UNIVERSITETET I AGDER

Making Reshoring Decisions - the Case of a Norwegian Manufacturing Firm

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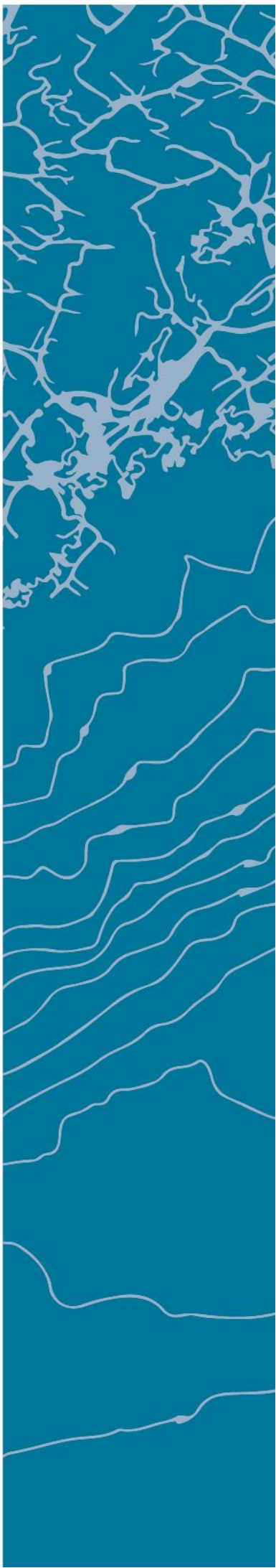

Preface

It is difficult not to notice that an increasing number of Norwegian companies are returning production to Norway, given the attention in the press. The possible positive effects for Norwegian economy and labor market itself makes this an engaging theme. We both have a background from technical automation studies, and reading that automation is one of the elements making Norway a viable sourcing alternative certainly caught our interest.

We wish to thank our supervisor, Rafael Heinzelmann, for valuable feedback during the entire writing process. We would also like to thank the interviewees and case company for their hospitality. Finally, we wish to thank our friends, family, and classmates who provided much appreciated feedback.

Abstract

Relocating activities to low-cost countries has been, and still is, a prevalent method of reducing production costs for manufacturing companies. In recent years, however, many companies have reconsidered this strategy, and started to move activities back to their home country. Opportunities to reduce labor costs through automation have certainly contributed to this process.

The rationale behind the phenomenon, called "reshoring", has been discussed to a large extent in current research literature. How companies make such reshoring decisions, on the other hand, is generally under-researched (Wiesmann, Snoei, Hilletofth, & Eriksson, 2017). This will be the primary focus of this master's thesis, which aims to understand the role of managerial accounting information in reshoring decisions. In order to understand this, we have adopted a single case study methodology. Two embedded cases in a Norwegian manufacturing company have been studied by interviewing key decision-makers.

We found that the company had a rather pragmatic approach to decision-making. Financial and non-financial information were integrated by using a multi-criteria analysis method. This approach did not emphasize the quantification of qualitative factors, but drew on the experience of decision-makers to weigh qualitative factors. Important factors such as proximity to innovation environments, protection of intellectual property, and efficiency of communication without cultural boundaries had significant influence on the decision. These factors are acknowledged by literature, but this thesis provides more in-depth understanding of how they affect the reshoring choice. A model of the company's decision-making process is presented, and is found to have a distinct resemblance to the generic purchasing process defined by van Weele (2014). For this company, reshoring is a special case of sourcing where the best option is in the home country.

Contents

Chapter 1

Introduction

Companies are under constant pressure to find ways of staying competitive. Norwegian manufacturing companies with labor-intensive work saw low labor costs in countries such as China as an opportunity to reduce costs. Numerous companies offshored activities to these countries. Not only in Norway, but in the rest of Europe and in the USA, companies started buying or producing goods from low-cost countries in the far east during the 1990's.

While offshoring remains prevalent, an increasing number of companies are now reconsidering this choice and moving activities back to the home country. A survey of the prevalence of reshoring in Nordic countries suggests that 18.9% of companies have reshored an activity in the period 2010-2015 (Heikkilä et al., 2017). In Norway, cases about companies bringing production "home" can be read in the news. One company in the automotive industry reported savings of 30% in costs and production time (Stensvold, 2016). Also within the construction of offshore rigs, the final price was stated to be 75% more expensive in Asian countries (Lorentzen, 2017). This suggests that the location decision for activities is no longer as clear-cut.

The topic of reshoring has recently gained the attention of acedemia. However, the current literature has been focused on the rationales for reshoring. For example, the literature review by Wiesmann et al. (2017) extensively catalogs the different drivers and barriers for reshoring found in previous research. Since 'why' is a somewhat explored terrain, 'how' will be the focus of this study. The aim of this study is to investigate the reshoring decision-making process of a Norwegian manufacturing company from a management accounting perspective.

1.1 Motivation

From an academic perspective the motivation lies mainly in the rather small amount of literature published on the subject, and the resulting need for further research (Wiesmann et al., 2017; Stentoft, Olhager, Thoms, & Heikkilä, 2016). The most important studies on reshoring will be covered in the literature review in this master's thesis. It is evident that a majority of the publications examines the extent of the reshoring phenomenon and the reasons for reshoring. To us, a natural follow-up would be how such decisions are made. There are indications that previous offshoring decisions are based mostly on cost, and it could therefore be interesting to see what information is used for making reshoring decisions.

