

Both verbal and written communication have their own advantages and disadvantages. The recommendation will therefore be based on this. In order to maximize the impact of sharing knowledge, combining both of these forms will have big advantages.

The main benefit of verbal communication is that the knowledge can be shared more in depth together with the context, suggestions and opinions which can be very useful for doing this process in the future. There are also some disadvantages of verbal communication. If the backshoring process is repeated in the company, time spacing between them is usually measured in years. That means that people working in the company who has access to information about the previous process might not be working there anymore. Therefore, the case of having communication and knowledge sharing process based only on a verbal level can pose the problem of losing the experience.

However, combining this approach with a written way of communication can minimize this risk. Working in the structured way and having some written procedures describing the key points of the process together with its evaluation might be very beneficial. It brings the advantage that whenever new team has to deal with a new process they can always go back and look at previous actions which enable them from mistakes. Even though this approach where both verbal and written communication is combined might be time consuming and also it requires a lot of effort, it might save time and help in overcoming obstacles in the future.

# Limitations

The purpose of this chapter is to give the reader a better understanding of which limitations were made in this thesis and what influence these had on the research.

## Size

The first limitation seen in the thesis is the size of the companies. Because backshoring is still a relatively new especially to Danish companies this thesis had to make the research based on a wider range of companies. The perfect scenario would be dividing the research into SME's and MNE's but because of the lack of companies the research had to investigate both types in one research.

Because the research had to be done on equal terms between SME's and MNE's the research will be harder to generalize since there will be a bigger difference between the size of the company. This will of course impact the answers from the interviews but also the way things are done in the companies. The analyses and discussion was therefore split into a small vs big where the findings for both type of companies was presented to give the best possible understanding of the differences between the two types.

Further the papers read in the literature review also did a rough splitting between the two types of companies so the information gained from the literature was hard to categorize as well.

## Production activities

The second limitation seen in the thesis is production manufactures. The research is limited to only look at how production manufactures backshore their production. This limitation was made based on the literature read, since all the papers had their main focus on how production manufactures backshored. Further the most common thing to backshore (based on literature and research) is production. It would therefore be harder to collect data and find companies willing to participate in the research had the thesis focused on other parts of the value chain and how these are backshored.

The authors had to make this limitation because of the big differences in how and why backshoring is made when focusing on different parts of the value chain.

The research would therefore be very different had the thesis looked at how companies backshore

other parts of the value chain, and the research would therefore potentially have a completely different result.

## **Danish companies**

Finally, the last limitation made is to Danish companies or Danish departments of companies.

The previous research and other papers have shown that the trend of backshoring is seen all over the world. There are many different factors which influences how and why company's backshore. Further these are very different from country to country.

The research therefore had to limit itself to one country which was chosen to be Denmark. The Thesis focus on Danish companies mainly because of the newness of the in Denmark and the lack of research in the area.

Had the authors chosen another country to focus on the reasons for backshoring might be very different compared to those seen by Danish companies. Further the government and political initiatives for making backshoring might also be very different.

The research could have focused on a broader range of countries but the result would have differed a lot and the whole purpose of the research would have been very different.

# Reflection

## Suggestions for further research

While working on this thesis some area was recognized as ones that are worth of further exploration. Since not so many research have been done on the similar topic in the past, the authors saw lots of possibilities for a future development of this research and more in-depth analysis on this topic. The main aim of this chapter is to take a closer look at this area.

### Same research in the future

The first suggestion is to take a closer look at the same companies with the benefit of hindsight and try to find an answer for the question: How did the backshoring strategy affect the company several years after the process has been realized?

As it was mentioned several times throughout this thesis, outcomes and results of a strategical move such as backshoring might not be clearly visible after short period of time. Due to the time span of working on this thesis only one set of data for each company was used and the authors were not able to collect the data with a bigger time difference.

Therefore it could be interesting to look at the same companies in the future to see how the data has changed years or even decades after the process was realized. This might also show some actions that are impossible to see one or two years after the process but later showed to be very important.

### Learning process

Secondly, in order to explore more in depth of the topic learning process and how it possibly differs based on the company characteristic, future research should address this topic by using a wider portfolio and higher number of companies.

In this thesis three companies and their way of ensuring the learning process was researched. These companies also differed from each other. The suggestion to make the research on wider spectrum of companies could be useful in order to cluster the companies and to see possible patterns that will appear in their behavior. This research would help answer the question: How company characteristic such as size or the industry that company operates in, affects the learning process?

Since there have not been that many studies on this topic of learning process of backshoring so far, this thesis could serve as a basis for a future research. Having more data with similar focus would enable to develop a best practice guide that would be focused especially on the learning process. So far, the author's work can be seen as an early attempt to create guidelines for companies. This includes suggestions for several steps for different strategical moves that a company could follow.

This guide describing what the company should do and which moves the company should follow in order to manage the learning process could be helpful for companies that are about to backshore for the first time and have no experience with this strategy from the past.

## **Philosophy of science**

The purpose of this chapter is to give an insight into the philosophy of science from this thesis. The chapter has been placed in the end of the thesis to give the authors better tools to analyses and discuss how the different aspects of philosophy of science impacted the thesis. The philosophy of science will therefore be based on a reflection on what was done in the thesis.

The chapter will have its basis in the book “Sociological Paradigms and Organizational Analysis” by Burrell and Morgan (1979) and “Research Methodology” by John Kuada (2010). This means that the chapters will use the concepts described in the books, but not be limit and just follow the books. The chapters will have the author's point of view on the philosophy of science and simply use the basic concepts presented in the literature to give a better understanding of the terms and main areas.

## **Ontology and epistemology**

This subchapter will give an insight to the epistemology and the ontology used in the thesis. This chapter will as described previously focus on the whole thesis and act as a reflection on what was done and why it was done in that specific way.

Since both ontology and epistemology have not previously been described in this thesis each will have a brief presentation in the start of each subchapter. This is done to give a reader better understanding of these terms and how it has a relevance for the thesis.

## Ontology

Ontology is a term which is used in philosophy of science to describe what the authors of a research want to know something about (Kuada, 2010).

Here the authors have to argue how they see the world. Is the social reality just as real as the physical world or is the social world relative and mainly there to help structure reality which here is seen as the physical world. The authors divide the ontological standpoint into two different categories which as previously explained defines your standpoint in this discussion. The ontology can be split into either Nominalism or Realism (Burrell & Morgan, 1979).

Looking at this thesis the authors want to investigate and get knowledge about how and why companies backshore and further how they knowledge share.

The authors see their ontological standpoint as realism because they believe that social world and what we create there is just as important to understand the topic as the physical world is. Further the authors do not need a specific title or anything to make them real. As described by Burrell and Morgan "We may not even be aware of the existence of certain crucial structures" Therefore it is hard to put a name on it even though it exists.

Further the authors see the world as something that exists and always have existed without the human appreciation and understanding of it.

This is also seen during the thesis were as the research regarding knowledge and knowledge sharing not necessary was a written down process or something the companies had paid attention to but they were aware of the existence of it and they were doing it simply because it was in their human nature to do it. Of because this is not related to what the authors see as reality but an observation made on how realism can be seen in the social world and how this is just as real and important as the physical world.



## Epistemology

Epistemology should be understood as the nature or origin of knowledge and answering questions such as how do we actually know what we know? (Kuada 2010) This can further be explained as how did the authors gain knowledge about the ontology in the thesis and how is this knowledge perceived.

The discussion based around epistemology is often what is the truth and who can see this truth. In the discussion about who can see or gain knowledge about the truth the two side are, you either have to be a part of the social world that is created to get knowledge or that an external person who observes the social world can still get to know the truth even though he/she is actually not a part of the social world.

The two beliefs are divided into two concepts. The first concept is positivism which relates to that external observers can understand the truth by seeing things such as patterns in the social world they are observing.

The other concept is anti-positivism which believes that you have to be an active part of the social world to actually understand what the truth is (Burrell & Morgan, 1979).

The authors here believe that one can actually understand the truth about something without being a part of the social world where the truth is actually created. The authors therefore subscribe to the positivistic way of looking at epistemology.

Looking at the thesis work this is seen because the authors are coming as outside observers to the companies which is investigated. The truth which the authors wants to investigate is created inside the companies and in the social worlds they created. Therefore, the authors are seen as outside observers who did not go through the process themselves. The thesis is therefore based on the observation of other social worlds. If the thesis had an anti-positivistic approach to the research, the thesis would not be able to answer the ontology of the thesis simply because the authors was not a part of the process them self. Had the researchers followed a company actively who was now going through the process of backshoring the possibilities of an anti-positivistic approach were possible.

Seeing on the companies interviewed some of them also had a positivistic approach to both offshoring and backshoring. Especially Hagens spring group observed others and looked into their behavior and how they handled both the cases offshoring and backshoring. They did this before they went through the process and believed that the results they found from their research was the truth. This also led to them having a greater success when moving their activities across borders.

## Choice of paradigm

In the previous chapter the topic of philosophy of science was described and ontology and epistemology of this thesis were explained. This part will focus upon the researcher's understanding and the choice of the paradigm that was be used by the authors will be elaborated on.

For this purpose, the four paradigms described by Burrell and Morgan will be used. In order to analyze the social theory Burrell and Morgan described two main dimensions that the paradigms are based on. According to their research the social science can be based on assumption that the research lies on either subjective or objective dimension and that the nature of society has either regulation or radical change aspect. Taken these dimensions into account, Burrell and Morgan defined four distinct paradigms that can be used as a basis for further research. These paradigms are named as follows: "Radical Humanist", "Radical structuralist", "Interpretive" and "Functionalist" (Burrell, Morgan, 1979).