There seems to be a gap in the existing literature, which the expression from the latest literature study of reshoring literature shows: "Decision-making processes with regard to reshoring generally appear to be under researched." (Wiesmann et al., 2017, p. 27). There are also indications that there is a research gap related to decision-making in situations where a combination of financial and non-financial numbers must be evaluated alongside qualitative arguments. Or in the words of Nielsen, Mitchell, and Nørreklit (2015, p. 66) "Still, the integration of qualitative and strategic factors into the costing analysis is largely ignored and remains an understudied subject in the accounting literature."

1.2 Research Question

The research question for this master's thesis is:

"What is the role of managerial accounting information in reshoring decisions?"

This is a study of the reshoring phenomenon. It will aim to contribute to the existing reshoring literature by addressing the research gap related to the reshoring decision-making process. At the same time contributing to the management accounting literature by studying a case where qualitative arguments are evaluated along with financial information, for decision-making. The process will be studied from a management accounting perspective, aiming to understand the information that is utilized for decision-making. It is a qualitative single case study, using semi-structured interviews as the main source of empirical data.

The thesis is structured as follows. Chapter 2 consists of a review of preceding literature on reshoring. It establishes the theoretical framework and language that will be used throughout this thesis. Chapter 3 presents relevant methodology theory as well as ways to increase research quality, followed by research design in Chapter 4. Chapter 5 starts with a case description, followed by the main empirical findings. These findings are analyzed and discussed in Chapter 6, before conclusions are drawn in Chapter 7.

Chapter 2

Theoretical Framework and Literature Review

This chapter will first discuss the terminology used in preceding literature for the phenomenon in question. Thereafter, literature on the rationale for reshoring, and the reshoring decision-making process will be presented.

The theoretical frameworks used in this thesis are transaction cost economics and the resource based view of the firm. These have been chosen based on their prevalence in offshoring and reshoring literature, and are therefore the "standard" perspectives for analyzing these phenomena.

Finally, empirical evidence and theoretical tools for analyzing the role of management accounting information are presented.

2.1 Terminology

The number and variety of terms used to describe the phenomenon of moving production back to the home country, is extensive. The "European Reshoring Monitor" uses a set of 89 terms in order to find and track reshoring cases in both media and academic publications (European Reshoring Monitor, 2016). In academia, the terms *backshoring, reshoring, backsourcing,* and *back-reshoring* are commonly used (Stentoft et al., 2016; Wiesmann et al., 2017; Fratocchi, Di Mauro, Barbieri, Nassimbeni, & Zanoni, 2014). Wiesmann et al. state in their literature review that one explanation for the existence of different terms, could be that there is not yet a congruent

definition. The same term may even be defined differently by different authors. What seems to be common sense in the literature is that reshoring considers a relocation of production, however, location and ownership requirements differ. Of the eleven explanations gathered by Fratocchi et al. (2014) and Wiesmann et al. (2017), nine state that reshoring, backshoring and backsourcing regards locating production back to the home country. The majority explicitly state that it is a reverse decision of previous *offshoring*. The definition of offshoring used in this thesis is: "... the performance of tasks in a country different from where a firm's headquarters are located ..." (Grossman & Rossi-Hansberg, 2006, p. 3) In the 22 articles covered in the literature review of Wiesmann et al. (2017), the most common term was reshoring, used in eleven of these articles. In this thesis, the term reshoring will be used, in the meaning of "... moving manufacturing back to the country of its parent company" (Ellram, 2013).

Ownership is not regarded by most reshoring definitions, however some do include specifically if the factory both offshore and onshore is owned by the company in question. Gray, Skowronski, Esenduran, and Johnny Rungtusanatham (2013, p. 28) deemed the term reshoring "... a location decision only ..." To include ownership, Gray et al. add the two descriptive terms *in-house* and *outsourced*, meaning owning the factory or buying from a supplier respectively. Four possible situations can now be described. See Figure 2.1.

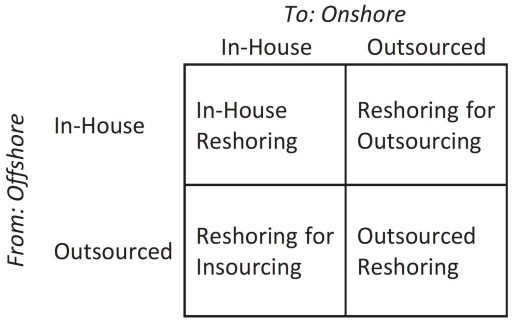

Figure 2.1: Four different modes of reshoring, regarding ownership. From (Gray et al., 2013, p. 28)

Whenever necessary the ownership modes of Gray et al. will be appended to specify the the type of reshoring. This does not conflict with the definition of reshoring presented above.

Offshoring and reshoring are distinct from *outsourcing* and *insourcing*. While the former two regard location, the latter specify ownership. One definition

of outsourcing is: "Outsourcing means that the company divests itself of the resources to fulfil a particular activity to another company, to focus more effectively on its own competence." (van Weele, 2014, p. 32). Similarly insourcing is defined as "... decision to bring an activity that initially was outsourced, back in-house" (van Weele, 2014, p.159).

2.2 Reshoring Literature Review

The academic literature on reshoring is rather limited. However, two literature reviews, (Stentoft et al., 2016; Wiesmann et al., 2017) were found, which summarizes the variety of terminology and the findings from empirical studies. These were used as a starting point for finding literature and get an overview of the phenomenon.

2.2.1 Drivers and Barriers to Reshoring

Along with the first paper by Kinkel and Maloca (2009), a majority of the obtained literature investigates the extent of the reshoring phenomenon and underlying reasons for companies to reshore. Of these are papers such as (Canham & Hamilton, 2013), (Ellram, Tate, & Petersen, 2013), (Fratocchi et al., 2016), (Heikkilä, Martinsuo, & Nenonen, 2018), (Kinkel, 2012), (Stentoft, Mikkelsen, & Johnsen, 2015), and (Tate, Ellram, Schoenherr, & Petersen, 2014) quantitative studies to determine the statistically important reasons to reshore. Studies of more qualitative nature, such as case studies are (Martínez-Mora & Merino, 2014) and (Slyngstad, 2017). Mixed methods studies found were (Bailey & Propris, 2014), (Kinkel & Maloca, 2009), and (Moser, 2013). Of particular interest for this thesis are also the works (Gylling, Heikkilä, Jussila, & Saarinen, 2015) and (Valkonen, 2016), which both focus on the decision-making process of reshoring in particular.

Both the literature reviews of Stentoft et al. and Wiesmann et al., in addition to conceptual papers such as (Fratocchi et al., 2016; Gray et al., 2013; Kinkel, 2014) cluster the factors or create a framework for analyzing them. As an example, Wiesmann et al. (2017) place factors into the categories *global competitive dynamics, host country, home country, supply chain*, and *firm-specific*, each of which are subdivided into *drivers* and *barriers*. Fratocchi et al. (2016) builds a theoretical framework by using *the goal* and *the level of analysis* as the two axis to build a two-by-two matrix. The goal can be either

cost efficiency or *customer perceived value*, and the level of analysis can be either *internal environment* or *external environment*. By placing the different underlying factors for reshoring found by previous literature, Fratocchi et al. comment that they distribute evenly among the four quadrants of the matrix. This may, according to them, suggest that the phenomenon considers challenges from various fields, and that a holistic approach might be fruitful to apply (Fratocchi et al., 2016).

To present the factors motivating companies to perform reshoring, the results of Wiesmann et al. (2017) will be used. As this is the most recent literature review found, drawing solely on peer-reviewed research journal articles. In Table 2.1, the different factors are grouped according to the categories presented earlier. Some scholars, especially (Bailey & Propris, 2014) focus on the limits or barriers to reshoring. These are shown in the right column.

Table 2.1: Drivers and barriers to reshoring. From (Wiesmann et al., 2017, pp. 29-31)

Drivers	**Barriers**
Global competitive dynamics	
Changes in the global economy	Large economic differences
Political risks	Instability of exchange rates
Eroding comparative advantages	Large differences in resource availability
Instability in exchange rates	
Increased competition on resource assets	
Host country	
Diminishing growth opportunities	Risk of losing access to market and foreign distribution channels
Inadequate quality in the host country	Risk of losing access to raw-materials and components that are only available in the host country
Theft of intellectual property and weak patent enforcement	Risk of losing supplier knowledge
High employee turnover	
Lack of trust and commitment among staff or suppliers	
Risk of public relation disaster due to supplier malfeasance	

Table 2.1: (continued)

Drivers	**Barriers**
Home country	
Political incentives	Stricter environmental legislation
Promote community (domestic goodwill)	Lack or shortage of raw-materials and components
Access to qualified personnel	Lack or shortage of qualified staff
Increased degree of automation	Lack of flexibility in the labor market
Higher productivity and work morale among staff	
Increased awareness of environmental impact	
Increased focus on sustainability	
Strengthen of brand through "made in XX"	
Supply chain (only drivers)	
Innovation, research and development suffers due to the distance to manufacturing	
High coordination costs	
Risk of disruption	
Importance of and issues with delivery performance (speed and dependability)	
Difficulties to match production (supply) and consumption (demand) volumes	
Growing demand for and shortages of accessible transportation	
Inability to provide services related to the product	
Increased demands on customization	
Difficulties due to physical and mental distance	
Firm specific	
Wrong estimation of benefits and risks in the offshoring decision	Too late to get back
	Immature reshoring process
Lack of knowledge about the host country during the offshoring decision	Lack of capacity, resources and internal competencies
	Lack of proper decision support/data
Overhasty decisions (bandwagon effect)	Lack of information and communication about reshoring within the business
Over-estimation of cost savings during the offshoring decision	

These results come from studies on European and U.S. companies. Some research, however, is available on reasons to reshore to the Nordic countries, (Stentoft et al., 2015) (Denmark) (Heikkilä et al., 2018) (Finland), and Norway (Slyngstad, 2017; Strøm & Olsen, 2015). Heikkilä et al. (2018) performed a survey study on 229 Finish manufacturing companies. They considered factors both for offshoring and reshoring. Stentoft et al. surveyed 843 companies, of which 87 had reshored (they use the word insource for moving production back to Denmark) The most important factors for reshoring among the studied Nordic companies are shown in Table 2.2.