Each paradigm can be described by its different characteristic that distinguish them one from each other depending on where in the matrix is the paradigm placed in. However, some of the paradigms have common feature therefore the paradigms can be seen as contiguous. The relationship between them will be depicted on the picture below.

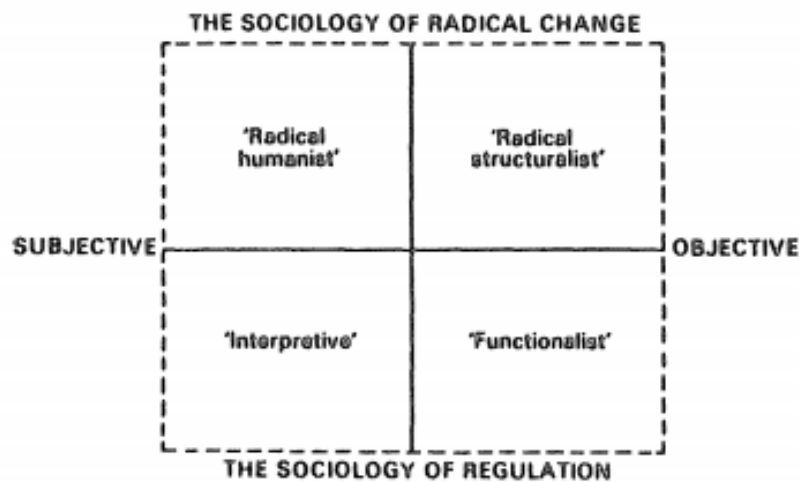


Figure 6, Four paradigms for the analysis of the social theory, Burrell and Morgan, 1979

For the purpose of this thesis the radical structuralism paradigm has been chosen. The arguments for this choice will be described as follows.

As described by Burrell and Morgan, the radical structuralism paradigm can be defined as a paradigm that: *"is committed to radical change, emancipation and potentiality, in an analysis which emphasis structural conflict, modes of domination, contradiction and deprivation. "(Burrell and Morgan, 1979).*

The main theme of this thesis is to focus on backshoring strategy. Backshoring is seen as a phenomenon that has a growing importance in the world economy. Especially during the last decades companies rethinking their strategies not only from the company strategic point of view but also in order to adapt an external environment. The pace in how the world economy is changing speeded up in the last years. We can see that the demand for local production or growing barriers for entering the market are something rather new that companies have to deal with. This goes hand in hand with political changes in the world that set some new rules for the companies as it was mentioned in the chapters before. These changes generated through political and economic crises are commonly considered by theorists as one of the main social forces that contribute to social change. Therefore, authors of this thesis have chosen this paradigm since they can relate topic of this thesis to the theme of radical change.

Another reason for the choice of this paradigm can be described as a fact that that throughout this thesis the authors employed the objective standpoint which goes in line with the characteristic of this paradigm. The authors did not go through the process of backshoring themselves and they do not have personally any experience with this process. Therefore, the objectivity was not affected. Moreover, to understand the phenomena that is being researched the qualitative approach in the form of interview has been employed.

## Process of writing the thesis

The purpose of this chapter is to give an insight to the research process and how the two authors have seen the process of writing the thesis. The chapter will include the process of writing the thesis and how the group work influenced the process of writing a thesis.

The process of writing the thesis in a group was a great way for us to get some sparring on the ideas and the way of shaping a project. By writing a thesis alone we would only have ourself and the supervisor to spar with, so it was good to have another person to talk about the ideas and the shaping of the thesis with on a day to day basis. This also helped a lot when one of us got stuck in the writing process it was easy just to contact the co-author and get new ideas instead of having to contact the supervisor.

The fact that we are also friends outside the thesis helped creating a more relaxed working environment. Further the authors have worked together on smaller projects before so both were aware of how the other handled different aspects of the writing process. This might have saved us from some arguments or disagreements.

The fact that the authors know each other both professionally and personally helped us create a work environment which consisted of hard and effective work, but we also gave us time to talk about things outside the thesis.

The writing process went smooth and the authors had no major disagreements about what to write and what topics to focus on. Further the writing process often consisted of the authors meeting during the morning and discussing the topics and making key notes for each part. After this the authors split up the assignments and then wrote them alone. By having the discussion and making the key points together for each chapter insured that both authors got their points through and insured that both were aware of what the chapters consist of.

The authors also went back during the thesis and looked at old chapters to ensure that what we were writing in the new chapters aligned with what the old chapters stated. This was a great way to insure the quality of the thesis was kept up.

Further the parts of doing interviews went great because we had a natural good teamwork. During the

interviews, it was easy for the other one to take over and a natural shift just happened instead of having an awkward silence.

Creating the interview guide also came rather naturally and both authors were complimenting each other great with different angles and what questions to ask.

# Conclusion

The main goal of this thesis was investigating Danish manufacturing companies and answers the problem statement which was formulated as:

*“Why and how do Danish production manufacturers backshore and how can they insure the learning process is not lost when moving production”*

Based on the findings as a results of data analysis the authors aimed to make suggestions for the companies that will go through this process in the future.

To get a better understanding and a theoretical background for this issue the first part of the thesis was focused on the thematic literature review. In this part, the authors examined existing academic literature that was found according to the topic covered. This gave the author's an idea about which topics they wanted to focus more on in the further research.

From the literature review the authors found four main topics where the papers were the put into subcategories according to which area they covered.

They four main categories were namely:

Reasons for offshoring

Drivers for backshoring

Decision making process

Impact on the company's performance

From the literature review the main gap for this thesis arose which was learning process. This gap led the authors to focus their data collection on this topic.

To collect primary data that will provide as real examples from the Danish companies that will serve later as a ground for the further analysis, the authors conducted several interviews. By employing the qualitative approach gave the authors the opportunity to gather more in-depth data and deepen their knowledge about the topics of backshoring and learning process.

The interviews were conducted with Danish companies who either went through the process of backshoring them self or somehow had extensive knowledge about the topic. The companies interview

was:

Bendix Lehman ApS

NECAS A/S

Hagens Spring Group A/S

MAN Diesel & Turbo SE

After the data were collected the authors analyzed the data and compared this to the literature. From this the authors wanted to see if they could find any patterns to help generalize the data. From the analyses, the authors found that the process of sharing knowledge was done very different depending on the company size and the way they approach the topic. Further the analyses showed that reasons for backshoring were broad and did not only focus on the cost perspective but also on the location based advantages and disadvantages.

Further the analysis showed that companies are not afraid to offshore or outsource again in the future. Here the authors found that different parts of the value chain could be offshored as long as it makes sense from a cost and strategic perspective.

Finally, the analysis showed a Bandwagon effect was seen when focusing on offshoring. Here the authors saw that some companies were more susceptible to offshore activities when others in the industry already made the move.

Based on the analysis and the findings from this the authors made their own suggestions/recommendations. Firstly, the authors suggest that the analysis made prior to the decision should not be focused only on the cost perspective but that it should include other criteria that can have a big impact on the company performance in the future. The recommendations suggest that companies should focus on both verbal and written communication when insuring the learning process. Further to smoothen the process of sharing knowledge companies should work in a structured way and follow a specific procedure when shutting down projects. This will help companies insure the learning since the employees will know what to do and how to share knowledge if they follow this procedure.

Lastly, the authors reflected upon their work and made a suggestion for the possible further research. In this part, also the philosophy of science was described where the authors expressed their view of the reality.

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# Appendix

## Interview 1. With Bendix Lehman

The first interview with Bendix Lehman was conducted on 7 .March at Aalborg University

***Q: Thank you for taking you time to do this interview with us.***

***We found that most of the papers are focusing on “the drivers on the decision for the companies and why they took the production back”. Most papers are dividing these drivers in internal and external so can you elaborate on this from your experience, what are the drivers for backshoring?***

**A:** Of cause there are many reasons for taking it back. In my experience, most companies who out-source realize after they move parts of the production, that there are some disadvantages. And one of these are that if, you buy parts in china you need to buy big quantities and not small. This means if you have to change something in your orders, you will end up with a lot of stock from the other product. Other than that the product will be send on the sea and it will often take 28 days and up to 35 days before it is in Denmark. This means if you are forced to make a change in the product you have a lot of things you need to change. This will cost the company a lot of money. When the companies have tried this and felt the consequences on their own business they will start to rethink. This is one of the things we have seen E.G during the financial crises. After this many companies started to focus on their own production and it's seen if you use some of the tools from lean, you know lean?

***Q: Yes***

**A:** Then you are able to make the production more flexible and then you are actually able to reduce the production time quite dramatically. Then you really don't need to have the low cost production from example China. Then you can make the production yourself and you have the flexibility so you on very short terms are able to change the product if you want to change something. It could be a quality issue you want to solve, or you could put in some new features in your product or whatever you will be able to do this very fast instead of waiting for the big quantities from China and whatever you have on the sea plus what you have in stock. That's one of the main drivers I have seen for doing this change.

***Q: Some of the papers also describe the external factors like, China used to be a low wage country but this is changing really fast.***

**A:** Some companies might have the idea that they can buy something very cheap from China because they get a good price on their production. But then they see the markets are changing. So instead of

getting things back to Europe they find out that actually they are able to use the production in China for China. That's the other part of outsourcing.

**Q: *So to gain access to the market?***

**A:** No actually to get low cost on the product and then send it back to Europe. But in the end they find out that the market they are operating in (China) is so big that just that is a good argument for having production in China.

**Q: *So have you ever experienced that companies are taking production back but are staying with some of their operations like sale to the Chinese market?***

**A:** Yes, this is how it often is. And there are many reasons for doing this. One of them are that the whole supply chain is too big and it's easier to then have it shipped and controlled here from Denmark, Europe or wherever it is.

**Q: *So the next question we have is about decision making process. Maybe you can talk about the companies who contacted you and who made the decision in the company. E.g. was it made alone by the CEO or by the board or did they also include production + managers or how this decision was made in your experience?.***

**A:** I think it's a big question about how complex we are talking. If you are talking complete production, not only components but also machines then it could be for the management to take that kind of decision. I have not had any experience where it was the board. It will often be lower than the board. If it's complete manufacturing with machines, then it's typical on the director's level in the company. But most of it is done on the lower levels on the supply chain management. So if you have a manager for supply chain they will often help make this decision.

Then who and why they will take this decision will typical be a pressure from E.g. R&D who can't get the products changed fast enough or the quality department who can see they are not able to make adjustments to parts quickly enough so they try to push this move. It could also be from the service department where they maybe want to make smaller series form the products to maintain them and keep them on the market. They are not able to do that if they have a full production equipment from China because these are low production order and China mainly focus on big orders. That is for me the main drivers and decisions for me. I don't think it's forced by sales and marketing, they are not making these pushes it is mainly production and supply chain and if we are talking complete machines then it could be more strategic.

**Q: *Our next question are about the analysis that are made prior to the decision of taking the produc-***



***tion back or de-internationalization so do you have any experience or can you summarize what analysis are made by companies ?***

**A:** The main thing is often the cost factor, so it's a matter of prices, this is of course the main driver. If the price is very low from china and you have some quality problems you could destroy some products. But analysis that is very different from where you work. If you work in the quality department and quality is the main driver for having a product on the market and you see some problems with the product it could be, an analysis on what cost do we have for changing a product and solving quality issues in a product internally in the company that's one analysis you have to do. If we are talking about the changes of a product then it's more an analysis on how you are performing on the market because if there is a demand on the market or competitors who are very fast to change their products and launching new product frequently, it could be maybe half a year or year, and you are not able to do this because you have a more solid flow of production which cannot change so fast. This could also be a reason and this would be an analysis made by sales figures, time to market, how you are able to launch new products both for current and new markets. There are many different ways of looking on this and there is therefore many different analysis which can be made. The main thing is it's not only costs. If you are looking on a very specific cost of a product it could be that the product is more expensive if you produce it here locally but the benefits of having a better flow in the production line could mean that the cost price is less important.

**Q: *Yes, a lot of the papers are talking about how customers are changing their focus from prices to delivery time, so now they can get a product within 10 days instead of the 25-35 you mentioned earlier. And also the quality of the product which is also different.***

**A:** Yes of cause this is a big factor as well (referring back to the question about delivery time). And you are talking about requirements of products and if you are not able to push out new products?

**Q: *Yes requirements as well.***

**A:** This is as mentioned a big issue. You can see this if you are looking at cellphones and how fast this is changing, so if you lose maybe one or two month on a product you could be out of the market. And the whole business could close down. If you are talking about products made of steel, cheap metal or whatever, then the market is not so aggressive, so a bit slower.

**Q: *Yes like what we saw with Nokia who is almost dead, at least when we are talking about smartphones.***

**A:** Well for Nokia it wasn't really a question about pushing products but more a question about technology. If you are local here (in Aalborg) you know about dancall? They were a local manufacturer.

***Q: For Nokia or?***

**A:** No no, they made their own products. Before Nokia there was one leader in the world which was Dancall. They were based here in Aalborg, and they came two months late with a product for a market, and because they were late Nokia came in with a new product and Dancall lost their market share and now they are gone.

***Q: So it's also a question about the timing of the decision?***

**A:** Yes. If you are slow with production because you buy products in China and therefore cannot react fast enough to the market and come with new products you have a big problem. Then you will need or be forced to make the decision like maybe the low prices are not the most important for us, but more to be on the market with the right products on the right time.

***Q: These were the main issues and questions from the literature review. Now we have a few question which is more based around what we want to investigate in our master thesis and what we what to analyses a bit more in-depth. So the first question is, how this decision has influenced the company's ability to perform looking at their stakeholders, customers and how they perform according to the goals set by the board and so on. And in general how has this influenced their ability to perform.***

**A:** Outsourcing or?

***Q: No taking the production back.***

**A:** Ah okay. Now you are talking about board level and how it is here. I don't think this is an issue that is so commonly discussed on this level. It will often be lower in the company unless we are talking about lunches of new products as well. But here I don't really have any experience at least on this level of the company.

***Q: But then maybe just in general, if you are e.g. looking at production, you have some goals to the manager or so. How was the performance changed in the company?***

**A:** So talking about scorecard and KPI for production?

***Q: Yes this could be one of the ways to do this!***

**A:** Well then you are often talking about the stocks and how fast you are able to use them. Again if you buy from china you will have a big stock and you are not able to generate value from the stock then you are binding capital in this stock. All these things are of cause from a business perspective and KPI's

are very important. This could actually also be one of the drivers for making the decision to move production, if you can see you have too many parts for scrap and quality is not okay, the products are too old or stuff like that.

**Q: *The next question is about the learning process. We would like to ask how can companies share their knowledge about backshoring and how can they help each other with this, since this process requires a lot.***

**A:** knowledge sharing that is a difficult thing. There are not that many companies who are good at doing this. This is actually a general issue. I don't think this is only an issue here but generally an issue about how companies share information and so. I have not seen any companies who are good at this so far, unfortunately. If you could do this in the right way then you won't make the same mistakes again, so yes this is a big issue. I don't have any good examples of companies who did this in a good way.

You could be in the situation where you have taken a product back and then half a year later are in the same situation again and some companies won't even go back and ask managers and people involved in the process how their experience was.

**Q: *So companies are doing the same mistakes again because they were not able to use the learning from the first experience?***

**A:** Yes. Typically you are talking about a longer period of 3-4 years between these events (taking production back). So there will be new people in the organization and maybe the whole organization have changed. So even though people know something like this has happened some years ago the whole world have changed so they think they don't need to look back on the previous process.

**Q: *This is one of the topics we want to investigate more. So you said you never saw any companies do this in a good way or doing this with success. But do you have some key points or ideas on how this could be done better or how companies can insure that the knowledge gained will not be lost in the process?***

**A:** Definitely! The last organization I worked for was Maersk oil. This was a big business and they use a lot of money when they made decision in the off-shore market. There we actually had a process for this. After we had done a job, we collected all the involved people in the organization across all levels and spend a day where we captured all the lessons learned and brought these up for the board, discussed them and evaluated it. This led to around 200 points/bullets with indicators of what should have been done better or what we potentially could do better next time. Then finally we made a conclusion about 3 points and only 3 points! These 3 would then be uploaded into a common database where all projects

which was started up was put into. So all projects done in the organization would have 3 key points in this database. Eventually this database would include a lot of lessons about how to do things better or what you should be aware of in a lot of different process. So every time you started up a new project for “shutdown”, then this information was shared with all the relevant people in the project, and this was one of the most important points on the agenda. So everybody should go into the database and see what could be learned and what information in projects like this was relevant.

This is the best way I personally have seen this done. And this was mainly able to happen because we work in a very structured way. I don’t think this would be as easy for smaller production companies. Unless you have a very organized flow or description of how you do things.

***Q: Okay so this is most relevant for bigger companies or?***

**A:** No this is relevant for every company. But you need to work in a structured way and it is not all companies who do that. The companies that I have worked with who have new product development processes where there was some former process about it in a stage gate process (phase gate process), you can easily build this into this process. Here the final gate could be lessons learned and imputes for all new product development processes from the beginning. It could also be a process for updating products stating a new product line. But typically, companies are not really good at this again unfortunately.

***Q: Another question just from the top of my head is what do you think is the main factors for companies to take production to Denmark instead of for instance Eastern Europe or southern European countries where the wages are still low but you will have the advantage of fast delivery.***

**A:** So what the arguments would be for having it here in Denmark?

***Q: Yes compared to having it in those countries***

**A:** typically this would be the raw material you have. It could also be the size of the product or maybe the product is cheap but the transportation is expensive, this is seen with isolation material where you have to have production all over Europe because it is too costly to transport this could be an example.

***Q: One of the papers are arguing that the Danish flexicurity model is one of the reasons companies choose to come back to Denmark where they can easily hire and fire people.***

**A:** this could definitely be one of the reasons. The way the Danish labor market are really good I would

say outstanding because it is controlled by the companies and the employees. Many countries would like to copy this model so it's really really good. Of course it is very easy to fire people but also it is very easy to hire people. It is also very easy to establish a company or production here in Denmark and very cheap as well. And in general the Danish labors are very well educated from schools and the education for blue collar people are also very good this is not seen other places in the world

***Q: When you are helping companies what are some of the main issues that companies want you to solve?***

**A:** it is typically to reduce costs in the production and mostly using LEAN production, how you are able to maintain and make processes that can improve quality or the cost of the product, reduce the lead time for the production that's a big issue. But I also look on the complexity like how many components go into a product and how you are able to customize it. Today we see a change in the market that you as an end consumer can design the product yourself, how complex do you want it and how it should look like, what color it should be and what technical specialty of the product, you will be able to do this yourself now. To be able to have a production where you can still be competitive and be able to produce like this then you really have to set up the sales process, the way you are able to make the configuration and how the products are made so you are able to customize whatever the customers would like to have. That is a very big issues.