Table 2.2: The most important factors for Nordic countries to reshore (Terms slightly changed to facilitate clustering).

Factor for reshoring	**Publications**
Flexibility	(Heikkilä et al., 2018)
Quality	(Heikkilä et al., 2018; Stentoft et al., 2015; Strøm & Olsen, 2015)
Lead time	(Heikkilä et al., 2018; Stentoft et al., 2015)
Logistics costs	(Heikkilä et al., 2018)
Increased automation	(Stentoft et al., 2016; Slyngstad, 2017; Strøm & Olsen, 2015)
Higher costs than expected	(Slyngstad, 2017; Strøm & Olsen, 2015)
Free capacity	(Slyngstad, 2017)
Regain control	(Strøm & Olsen, 2015)
Get closer to the market	(Strøm & Olsen, 2015)

All of these motivations for Finland and Norway, except *free capacity*, are present in Table 2.1.

In their survey study of 229 Finnish companies, Heikkilä, Martinsuo, and Neonen (2016) investigated the extent of offshoring and reshoring for Finnish manufacturing companies. In addition they included questions on how important different aspects were for offshoring and reshoring. The graphical representation of their result is repeated in Figure 2.2.

One interesting observation that emerges from the figure is that the reasons for offshoring are different from the ones for reshoring. Further it is notable

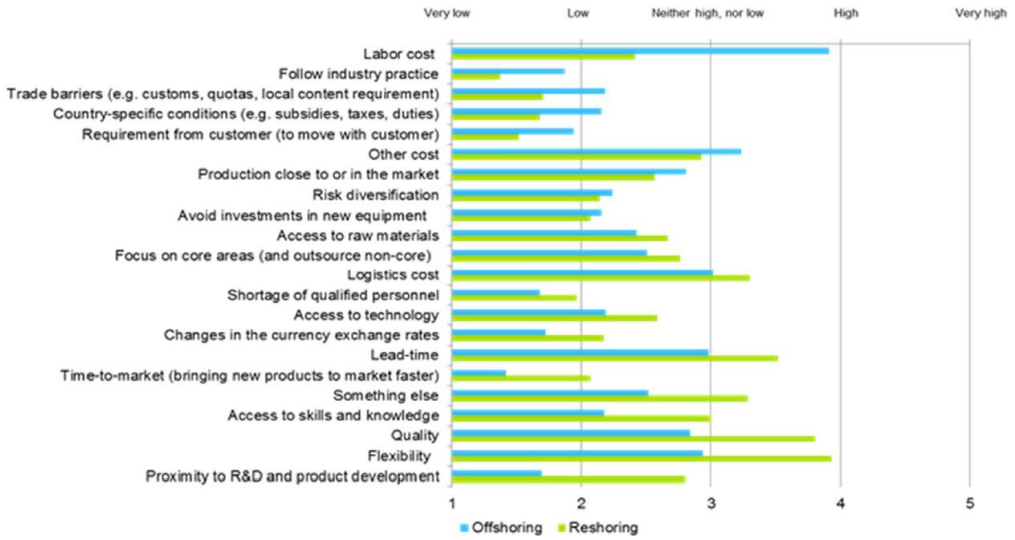

Figure 2.2: Importance of different factors for offshoring and reshoring. From (Heikkilä et al., 2016, p. 6)

that the three most important factors when offshoring are related directly to costs (labor costs, other cost and logistics cost). For reshoring the most important factors are related more indirectly to cost (flexibility, quality and lead-time). Similar observations were made by Kinkel (2012), with fewer categories. However, labor cost dominates for offshoring, and quality and flexibility are the two most important categories for reshoring.

The reshoring literature studied by Wiesmann et al. (2017) build on the three theoretical frameworks of transaction cost economics, resource based view, and ownership, location and internalization advantages. The first two will be elaborated in upcoming sections. A brief presentation of the latter is given here.

The *eclectic paradigm*, proposed by (Dunning, 1980, 1981) seeks to explain the nature of international businesses based on the three dimensions *ownership advantages, location advantages*, and *internalization advantages*. An ownership advantage relates to the competitive advantages of a firm. A location advantage relates to advantages such as resources that are immobile and hence favor the existence of a firm at a certain location. These two will explain why companies turn to foreign locations. However these two dimensions do not predict whether a company will *internalize*, such as vertically integrate, these activities. For this to happen, certain internalization advan-

tages must be present (Dunning, 1980, 1981, 2000). Rugman (2010) criticize the eclectic theory of being "... too eclectic." (Rugman, 2010, p. 2). The problems arise due to the definition of the different advantages, especially ownership and location. In line with (Fratocchi et al., 2016), this thesis will pursue other, more specialized theories.