***Q: Do you have any suggestion on what part of this topic we could do more research in or what there would need to be made more research in?***

**A:** You talk about the decision-making process and that's really important. Because it should not be an automatic decision like, well we want to buy things in Eastern Europe or in China just because it's cheap. You need to build in more argumentation in how to do it and why. This could be seen from how you would like to serve the market. How would you like to customize your products? How do you want to model your products? That could be more beneficial to take this discussion than just buying it cheap in Eastern Europe or China. So I think this is very relevant and I think many of these discussion or decisions are made only based on cost and that's not correct. Cost is only a small part of it. How you serve your market, the customization possibilities and so on is much more relevant. So I think you have a very good angle on the work lying ahead of you now.

***Q: So thank you very much for taking the time to help us. It has been very helpful.***

After the interview ended the topic of production in Eastern Europe continued with the following outcome:

Some cost are covered by local government with local founding in Eastern Europe, therefore the decision are made based on this founding and not on the other factors. This is seen a lot in Poland where there are low wage and founding. Therefor the decision is made on this a few years ago and they are very short term and now the prices for blue collars are the same in Poland so they basically took the work from Denmark and moved to Poland for a very short term gain in founds.

Hungary was a good location for companies to move the production there. Big companies close their production afterward there. What happened in Hungary is that they were not able to ensure that they have the knowledge by themselves. They have changed it today.

The competences and knowledge for the company are so important that they don't want them to be outsourced. Examples of the companies that just copy your product especially in China. Differences in the patent law.

## **Interview 2. With Ib Gosmer**

The second interview was conducted on 9<sup>th</sup> of March, 2017 with Ib Gosmer, managing director at NECAS A/S. The interview took place at the company in Stovring, Denmark.

***Q: What are the main reasons that companies approach NECAS?***

A: Well, the main reason is that they want to be closer to the production part especially about new product introduction where it is far easier to start a new product or to change existing product with close collaboration with the R&D department and the customer.

Another reason is that they want a high quality they want delivery on time and as we have documented, on time delivery performance about 98 % of all orders. It's very interesting for a lot of customers who are very dependent on the products that they choose a supplier with a documented on time delivery performance. And of course quality is always an issue and as we are a certified to deliver

product to the aerospace business people in the industry know that it's sort of blue stamp for that they also the best quality of industrial product. That is a benefit of having this certification.

***Q: So the rest of your product line are also benefiting from having these stamps?***

A: Yes because the employees are educated to think quality wise and to use instruction to use the documentation and to record all events in the manufacturing process. We have to be thinking, behaving and be aware about quality methods. This should be so deeply in the employees so we don't treat an industrial products otherwise than we treat aerospace products. That is the main reason that we are able to deliver high quality to the industry.

***Q: Is it NECAS that approach companies or the companies contact you?***

A: We of course have an active sales agent as well so we have sales managers. We are trying to select some companies that we have an idea that could be interested in the process so we have a selective process and sometimes we work for several years trying to establish relationship and have representation from other companies to come here and visit us to show them the documentation of our on time performance and and low quality costs and so on. Hopefully in the end they choose to move their production from another Danish or Far East country back to Denmark.

***Q: What do you see that the advantages of having it here compared to for example China are?***

A: There are very big advantages especially when have new product introduction or major changes of existing product where you need to have a very close collaboration with the customer or R&D department. Here we can assist the customers in building prototypes and helping them the with design of manufacturing so they can optimize their process from the start so they are easy to manufacture and you get build in quality insurance and optimized processes, in regard of quality and of course lower cost price so you can assemble the product easier when you make changes. We are in contact with the customers and often they are here and together we make the first build of prototypes so that we can show them how things can be changed construction-wise and that it is easier to assemble and then maybe cheaper. So that very close collaboration with the customer in the developing phase and helping them to go from prototypes to series production maturing the product is very valued service that our customers are very much looking for.

***Q: So you are gaining the benefit of having highly educated personnel so instead of just having a product that is being produced also having giving a feedback and it's a part of a whole process?***

A: Yes we are an active partner and it's a very important part to help customer to be competitive on the market because if we can help them to have cheaper and more reliable product then they sell more and we produce more so it's more strategic collaboration than just a simple supplier- customer relationship. It is a partnership that we have with our customer.

***Q: You were talking about that most of the companies are focusing only on the cost analysis when they are deciding to go abroad and forget the other factors such as risk and hidden costs. Can you see any development during the last decades?***

A: Yes I can see a lot of development because in the beginning the outsourcing and offshoring decision was generated by people in the purchasing functions in companies because they have a lot of pressure to purchase cheaper products as a lot of companies were very pressed on earnings. So the purchases should save money and generate more money by purchasing cheaper products. And looking just isolated from the purchasing chair it's just an advantage to move production to the Far East because maybe materials and wages, labor cost and transportation will be cheaper compared with Danish. But then you have all the hidden cost, all the late deliveries and quality issues the difference in times zones, communicating difficulties, introducing new products you have to send engineers to be there several weeks, lots of cost and delayed introduction to market and if you have late introduction to the market you lose competitiveness on the market.

People have now learned that by experience. A lot of people talked about it during the period where the outsourcing was at its high. But the problem as I see it is that you can't calculate a figure that you can add to the material and labor cost and say that that is a disadvantage cost summed up. You don't have a calculator to create a figure. You know it is there but how big it is? Today decision about outsourcing is not a purchases decision anymore. It became more strategic decision at top management level where people care about suppliers but more partners. They seek for a closer relationship because they have seen the importance of good collaboration to ensure high quality and low cost and flexibility in delivery times. We work on a lot of short contracts where we have contract that runs for years and where we source components with long lead time so we have them here and we looking at the forecast from the customer. And by this we can ensure short delivery time.

***Q: Do you have any idea of how your customers are making the decision of going back to Denmark?***



A: It's a board decision and top management decision in the company. And mostly they have discovered that they have losses generated from bad performance from Far East suppliers wherever they have offshored. So that is based on financial facts, they can see all the previously hidden cost. The customer we have, that moved the production from Far East to us value the agility and close dialog. It is easy to meet and sit around the table and discuss thing.

***Q: Do you have any knowledge how companies can ensure the learning process and that the learning experience from this decision is not lost?***

A: Well I see that as a communication issue in the companies. When you gain some experience you not only write reports for management but instead you have the knowledge spread out to all employees so all functions in the company are learning from that so it's more like a human factor thing. Using the knowledge from the bad experience. You need to involve everybody in the company, not only discuss it around the management table. You need to bring people together use time and discuss it. When the employees are catching the meaning of it and understanding it they will be better and more interested in using the knowledge, but if you don't tell them you prohibit that they cannot use the knowledge they don't have. So you need to work on the human factor throughout the organization.

***Q: Regard to the learning process, are you doing anything specific to help them to ensure the learning experience?***

A: We invite our customer to come here, and meet with our staff and we teach them about how to control documentation, how important it is that everything is documented, that you have revision control and every time you have a change in the product you have to update your documentation, and you have to inform your supplier that you have made changes to the product. We offer our customer to be here for a day with their colleagues at the same level to see how we handle the input from them and when you understand each other better it's easier to communicate and make sure that you learn from the mistakes and avoid doing them again

***Q: When the company's approach NECAS to move the production back, do they still in some cases keep some activities in the foreign market?***

A: It can be split solution that they keep some activities abroad and move some of them to Denmark. And often is the most requiring operation that they move to Denmark. The simpler the process is, the

easier is to offshore or outsource it. We also buy products from other countries than Denmark. So when we buy a simple products as cables or other things we often uses far east suppliers but if it's more complicated issue we prefer to have supplier closer to us. So the customer they can have other operation abroad but our interest is also more in taking more complicated production because then our knowledge and experience can create a better value for our customer.

***Q: How do you competed with big orders that can be done in Far East cheaper than in for instance Denmark?***

A: Well the larger the order you place, the cheaper the product is. And that is the same for us. If we have a big order than we can manufacture it at the low costs, we can reduce administrative costs per unit in that way.

***Q: Do you have specific criteria for selecting the customers?***

A: Every time we have a request for quotation we seek a lot of documents from the customers and then we have internal review meeting where we review all the documents from the customers. And the review is done by representative from our technical, production, purchase, quality and sales department. Together we evaluate the documents and we decide if it is something we can comply with, and the requirements in the documentations if it is suitable for our production and if we have the necessary know how capabilities, and if the answer is yes we start quoting process and calculating materials and cost and go on with the process.

Apart from that we also have an initial discussion with the representatives from the customer to see if they believe that we have the capacities to manufacture the product. If it is outside of our core area they have to find another supplier.

***Q: How do you deal with the threat of eastern European companies? That might also be close to customers and produce the product at the low costs as in for instance China.***

A: There is a difference in the way of thinking and involvement of employees. They are not as proactive as Danish employees. It is more the mentality from the socialists days. People in Eastern Europe are doing mostly what they are told, no more no less. You don't get the same spine from people from that region. The flexibility is often not really good so you cannot make a changes in the middle of the production.

On time deliveries and close collaboration are not really good so we still have a big competitive advantage.

### **Interview 3. With Henrik Hagens**

The third interview was conducted on 15. March with Henrik Hagens, who is CEO in Hagens Spring Group.

***Q: What were the main drivers of the decision to move production back from Poland to Denmark?***

A: So before I answer the question I need to inform you why we went to Poland. We had the main production in Denmark for European market and we have Chinese facilities for Asian market. So the main purpose to enter Poland is also the reason why we took it back again and it was at that time to save some costs. We have a market price of our products that means the selling price is given from the market. We cannot just raise our price so we have a fixed price we need to sell for and we have earning so we needed to change the production from Denmark to Poland. Later on we found out that we could make some investments on the more automatic line. And then it came up that we can move back to Denmark. And that make sense because the development of the project is in Denmark. So it often make sense to have the production near the development. So that time we saw that it was a good move and also in terms of costs it was better to move it back to Denmark. But in general we do not focus on if the products are produce in or outside Denmark. We do it if it has some meaning on the costs issue but it is not that we do not want to work with Eastern Europe companies.