2.2.2 Reshoring Decision-Making Process

Less attention has been given to the decision-making process and the role of financial information in the reshoring decision-making (Wiesmann et al., 2017; Stentoft et al., 2016). Gylling et al. (2015) studied the offshoring and reshoring processes of a Finnish bicycle manufacturer. The action research emphasized the cost calculations performed in both decisions. In both cases the chosen option was the one with lowest costs, although for the reshoring decision qualitative non-financial measures are added. These were: difference in lead time, changes in the market towards more fluctuating customer demands. The latter being mentioned by Martínez-Mora and Merino (2014) as well.

Because investigating the role of accounting information in reshoring is one of the research questions for the *Reshoring of Manufacturing (RoAMING): Disruptive Technologies, Business Ecosystems and Performance Information as Key Enablers* project, some academic evidence is available in the final report (Heikkilä et al., 2017). The second chapter in the report builds partially on a survey of 847 companies in Denmark, Finland and Sweden. Companies were grouped based on their offshoring and reshoring movements into the following categories: *no movement, only offshoring, only backshoring* and *both offshoring and backshoring*. The study found that companies in the two latter categories replied to have greater availability of financial information, and also the highest support for decision-making. However, the results were not statistically significant, and they recommend further research (Heikkilä et al., 2017). There was not found detailed information on what type of financial information companies use for the decision.

Valkonen (2016) studied both the decision-making processes and the role of accounting information in his master's thesis. Three cases were studied in the thesis, of which two were reshoring and one offshoring. The steps in the decision-making process were mapped and presented as a flowchart. The analysis of the processes was built upon the framework of Mintzberg, Raisinghani, and Théorêt (1976). The two reshoring processes were less complex than the offshoring one, and the availability of financial information in gen-

eral higher. The offshoring company gradually gained financial information throughout the process, which was longer and more iterative compared to the others. The reshoring companies developed a need to quantify the non-financial benefits of domestic production (Valkonen, 2016; Heikkilä et al., 2017).

The little attention given to reshoring decision-making in the literature suggests a research gap. The literature reviews of both Stentoft et al. (2016) and Wiesmann et al. (2017) point out that research specifically on decision-making, or the "how" of reshoring is needed.

2.3 Transaction Cost Economics

Transaction cost economics (TCE) is a microanalytic study of economic organization, and is mainly concerned with how the principal dimensions of a transaction affect the choice of governance structure. The principal dimensions of a transaction, as proposed by Williamson (1985), are: *asset specificity*, *uncertainty*, and *frequency*. The governance structures discussed are: *market governance*, *trilateral governance*, *bilateral governance*, and *unified governance* (Williamson, 1975, 1985).

Oliver E. Williamson (1975, 1985) is one of the prominent authors within transaction cost economics. He builds upon the work of Ronald H. Coase (1937) by regarding the transaction as the basic unit of analysis, and by attempting to determine if an activity should be performed within the firm or by the market (Coase, 1937; Williamson, 1985, 1975). Williamson (1985) bases his arguments on two behavioral assumptions: *bounded rationality*, which refers to limits on cognitive competence, and *opportunism*, which refers to self-interest seeking with guile (Williamson, 1985).

2.3.1 Transaction Costs

Williamson (1985) draws the following comparison between frictions in mechanical systems with transaction costs to explain the concept:

> A transaction occurs when a good or service is transferred across a technologically separable interface. One stage of activity terminates and another begins. With a well-working interface, as with a well-working machine, these transfers occur smoothly. In

> mechanical systems we look for frictions: Do the gears mesh, are the parts lubricated, is there needless slippage or other loss of energy? The economic counterpart of friction is transaction cost: Do the parties to the exchange operate harmoniously, or are there frequent misunderstandings and conflicts that lead to delays, breakdowns, and other malfunctions? (Williamson, 1985, pp. 1-2)

One can distinguish between *ex ante* and *ex post* transaction costs. The former refers to transaction costs that occur before the transaction, such as the costs of drafting, negotiating, and safeguarding an agreement. For example, if the parties spend a considerable amount of effort planning for contingencies in advance, *ex ante* transaction costs would be significantly greater than if the parties developed an incomplete contract, and adapted by filling in gaps as the contingencies unfold (Williamson, 1985).

Ex post transaction costs refer to transaction costs that occur after the transaction, such as adaptation, monitoring, enforcement, and termination (Mahoney, 1992; Williamson, 1985). In the example of an incomplete contract above, the adaptation required would be a source of *ex post* transaction costs. This also points to the fact that *ex ante* and *ex post* transaction costs are interdependent, and should be addressed simultaneously rather than sequentially (Williamson, 1985).

2.3.2 Behavioral Assumptions

Comprehensive *ex ante* planning, and contract as promise (*ex post* adaptation) are often not viable as contracting strategies. This is because they, as Williamson (1985, p. 42) puts it: "make heroic assumptions about human nature". The first strategy features fully rational human beings, and the second assumes that opportunistic behavior is absent (Williamson, 1985).

Bounded Rationality

Bounded rationality is an assumption that acknowledges limitations to the cognitive ability of the human mind (Williamson, 1985; Simon, 1997). Human behavior is assumed to be "... *indendedly* rational, but only *limitedly* so ..." (Simon, 1965, p. xxiv). It refers to how humans experience limitations in their ability to receive, store, retrieve, and transmit information without error (Williamson, 1975).