***Q: We also read some papers describing the changes of polish market during the recent years. Was this also one of the main factor?***

A: No, that is not the factor. Another main factor could be if the customers are placed in another part of Europe but that is not this case.

***Q: And when you had your production in Poland did you then ship it directly from your production facilities there or did they go to Denmark first?***

A: Always to Denmark to check all the parts before we send it to customer.

***Q: So there is also a logistic issue then?***

A: Yes.

***Q: And when you made the decision to move the production back to Denmark who was involved in the decision making process?***

A: It was made on a team level who present the case and had to find out what do we have as a question marks and investments. When this was finished then the board was involved because it was a rather big investment and then we made a solution to the decision.

***Q: So did you also go down to the production managers?***

A: Yes, to involve all the persons who are involved in this product because it's very important that the products quality is still good. So we need to involve everyone from purchase to production managers to technical managers to meet the requirements. Because when you move a production that was running well then it's also a risk to what is coming up. We had also some issues which we did not see. That is why we made the team decision. And then we made some test after the investments and then we moved it. So it was more steps to prevent any problem.

***Q: So the point was to make a smooth transition.***

A: Yes, exactly.

***Q: As you mentioned the costs were one of the main reason. Have you made any other analysis prior to the decision?***

A: No, we only made analysis on the cost savings. Because the risk analysis is the same if we have it in Poland or in Denmark. It was only on equipment so if the equipment goes down than the risk is the same if it is here or in Poland. So on this product we do not have similar machinery. So the risk was the same. You can say if the building is burning then it is the risk but we are situated in different building so that is not risk for us if you think what might happen.

***Q: How about for example scenario planning? Did you make worst and best case scenarios?***

A: Yes.

***Q: Did it have any influence on the decision?***

A: No. Because the raw material. If we ship it to Poland or Denmark, It was also a question. Is it cheaper to ship it to Poland or to Denmark? And there were no scenarios that could change the bottom line where is the best to produce this from the cost point of view .

***Q: You said that when you moved the production you had a lot of sunken costs in Poland and lots of irreversible investments.***

A: Yes we had a big investments. And it was also taken to the decision. A lot of them were lost. We have to say this, but this was also part of the decision so everything was taken into the decision and the bottom line was about if Poland or Denmark.

***Q: When we were talking about all people involved in the decision, what about stakeholders. Did they have any influence?***

A: No, we do it on the investment level. So when we have found out all the points why we want to move to Denmark we make the investment case and there we involve the stakeholders. So to say how long does it take to take investment back. And this is a part of the investment. So the stakeholders were part of the decision on this level. So when it is a good investment then the stakeholder accept it. Because all the other things were analyzed before.

When we made the team evaluation, we saw the machinery and we found out does it make sense? And then we made this business case which says: If we invest in this machinery, then it's cheaper. Then there is an investment case which we take to the stakeholders and to the board meeting, where we present business case. And if they accept the investment case, then they accept everything below. Because below you have all the question marks about the quality, suppliers, equipment etc. After this decision we bought the equipment and calculate how long time does it take before the equipment is running. Then we made a test phase where we produce the products here and in Poland and after this period we close down the one in Poland.

So it was more steps to make sure that everything is running well and the customer do not feel any supply problem.

***Q: So you also talk a little bit that the reason you have production in China is to be closer to the market. But was the decision to move back from Poland also based on customer wish?***

A: No. It was only made by us. But the reason I informed whole structure of the company is because

some customers want to be near the factory. If you want to go to Asia, most of the customers want to be produced local, in China. So it can also influence the decision but in this case it was not the reason. We did not go to China to produce low costs and then sell it in Europe because the distance is too far. We invested in China to be local on the market.

***Q: That is very interesting point that you decided to go there based on the customers and not on the cheap production.***

A: Yes. Because it would be much cheaper than to go for instance to Eastern Europe.

***Q: So we also read that this might not be the last time you go outside of Denmark. Have you look at other processes in the company like accounting or so that could be outsourced to Eastern Europe?***

A: Not at the moment but everything is open. We do not have philosophy that everything must be done here. If it makes sense then we are open to change. And lots of companies have done this in for instance Poland or other Eastern Europe countries. So this can also be a scenario but not at the moment. We will not make any decision now for the future. From the cost point of view we must be competitive. Because some customer might not want to pay extra if it is done in Denmark.

***Q: About the investments in new machinery. What would have been different if you just put them in Poland?***

A: We did not want that because we wanted our technicians developing team to be close. But it could be the case. But this project is just a small part of the whole company but thinking about it in the future- everything is possible.

***Q: Our other question is about learning process and how did you manage to ensure that you moved the production back the experience and the knowledge is not lost?***

A: This is a key factor because it is very important. The way we did it was to run two productions. So we had the production in Denmark to learn how to make these products and still we had the running process in Poland. So we built up a stock so if something went wrong here we could still supply. And this is to learn how to make the product it is very important to do it that way. But also it has costs because you build up a stock which is not necessary in this period. That is the main issue.

***Q: When you look at the learning process now, can you see any obstacles that maybe now you would do it another way?***

A: No, I would only say that we could have done it a little bit faster, but not better. I think we were too keen on supply going on without any changes that is why we had a long period before we closed in Poland.

***Q: After the process has been done did you then go to all levels in the company to make an evaluation?***

A: Yes, we normally do the evaluation of large investments one or two years after. There we go and see how the case was, if it was correct or if we have paid more than we should, or was there anything not clear from the start and so.

***Q: This is very interesting because what we heard so far is that this is one of the most challenging part of the process. For example when the company takes back one production line and then they don't learn anything from it. Because it still has some negative vibes. And half a year later when they want to make another production back they make the same mistake.***

A: Yes. I think when you take production back to Denmark then you have a local employers who are very positive about it. It is much more difficult when you take the production from Denmark to another country. Then you will not have the same positive thinking from the employees who are afraid of losing their job. So in this case when the product coming back to Denmark then all are keen on learning because they know this is the way to have some people producing in Denmark.

***Q: If you look at this decision how it did influence the overall company performance?***

A: This project is the small part of the production. In this special project and the costs have been saved and earning is better. But in overall performance it is not a big part of the total production.

***Q: Speaking in general terms do you have any tips for how they can ensure the learning process is not lost?***

A: No, because it is always matter of learning and matter of training new people to do that job. And it will always take time. I cannot see any specific ways to do it. Automatization and robots are giving a



new possibilities so we will this in the future and more jobs moving back to Denmark, but at the same time jobs moving out of Denmark because jobs need to be near the customer. So it will go both ways.

***Q: What we learnt so far is that the communication on the all levels in the company is crucial to share the experience.***

A: Yes, that is correct. Because this project you cannot only do from the desk. Because there are many factors that you cannot see from the desk and you can only see it by talking to the people. Otherwise you might think that this was a good decision and it might not have been. So you need to involve all people both at the floor and at the machinery. But also you need to make the decision so it's what is coming first. And in this case the costs were the driver.

***Q: Also in general terms. When companies taking production for example back from China, one of the reason is the low quality. But why do you think they take the production back to Denmark when in other countries the know how might be the same?***

A: If you have production in China and not selling on their market then you should just take the production back to Europe. If you sell in China, it will go the other way. The Chinese want more and more local production but if you say that you are producing in China because of the low costs but you sell in Europe then it has meaning to take it back here. And Denmark is one of the country where if you are already here, most of the companies want to have their production near the developing department. But I also see that companies are moving to Poland and Slovakia because the costs are much lower. So we can see many different scenarios.

***Q: When you moved to China, was it also an entry strategy to the market?***

A: Yes, exactly.

***Q: We also saw a lot of cases that even though the companies follow others to enter the market and they take the production back they still keep serving the market. So if you would leave Chinese market would you still keep serving the market?***

A: No, we would lose it. If we are not present in China we will lose because the Chinese want to have local production.

***Q: But you would keep serving for example the polish market?***

A: Yes, that is not the problem.

***Q: Speaking about other processes of the company, how are you able to ensure that the quality you deliver from China is the same as the quality you deliver from here? Do you have a quality controllers in Chinese department?***

A: Yes, we have. That is the way to ensure that the quality is the same. Then we have frequent meetings and people going from Denmark to China so the products are similar. It is very important to involve the people.

***Q: Do you have the R&D department only here or do you have it also in China?***

A: We have it in China as well. That is very important for us because when customers are coming to China they also want to see R&D department. They believe that we are able to do it in Denmark but it's also better for Chinese to be involved

***Q: So in China you also employ Chinese academics?***

A: Yes

***Q: How did you manage to overcome the cultural differences?***

A: Yes, it is still a big issue. We think we know them but there is a big difference. We will also see the aspects differently. I think we will never get out of this. Denmark and China is a big difference and we have to live with it.

***Q: When you first moved to China did you see any hidden costs?***

A: Normally we can see a lot of them but of course there will always be some extra costs but if the focus is to look into all the matters than you can normally find these issues before it is going the wrong way. It was not a big problem because we knew there will be some extra costs so we were prepared.

***Q: We can also see the American market is opening up. But how do you see it now when Trumps***

***wants that the production in America? Do you see it as an opening for you guys to produce there?***

A: If he will do what he is saying then the American market will be much different in a few years, Because Mexico was one of the countries that everyone wanted to go to. But this will not be the same. The American market will go more like the Russian market did so that you make some assembly lines there. So import the product and assembly it in there. So we will see more Danish companies having their assembly factory in USA. So it could be components to sell to USA. That is what we are thinking when we supply our customers. If our product is not the components then it will not be affected. But if it is kind of assembly products then we can think about local production in USA. So it is very interesting to see.

On the other hand we cannot change our business based on what is happening in the world so we need to follow our strategy and be flexible if we need to change a little. But I am happy that we did not invested in Mexico because I think Mexicans are under pressure at the moment.

***Q: If you would have to decide whether you want to expand again or take the production back. Who would be involved in the decision?***

A: The same team would be involved again. Everyone needs to be involved from the top to bottom.

***Q: How would you overcome the obstacles of not having enough information about the market and knowledge about the country?***

A: The most important is to talk to the companies there because that is the best way to get knowledge about the market. Because then you hear the positive and negative things. That is what we did when we went to China. We talked to lot of companies already present in China. You can also hire some consultants which is also good but you always need to talk to the companies.

***Q: Many of the Danish companies started moving to Eastern Europe because there were lots of governmental founding. Was this also a part of the decision?***

A: No, no. But I know that in Poland there were some governmental funding and we had some competitors that have some machinery bought from money given by the European countries. We are not thinking in the way where can we get more funding. We think more where are the customers and where can we supply them from.

***Q: Do you still see differences between you and the companies that still kept the production on the polish market?***

A: No, if the production is doing well with the high level of automatization. But if not we will lose to some Eastern European companies because the wages are much lower.

***Q: When we were talking about differences between Chinese and Danish mentality, have you also experienced differences in the mentality between Denmark and Poland?***

A: Only very little. There are some differences but not big. We are more thinking in the same way in Europe.

***Q: We have also seen that many companies are choosing to go to Denmark but do you also have any reasoning for why companies don't choose for instead Sweden instead where they have more raw materials and so?***

A: It is not really issue for our product. Our product is very easy to put on the truck to take all over Europe. But other companies with large product they are looking more on the cost of transportation.

***Q: We also read that some companies might choose Denmark because of the flexicurity model?***

A: Yes, it can be. But only to the some level. Because if you are looking for instance on wages and you go to the Germany where the wages are much lower there is it a factor. So it depends on the company, on the size and so. Some company thinks it might be better to go to Denmark where you can hire and fire but we have wages that are lower in other countries in Europe like Poland or Germany. So some companies might think about Denmark as a suitable country but I also hear lot of companies talking about what are the costs of the wages.

***Q: How would you for instance react on making a joint database to share the experience from this back shoring phenomenon to ensure that other companies are not making the same mistakes. Could you see it as an opportunity or since it is highly competitive environment the companies would not be interested?***

A: No, we do the sharing in another way of point meeting. That means if one company is talking to us

for instance about China then we set a meeting with the company but we are not going to share it on the net for instance because you don't know who is reading this information. But we are sharing our knowledge with other companies as well as we had discussion with other companies before we went to China.

But on the other hand on the flexibility as you mentioned we are going in another direction of hiring temporary workers. We see it as a trend now and I think it will come more. So if this happening then the level between our model of hiring and getting rid of people very fast this model is little faced out. So I see we will have more and more solution coming from other countries so in the future there will not be a big differences going from Germany or coming to Denmark. But it depends on the products.

***Q: Do you do knowledge sharing through any industry associations?***

A: Yes we are member of Danish Industry and there we have a lot of knowledge sharing with other companies. We also get some feedback and it is very important for us. At this point you get some connections, and then you can make the one to one meetings because there you can be more open compared to placing the data in a database. There you would only inform a little because you are afraid of who can enter the database.

***Q: I think we covered all of the topics. So do you have any final comments?***

A: No, no. I don't think so.

***Q: But thank you very much for your time.***

A: You're welcome. I hope you will have a good project.



## Interview 4. With Rasmus Bech Christensen

The interview started with Rasmus presenting the company and why they offshored:

A: Back in 2008 when we made the decision about changing the assembly location of our engines it was a board decision and I was not a part of it and of course a few people from here were part of the decision. But the reason behind it was mainly we could produce cheaper in some of the low cost countries. And we had some locations in India and then we just build up some new assembly halls. Because we have a huge focus on the price for the new engines so the fact it can be produce cheaper was the main reason behind it.

In 2014 we were investigating if we should take the last production that we have here and move it to the sub suppliers and close down the machine hall of the propeller shafts. And I was a part of that investigation and of course it was driven by costs. Could it be produce cheaper somewhere else? We have some old machines and if we should invest in new machines, the price is maybe 3 million Euros and if we should do that investment will it then be better to outsource the shafts? We looked into Europe and Asia and we came to the solution that we keep the machinery of the shafts in house. Because the studies were made in China, the price was more or less the same. We have a big knowledge about how to produce the shaft and the price in China was almost the same. But we have found out that our rate was lower than in China but they use three time the time than we are using for machining the shafts. So by the end of the day the price was the same and of course we have discussed if we could transfer them some knowledge so they could reduce the hours and then we could have a cheaper products.

But the main driver was also the loss of flexibility. The lead time for the shaft is four months. And it is very important that we deliver on time otherwise we would have a huge penalties. We still have the flexibility where we can switch around the project and the shaft. So actually we did not get any big cost down on machining shafts in Asia. In Europe it was much more expensive than we can do here. Because we have the old machine and we can more or less just decide the hour rate of course.

So in the end of the day the decision was made because we would lose flexibility and that we don't have a huge cost down on outsourcing the shafts so therefore we kept them in house.

***Q: We read that the quality might have also be an issue for your company?***

A: Yes. Quality is so important so if we have problems after installation of the product the cost will be

huge. And let's say that if we have the shafts produce in China and have them ship in Europe and then we find a default on the shaft it takes five months to manufacture the new one so quality is important. But we have our own quality organization also in China and in Korea and India that taking care of all that audits and all that stuff and checking all the parts before it's leaving China. Because if we first discover the quality defect when it arrives in Denmark then we lose six weeks on the sea so it is very important to check the parts before. And we also have our own purchasing organization in China, Korea and India who are doing all that negotiating with the suppliers. When we discussed in house or external production I see it more or less the same. We know the quality from Danish suppliers and we use it for many many years but if we decide to move the part to China and have it produced locally there then it really needs a lot of focus and we really have to be on the project. Otherwise we would not have good results. We made a big decision back in 2012 about the Danish supplier of the bronze hub. We did a benchmark and we could have them produce in China for 25 percent less. It is very expensive and complex part. But we have decided to switch too Chinese suppliers and we made a project group with the people from china and made a plan. We had a weekly follow up, test orders and we really tried to have a good communication with the suppliers and people in China. And we actually succeeded by switching the part to the Chinese suppliers. But because we had so much focus on the communication and we explained how important the quality was. It is difficult to do business with Chinese people because they are just saying "yes". If we need a part in 100 days they will say that they can produce it in 100 days but then when the time is up, they need another 40 days. So we really had to explain how important it is.

You really have to have your own production in China. Because if you think that you can just switch between European and Asian supplier and just sit here in Europe and write emails- then you will fail for sure. You have to be there and build trust because that is really important for the Chinese.

***Q: Do you have any idea what kind of analysis has been made prior to the decision?***

A: It was mainly one board member that has the lead on the decision. Of course some business cases have been made to decide where we could produce cheaper. The results were that it is cheaper to produce in India. Looking back they were not focused much on the quality.

We have engines produce India and ship to Skagen. When the engines arrived we had to install the new parts because the quality was poor. So I think that was not part of the decision for moving the



engines assembly to India. In India they are not producing the parts, they are using the same sub suppliers network as we did here when we did the assembly in Frederikshavn. Of course they should localize some suppliers in India for some of the parts over time. And that is also part of the decision because when you producing locally in India then you can easily find a sub suppliers for some parts. But I think today in India they are still using the same suppliers network as we did in Frederikshavn. We had sub suppliers here in Denmark who now deliver to India instead.

***Q: So it was hard start up***

A: Yes. You know everything was so confidential. Only few people were involved in the decision because they should lay off five hundred people. I was not a part of it and only few people here in Frederikshavn knew about it. So it was something done on the top management level. Afterwards people were angry and confused, upset asking what to do. So it was mainly driven by costs. Because on doing assembly in Denmark it was difficult to earn money. We are producing engines inside but also lot of licensees in Korea and Asia. Sometimes we just sell the licensee and they are producing the engines.

***Q: What was the impact on the company performance to move the activities to India?***

A: It is difficult because Frederikshavn is still small location. Let's say we have a loss on assembly and minimize the loss and having some earning is a really small part of the company. So it is not impacting the whole company result because in Copenhagen it is really a big business.

Q: Do you have a standard procedure on how you shut down the activities or closing down the project?

A: Yes, I can take the example of the propeller shafts where we discussed if we should outsource or not. Of course we are having group of people from production, top management, finance and so. And of course we make a benchmark. We have the internal costs including salary and electricity and everything. And then we go and ask five different suppliers and accounting department. Then we do the comparison and show the figures. So it is important that it is not the sourcing department that is doing the comparison so they cannot be blamed for making fails. Of course it is also always confidential it keeps the figures and data in the small groups of people. But it is not a huge process it is just the normal

sourcing activities. It is not only driven by cost. Also other aspect such as flexibility, quality. Do we have suppliers that we can trust? So lot of things are behind the final decision. In our situation the soft facts are more important than actual costs.