This form of rationality implies that humans have difficulty knowing all alternative choices, anticipating the consequences to each choice, and attaching value to the consequences. In practice, humans limit the decision-making process to a closed system where only the variables and consequences closest connected to the decision are considered. As consequences lie in the future, an imperfect imagination must be used to value consequences when experience is absent (Simon, 1997).

Were it not for bounded rationality, all economic exchanges could be organized by comprehensive contracting. This is simply not possible due to the difficulty in mapping and valuing contingencies. As a result of this, the parties place a certain amount of trust in each other to not exercise opportunistic behavior (Williamson, 1981).

Opportunism

Opportunism means self-interest seeking with guile. This assumption allows parties to mislead and confuse the other party, which often involves strategically manipulating information in order to gain an advantage over the other party (Williamson, 1975, 1989). This human attribute is why parties make efforts to screen the reliability of the other party prior to contractual commitment, and introduce contractual safeguards to discourage opportunism (Williamson, 1989).

Williamson (1979) argues that were it not for opportunism, the following general clause in a contract would suffice to guarantee co-operation: "I will behave responsibly rather than seek individual advantage when an occasion to adapt arises" (Williamson, 1979, p. 241).

2.3.3 The Principal Dimensions of a Transaction

As mentioned earlier, the goal of TCE is to assign transactions to governance structures. In order to do this it needs to identify defining characteristics of transactions. The proposed dimensions of a transaction are asset specificity, uncertainty, and frequency (Williamson, 1985).

Asset Specificity

Asset specificity is according to Williamson (1985) the most important dimension of a transaction. It can be understood as the degree of customization related with the transaction (McIvor, 2009; Williamson, 1985). An investment that is undertaken for a specific transaction, in that it cannot be rede-

ployed to alternative uses or alternative users without sacrificing productive value, is an asset specific investment. On the opposite side are non-specific, generic, investments. For example standardized products suitable for many alternative users (Williamson, 1985).

Williamson (1981) distinguishes between three kinds of asset specificity. The first is physical specificity, which is on the level of product or service, and appears when, for example, specialized manufacturing equipment is required in order to produce a component. The second is human asset specificity, which refers to the specialized knowledge required for the transaction. The last is site specificity, which appears when, for example, two successive manufacturing stages are located next to each other for logistical benefits (Williamson, 1981, 1985).

Uncertainty

TCE focuses on a certain type of uncertainty, *behavioral uncertainty*, which it attributes to opportunism. However, this does not mean that it does not take disturbances from external sources into account (*environmental uncertainty*), as these are the events that cause necessity for adaptation, and allow for opportunistic behavior. Behavioral uncertainty refers to how the range of various opportunistic behaviors is difficult to determine (Williamson, 1985; Shin, 2003). Environmental uncertainty refers to volatility and unpredictability in the marketplace (Ellram, Tate, & Billington, 2008).

Frequency

This dimension refers to how often a transaction occurs in the market. TCE builds upon the logic of Adam Smith (1909), who argues that "the division of labor is limited by the extent of the market" (Smith, 1909, p. 24). This quote refers to how the vertical fragmentation of the value chain is positively proportional to the demand of the market. Smith (1909) uses country workmen as an example of this. A country carpenter performs every kind of work related to wood, and a country smith performs every kind of work related to iron. In larger cities (where the market is larger), this work is divided into more specialized professions, such as a nailer, carver, wagon maker, etc. (Smith, 1909). TCE applies a similar reasoning: frequently occurring transactions are more likely to better utilize the capacity of a specialized governance structure (Williamson, 1985).

2.3.4 The Governance of Transactions

For the following argumentation, Williamson (1985) divides the dimensions into subclasses. Asset specificity is divided into non-specific, mixed, and idiosyncratic. Frequency is divided into occasional and recurring. For simplicity's sake, uncertainty is first assumed to be present in an intermediate degree in all cases (Williamson, 1985). Combining these subclasses results in the 2x3 matrix shown in Figure 2.3.