***Q: To your knowledge was it ever considered to move the activities to Eastern European countries?***

A: No. If we should outsource the production or assembly, it will be in Asia. 80% of all the two stroke engines are built in Korea and all the four stroke engines are built in China. Only a few shipyards are left in Europe- Spain, Germany. 15 years ago there were a lot of shipyards in Europe but now because of the price it is moved to Asia. Also in Japan but Japan is very special. They are really protecting the market so if you want to enter the Japanese market you need the local production, because they are just doing business with the companies from Japan. So it is quite special. Coming back, if we should move production somewhere else, it will be Asia.

***Q: So you are basically following the market and customers?***

A: Yes, and all the shipyards. There are so many shipyards in China. I think in Korea one shipyard is building 2 000 vessels per year. Back in 2014 we were producing one hundred of them. It is really huge out there. Of course this is also impacted by the shipowner. If they can have vessel produced cheaper in China then they of course go for that. They have the knowledge, they are producing thousands of vessels every year so it's not that you are going somewhere exotic and take the huge risk.

We are considering if we should move the assembly to China right now. It is a bit confidential but right now we are just discussing why should do that and what the benefits should be. We have already discussed this three years ago but the decision were that we keep it here so we can control the quality. Because if we fail, the consequences will be huge.

Now we are discussing different possibilities. Of course when you decide to do assembly somewhere else, you also decide to spread knowledge. And we know the Chinese. If they see the drawing, they take a photo and two weeks after they produce it themselves. It was not difficult with the shafts because they were only one component but if we really decide to do the assembly of the equipment in China then we are spreading all our knowledge. Do we want to do that? That is the big question.

So now we are looking into the different solutions. One is to go there on our own, build up the factory where we do the assembly our self. Then we will protect all the knowledge.

We can go there and do the joint venture with another company. Then we share the knowledge only with this company.

Or we can give licensee to supplier in China. We can do it with already existing suppliers who do our propeller so they can do also assembly themselves.

So there is many things that should be considered. But we have to go to China, and we have to go to Korea. Because if we think that we can just produce here in Europe then we will fail. Because the industry is so big in China and we cannot fight against it. We just have to find the right business plan to protect our knowledge.

***Q: When you are shutting down the project, do you have some specific way of insuring the learning behind it?***

A: No, no. I think that we are just looking into one business case. And the top management is making the final decision. But we don't have the written down process that says that we have to look at the previous project. But we do have lot of processes about how to do this and this and this. But we don't have a process describing the whole outsourcing.

***Q: Do you think that the way you are doing it now is working well or anything should be improved?***

A: Of course things can always be improved. Today we only have the machining for the shafts left as internal production. So this is the only thing that we can outsource except the whole assembly of the propeller. Of course we can learn from other companies. I think that would be a huge advantage to see how do similar companies dealing with outsourcing processes. Sometimes we hire expert in Chinese import export rules because we do not have the knowledge in house. In Augsburg we have a lot of internal production and the decision whether it should be outsourced there is lot of things that have to be considered. For example what about the people, because it is very difficult to get rid of the people in Germany. It takes two years to fire people in Germany. And then the knowledge and flexibility are also important.

***Q: Do you share knowledge with other similar companies that has done this process before?***

A: We do not have a place to go and ask. Of course you can investigate on your own, but if we will make the decision it will be only our decision together with the top management in Augsburg. We will build up the business case that says the benefit and disadvantages and then we make a decision. So we don't have a standard procedure or place to go and ask about what are the disadvantages. But that would be very beneficial. We know that our competitors who are producing locally in China, what are

they doing. Our biggest competitor made a joint venture with the Chinese company. So now we are just sitting back thinking that maybe we are doing things too slow, should we do the same?

There are advantages also with producing in Europe for example Greece. If we have to secure a really good quality then Europe is good place. It is also about where do you see yourself on the market. Do you want to produce a high quality or having the top price. We want to be the best in quality so therefore we still producing in Europe. But I think that in 2018 we will have a local assembly in China. We can see this in another business case, in Brazil over the last five years they really have a lot of focus on local content. They really require local production. If you want to be huge on Brazilian market you need local production maybe local assembly. So I think the Chinese will do the same very soon, within the next three years. They will require local content because they are also under some pressure. We see shipyards closing in China. If they want to protect the shipyards the government will require local content there. Therefore I think that should be one of the reason why should we move some of the assembly to China. To be a part of Chinese market. They also have tax rules to protect the local production. That will become a huge issue for ship industry. You can see this also in Korea.

***Q: We read the case that you used multiple years on shutting down the factories here. Can you explain a little bit the process of shutting down here and opening up in India?***

A: When we shut down the internal production it was difficult to have people in Frederikshavn sharing knowledge with the indian people because they knew that they would just take over and one day just be led off. So working together with the people from india as difficult. But after two years I think it was 2010 it was finally shut down and that it was decided, that only when we have customers require the european production, we could still produce some here because we still have some part in our storage. And it was quite funny because the first customer was the Chinese customer asking for european produce engines. They know what quality is in China and it was quite funny.

We were producing 120 engines and in 2010 we were down to 10 or 15 engines that were required to be produced in Europe. And then it went up a little bit so maybe it was 20, 25 engines. Then it was a decision of the top management that we cannot produce engines in Frederikshavn because we cannot produce them here and in India. So it was management decision and even if it is required from the customer we cannot sell engines produced in here. Even Though the customer are usually paying more for european produced engines.

***Q: So it was not based on the fact that it is not cost beneficial?***

A: No, because we were actually improving our assembly time because we were competing with the

asian people. We wanted to show them that we can produce the engines very fast. So there was a big competition. We wanted to be the best and we actually made a good business because they were paying more for the european production. So it was the management decision that we cannot have the same engines produce in two locations. I was not part of the decision and it was all so secret that I am not the right person to ask the question because it was only the top managers who were the part of the decision.

***Q: So now about the future and reopening the factory here in Frederikshavn. Why did you start to make production here in Frederikshavn again compare to making it in Germany or in India or China.***

A: That is a good question. All research and development processes are consist of people from Augsburg. And Augsburg has a philosophy that they want to produce in Europe. And Copenhagen has the philosophy that they want to produce in Asia. So the company has a different philosophy and the company is owned by Germans so we just do what they say. But as this new engine type is the project from Augsburg I think they want to produce it in Europe. And then they were looking on the different sites we have in France, Stockholm , England, Germany in Hamburg , in Ausberg and then we have production facilities in Frederikshavn. So then they did a lot of benchmark on transport costs from sub suppliers, main suppliers of the components to Frederikshavn. How cheap can we do it compared to France and then of course assembly time and assembly facilities. Then the decision was made that we should do it in Frederikshavn and you should have in mind that we have a huge test facility here in Frederikshavn where we also test engined from Germany and from France and all over the world. We also do the research and development on the new engine types so right now we have six engines running in our test facilities which have been done for one and half year. We have a lot of knowledge about the engines and all the engines after the assembly they have to be tested. So there are a lot of things behind the decision that we have been chosen. Also it is quite political, right now they are laying off people in Germany because of the situation in the industry. So laying off people in Germany and then hiring new in Frederikshavn, it is difficult. So they keep it secret. We know that we should be the new assembly for the new engines but no one made an official statement. Someone has told us and we should prepare and do this but it is not official.

***Q: So the decision was made only by the top management in Germany?***

A: Yes. Of course they have lot of shipping department and know what is the price of sending it from here to Hamburg and what is the price of sending the engine from the european supplier to Frederikshavn. And then it is compared to what is the price of sending it to Augsburg.

***Q: Was it quality issue that the management wanted to keep it in Europe?***

A: Yes. I think that is their philosophy. They are producing the big four stroke engines, maybe 12 metres tall and five metres high. And they are producing them inside of Germany. Then they are transporting them by truck to do the final assembly. So it is quite strange that we are producing big engines inside of Germany. Normally we would produce them close to the water so we can transport them. Normally it would be in Hamburg because they have the harbor so they can easily be transported. But we are producing them inside Germany. It is not cost effective to have big engines transported in Europe. But that is their philosophy that they want to keep the production in Europe. It is difficult for me to see the overall strategy. There is no clear picture to what is the strategy for engine production.

But coming back to the question if we should have assembly in China, I think we should have it back in 2018 and also assembly. And the idea behind it is that we will have the assembly in China of the projects that are being delivered in China. Local suppliers will deliver some parts and then we will have a key components delivered from Europe to China so they do not have all the knowledge like the Copenhagen model. We will keep some parts for ourselves. We will still keep the assembly here in Frederikshavn so have the equipment maybe for a special vessel like the one with a huge complexity, and then we will still do the assembly in Denmark. All the research and development will be in Frederikshavn so we can do the tests and the assembly of the very complicated vessels. And then we will have some local production in China to become a part of the local market in China. I think that is the main reason for it. Of course we are having lots of parts produced in China at the same time as in Europe but we do the shipping in the big containers and the price is 2000 USD for a container. And compared to the 1 million euro propeller equipment it is small. But I think it is mainly that if you want to be a part of the local market in China and the 100 vessels that the Chinese government is building every year, you need to have some local production. I think that will be the main driver for having their own production. Not quality, not price.

***Q: So you still see those activities being kept in Europe and then have manufacturing and assembly in China.***

A: Yes because for the blades that can be adjusted that vessel sides are building in China is fitting quite well in CDP but if you have a big container vessel with the fixed propellers then it is taking place in Korea. So for our type of propeller, China is the main market. Therefore we need to have some local production. But we know from our main competitors that the price they are paying for the components is more or less the same as we are paying. Because our supplier is also a supplier to some of our biggest competitors. So the cost price for the components before assembly are more or less the same. Of

course the import tax to China is around 17 percent that we can get rid of. But if you are supplying propeller equipment from Europe to China and the propeller equipment is being installed in the vessels that are operating outside of China, then you do not have to pay the import tax. But if you are supplying propeller equipment for the domestic market in China then you have to pay 17 percent in taxes. So there is an advantage of having local production in China because you can get rid of that tax. And you can be a part of the local project. But then you have to do the same in Brazil, India and Korea, but maybe that is the future. They are protecting their own market and we are doing the same in Europe.

***Q: And as you also said they did it a long time in Japan as well.***

A: Yes. At least as I see it, and in the future the governments will protect their own market by setting up the import taxes. I think that is going to be huge in the future. We can see it is slowly starting in China. As they are slowing down they are setting the new requirement to the local content.

***Q: So do you think this will have an impact on the companies that are already active on Chinese market and thinking about taking the production back to Europe?***

A: No. Because it is only for importing parts in China and if they have a local production already then they are not affected by that. But if they are increasing the import tax and we know that the Chinese when they are not doing export- you heard Trump the other day that they are exporting more than importing and I think he told them that now they have to import something from US. I think if Chinese are protecting themselves by increasing the import tax and local content then Europe will do the same. I do not know how this is going to develop but I think it will be a huge factor in the future. It is also something that we have discussed internally that they have to protect the local government supported projects.

***Q: I think we have covered all of our questions. So thank you for your time.***

A: You're welcome.





## Interview 5. Follow-up interview with Henrik Hagens

Follow up Hagens spring group. The interview was carried out on 1 May.

***Q: the first question is about the Chinese department. Have you ever faced any quality issues here ?***

A: The Chinese have quality issues like we have in Europe. But what we did from the start was to inform our sub suppliers that we would do full quality test. In that way we got fewer quality issues because we informed the suppliers in the beginning that their products or raw material would be tested. That's why we did not face any major quality issues compared to others. Maybe others rely on the certificates from the suppliers but we do our own test. This was important for us to make sure the suppliers knew. Then the Chinese suppliers would not give us the wrong certificate but the right one from the start.

***Q: so do you only have Chinese suppliers to this department of the company ?***

A: no we have both. We have European, Chinese and Korean. Depending on the customer's need. But we always focus especially on the Chinese suppliers and make sure they know we make our own quality control. This is a little different than what the Chinese do. They look at the certificate, and if it says it's okay they believe it's okay. But we made the other statement from the beginning because everyone can make a certificate, therefore we did not face any major quality issues other than very small issues.

***Q: Have you ever experienced that customers want a European supplier or that the product is made in Europe ?***

A: no but we have many customers who want the material to come as import which means it comes from outside of China. This is because they don't believe in Chinese material but in fact you can get both good and bad materials in China. But this is a request we often get so there is nothing we can do

than import the material.

***Q: have you experienced that some of your supplier's move with you to China ?***

A: no it's easier for them to ship it since we are too small. On the other hand we have suppliers who moved to china for production but this is not because of us but because of other companies doing the same. The automotive industry is a big player on that market and are doing this a lot.

***Q: have you thought about moving some of your expensive parts back to denmark and then ship them to China ?***

A: No because we are only in china because of the market so we must make the right products for the market. so we must be there and we must produce there.

***Q: why did you decide to have the Chinese production in house instead of outsourcing this ?***

A: because we are too small to have this way of agreement because we are afraid we will not get the right product or priority. So that's why. Also the customers are coming on visit wants to see the production line. So we cannot just be a company trading, our customers don't want a trading company they want a production company.

***Q: Have you faced any issues with the Chinese government and the initiatives they make?***

A: Yes in some areas the government want some special companies developing and in those areas they expand but only this kind of company. So if you are not in that segment you cannot have production there. But the government in china is very open about it so you know where to go. We have not seen this as a disadvantage but an advantage because it also brings life to new companies. So i don't see this as a problem.

***Q: We have seen that China has not seen the expected growth so what have you done if anything to adapt to this ?***

A: Now it's changing because the consumer market is going up and they will create some new growth from this market. This is a change from what happened earlier. This will also effect our company in a good way because they will ask for new product and product with value. so they are going from low cost products to now wanting a better quality product and this is a big advantage.

***Q: Have you noticed any other changes to the market ?***

A: yes they are changing from the companies who are state owned. They are under a lot of pressure this causes new possibilities for other companies because these can't earn money so they close them down which opens up the market in general. So now we can get some new customers who before only bought from state owned companies. In general this is a good change for us. What i like the most about China is you already know the regulations so it will not be a surprise, you just have to find the way.

***Q: we heard that the Chinese wants to make the old rule about having to have a Chinese partner active again what are you doing if this case happens ?***

A: The customers over there want the production to happen locally and this comes from the government. They want you to produce most of the parts over there because they want their own labor. But again they are open about it. So when we tell customers we produce locally then we can continue our talk because we fulfill the government's goals.

***Q: how many of your Chinese employees are then from China and how many did you "import" from Denmark or other countries?***

A: There is only one dane, this is our general manager all the others are local workers.

***Q: last time you informed us, that when you first entered the market you didn't have a lot of hidden costs because you had someone on one interviews with companies who were already active in this market. Can you elaborate a bit more on this in regards to what area these were operating in and where they fit into your value chain ?***

A: it was many different. On our level it was bigger companies with final sales but also sub suppliers and many other so a big range of different companies which was important for us. Because if they tell the same story then we can see there is some truth to it. So if you only ask one segment you will not get the whole picture and this might not be a general problem but only a problem for that type of companies. This is also different in the different areas of China.

***Q: when you moved to China did you see competitors doing the same thing ?***

A: Yes

***Q: how do you think they approached this ? the same way as you or ?***

A: some are going into joint ventures (JV) since that was very common at the time. But to go into a JV with a Chinese partner can cause some troubles. Since we are too small, we don't have the power to grow with a JV partner. But we have competitors who went there with a JV partner.

***Q: do you know if faced any issues with this ?***

A: some of them failed and some went well. Most of the issues i have heard is when the Chinese partner see this growth they want to take over the company. This is a problem when you are the small partner in a JV since they most likely have more money than you.

***Q: have you heard about any of your competitors who went back on these big investments after starting up in China ?***

A: No they are still there. Because this market is so big that they simply have to be there.

***Q: have you ever thought about offshoring other parts of the value chain than the production?***

A: we tried sales agents years ago on the european market. but it was not successful because our products are so cheap. So the agent can't earn enough and they don't want to bring our product together with other products. That's why we need to be the one making the sales. It's not because of the agent but that our product don't have a high value. So an agent needs to sell so many springs in comparison to selling just one machine. then he would rather sell the machine rather than a ton of springs. This is why the agents are not really keen on this idea. But we are not considering this now since we do not have a good experience with it.

If we go to a new market we will do it like in china with us being there and responsible for everything.

***Q: when you are taking production back what do you think is the most important resources?***

A: the human capital is getting a bigger and bigger issue because it's getting harder to find skilled workers. But when we moved production we always move it based on the market. So where are the customers, and do they want to pay for this ? then later on we look on the human resources. Cause the customers are the most important so we have to move to get these. But it is an issues. We can see that production could move outside of denmark in the future because we don't have the right workers or educate them.

***Q: Do you think that if you have a failing strategy in Denmark you can change the strategy around by changing location ?***

A: Yes, i think if the strategy has failed then you need to look at the cost. if this is the issue you can

move it to a low cost country or make an automatisisation. So on other ways it can fail but not on the cost. But when you have a customer you need to produce based on what they want and need.

When we hire a leader we can see some issues but then we need to find a new person to do it. Then you must find a new person who fit's better. I can't put the blame on others i will need to look at what i can do better and if that is to hire someone new i will have to do it.

***Q: In your area you said most companies had to stay in China even though it was not a success do you think this is a general thing for other industries as well ?***

A: yes because to get a success you will just need to re organize or hire new personnel. Cause most of the time it's not the product which is the problem but more a leadership. Our goal is to meet the market, so if the customer wants us to be in China we will go to China and then we must find a way to earn money here. So we need to go to China no matter what then we will need to make a scenario where we can make money.

***Q: So we can also see that what you did in Poland was a strategic move of moving an already succeeding strategy to an even better level?***

A: yes because we found that the technology was getting better so we could make money in Denmark. Therefor we moved out of Poland because it makes sense. But it's not because the Polish people didn't do well. But just because we could earn more here. But looking back at a previous question from you it is relevant if you don't have the right people to use these machines. Then you have a new issue and then you have to produce where you can get the skilled workers.

***Q: Are you introduction the same technology to the Chinese market as you did in denmark ?***

A: only a little but it will come soon. We see a lot of robots over there so in a few years we will see a lot of automatisisation over there.

***Q: We talked about companies moving there with their customers but do you think some companies did this based on what the industry did and not because of what they thought was the best ?***

A: well they would do it because of the customers even though they do not think it's the best idea they will have to. In the automotive industry they need to be there because of the customers want them to be near.

***Q: We heard that scandinavian brake systems had to move to China because of their customers Vestas.***

A: Yes exactly in this case if they didn't move with them Vestas would just find a local supplier or someone else who would do it. So this is the same case.

***Q: any final thoughts or comments ?***

A: Right now the case is we can produce everywhere to low cost but looking into an overhead we can still see companies moving activities outside of Denmark this could be administration prices are too high even though you produce to a competitive price. So there you need to move other activities outside. Looking a Jysk they have a lot of people in Poland and this is not because they produce there. I think we will see this alot in the future and i think we will see a lot of this in the future because it is so easy to get things like accounting done somewhere else when you can just send the information. So all in all this is done because you can save some cost. so there will be jobs outside of denmark even though we can produce competitively.