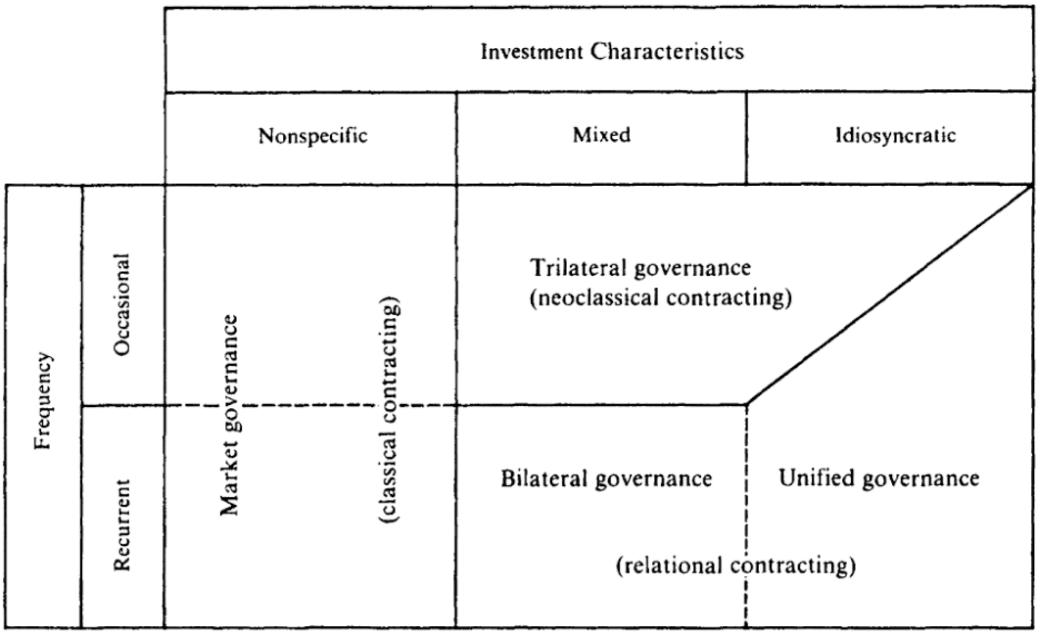

Figure 2.3: Efficient Governance. From (Williamson, 1985, p. 79)

Market governance is suggested for non-specific transactions of both the occasional and recurring kind. As there are many alternative suppliers and buyers, the parties can easily discontinue a relationship and turn elsewhere should they be dissatisfied. This is also why the parties are somewhat protected by opportunism, and do not have to rely on contractual safeguards. Buyers are likely to have experience they can use to judge the suppliers' performance on. In the cases where they don't, rating services or other buyers can be consulted. In most cases, this suffices as incentive for responsible behavior, and is what makes market governance efficient for nonspecific transactions (Williamson, 1985).

Trilateral governance, where transactions are assisted by a third-party, are suitable for occasional transactions which are mixed or idiosyncratic. Due to the occasional nature of the transactions, setting up a specialized governance structure would be too costly. However, market governance would resort to litigation once a dispute arises, which often results in tension in the parties' relationship. This would be undesirable for both parties, as the mixed or idiosyncratic investments would lose value if transferred to alternative users. Third-party assistance is therefore employed when resolving disputes and evaluating performance for these kinds of transactions (Williamson, 1985).

Bilateral governance, a specialized governance form where each party is still autonomous, is suggested for recurring transactions with mixed asset specificity. For idiosyncratic transactions, any buyer or seller has equal opportunity to realize economy of scale benefits. However, for transactions with mixed asset specificity, the market still has the economy of scale benefit. Therefore, bilateral governance is used when the markets benefits enough on economies of scale to compensate for a specialized governance form (Williamson, 1985).

Unified governance (vertical integration) is used for idiosyncratic transactions. As stated above, any buyer or seller has equal opportunity to realize economy of scale benefits for these type of transactions. The choice of governance form then comes down to how adaptation is handled. Unified governance is superior due to the fact that adaptation can be done using authority instead of developing agreements between companies (Williamson, 1985).

Until now, uncertainty has been assumed to be present at an intermediate degree. Introducing more uncertainty does not change the preferred governance of nonspecific transactions. It does, however, affect the transactions with mixed and idiosyncratic asset specificity. Because continuity is valued in these types of transactions, increasing uncertainty favors governance structures with effective adaptive abilities. Therefore, increase in uncertainty favors unified governance structures, and may put stresses on bilateral governance. Reducing uncertainty has the opposite effect, the benefits of unified governance is diminished, and market governance is favored (Williamson, 1985).

2.3.5 Transaction Cost Economics in Reshoring Decisions

TCE is mainly concerned with whether an activity should be performed within the firm, or by the market (Coase, 1937; Williamson, 1985, 1975). For reshoring, the main consideration is the location of the activity, regardless if it is performed by the firm or the market. TCE nevertheless provides a useful set of concepts and language for the analysis of reshoring. An example of this is as follows.

> Transaction costs can erode comparative advantages in production costs of vendors. When a firm has to incur substantial effort and costs in supervising, coordinating, and monitoring the activities of the vendor, it may decide that external sourcing is too costly. Accordingly, firms may opt for internal sourcing when they perceive transaction diseconomies to override any production cost advantages in market exchanges. (Ang & Straub, 1998, p. 537)

While this argument is framed as "make or buy", it can be slightly altered to help us understand the rationale for reshoring. The challenges involved in supervising, coordinating, and monitoring activities of an offshore vendor can override any production cost advantages the vendor may have. A domestic vendor may therefore be chosen (Kinkel, 2014).

2.4 Resource Based View

As a reaction to the, at the time, prevailing views on strategy, Barney (1991) proposed the *resource based view* (RBV) to assess sustained advantage based on the characteristic resources of a firm. Existing research on how to gain competitive advantage were by Barney described as having an external focus, especially on the environment of the firm. The model by Porter (1979, 1980, 1985) is one example of this. The resource based view is supposed to be seen as a complement to such external models, by focusing on firm-specific aspects (Peteraf & Barney, 2003). Earlier works on the resource based view are for example that of Wernerfelt (1984), which acknowledge the need to look at the resources of a firm, but uses the model of Porter and the link to products in the discussion.

In Porter's model, often labeled *five forces*, factors affecting competition in

an industry are *threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitute products or services,* and *rivalry among existing firms.* These make up the five forces. In each of the different forces, factors increasing or reducing them are presented (Porter, 1980, 1985). The focus is clearly on the industry, or environment, of a firm. According to Barney, the prevailing views on strategy, for instance that of Porter, rely on two underlying assumptions: *identical* and *mobile strategically relevant resources.* The former meaning that all firms have access to the same resources, and the latter that if one company would acquire superior resources, firms would all have equal access to them and therefore the advantage will be temporary (Barney, 1991).

Instead, Barney builds his resource based view on the opposite assumptions of *heterogeneous* and *immobile resources* (Barney, 1991, 1986). His definition of a resource is: "... all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness" (Barney, 1991, p. 101). Further, his definition of competitive advantage is "... when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors." (Barney, 1991, p. 102). And by adding "... *and* when these other firms are unable to duplicate the benefits of this strategy." (Barney, 1991, p. 102) the advantage becomes a sustained one.

For a resource to be a source of sustained competitive advantage, Barney (1991) states that it must be *valuable, rare, imperfectly imitable,* and *not substitutable* (sometimes referred to as a VRIN-resource). For a resource to be valuable it must make it possible to reduce a threat or exploit a possibility in the market. For it to be rare it must be in the hands of less than the number of actors necessary to achieve perfect competition in that market. A resource may be challenging for a competitor to imitate if it is either hard or impossible to acquire, or if the interplay among various resources are complicated. Resources that are not substitutable has no strategically equivalent resource that are valuable and rare (Barney, 1991).

Barney (2002) presents some limitations to the resource based view. First, the theory comes short with regards to sustaining a competitive advantage in abruptly changing business environments. Changes such as introduction of new technology will influence competitive advantage in addition to internal resources. Thus, a presumption for the resource based view is that the environments do not face rapid changes. Another limitation mentioned by Barney is that in certain cases, the possible influence of managers is re-

stricted. Because the resources of a firm depend on its history and previous choices, some firms may find themselves in a situation where attempts to implement elements from the resource based view is limited (Barney, 2002). Furthermore, Kraaijenbrink, Spender, and Groen (2009) review the critiques of the resource based view. First of all, the empirical evidence supporting the resource based view is rather weak (Newbert, 2006). Only about half of the empirical studies examined by Newbert supported the resource based view. Kraaijenbrink et al. (2009) divides the reviewed critique into eight categories. They argue that five out of these eight are defended well by the resource based view, and direct more attention to the remaining three. The remaining groups of critique address if the resources are sufficient or even necessary to create sustained competitive advantage, and the poorly defined concepts of resources and the term value (Kraaijenbrink et al., 2009).

The resource based view may be used to predict the boundaries of the firm, and hence determine which activities should be outsourced, and which should be performed in-house. For example Langlois and Robertson (1995) argue that firms will perform in-house those activities that do not exist, or are more expensive, in the market. This comes due to heterogeneous distribution of resources. Likewise, firms will buy from the market if the costs of developing the required resources, or competences, are higher than buying from the market (Langlois & Robertson, 1995). McIvor (2013, 2009) recommends a combination of the resource based view and transaction cost economics for outsourcing and location decisions. According to him, these views are complementary rather than mutually exclusive.

2.5 Managerial Accounting Information for Decision-Making

"Management helps create organizational value through better decision making and management of the members of the organization." (McWatters, Zimmerman, & Morse, 2008, p. 4). Likewise, (Burchell, Clubb, Hopwood, Hughes, & Nahapiet, 1980) emphasize that one of the imperatives of accounting is to provide "relevant information for decision making." (Burchell et al., 1980, p. 10). Accounting information traditionally consisted of pure financial data, but today non-financial, yet quantifiable data, is considered a central part of management accounting data (McWatters et al., 2008). While the purpose of management accounting is clear, the roles and uses in organizations vary (Hopwood, 1983; Heinzelmann, 2016).

2.5.1 The Four Roles of Accounting

In their paper, Burchell et al. (1980) discuss the roles of accounting. Relevant for decision-making, they present four different roles of accounting, based on the framework for decision-making established by (Thompson & Tuden, 1959). They note that the link between decision-making and accounting information has "... been presumed rather than described." (Burchell et al., 1980, p. 13), which could explain the difficulties of finding previous research regarding *how* management accounting informs decisions.

The utilized decision-making framework consists of a two-by-two matrix spanned by the two dimensions, *uncertainty of objectives* and *uncertainty of cause and effect*. To each cell, a decision-making strategy is formulated. These are shown in Figure 2.4.

		Uncertainty of objectives: Low	Uncertainty of objectives: High
Uncertainty of cause and effect	Low	Decision by computation	Decision by compromise
	High	Decision by judgement	Decision by inspiration

Figure 2.4: Decision-making framework. From (Thompson & Tuden, 1959, p. 198)

Burchell et al. (1980) added four roles accounting may take for the four different decision situations described by Thompson and Tuden (1959). They use the analogy of accounting as a "machine". As seen in Figure 2.5, the four different roles are *answer machine, learning machine, ammunition machine* and *rationalization machine*.

		Uncertainty of objectives: Low	Uncertainty of objectives: High
Uncertainty of cause and effect	Low	Answer machines	Ammunition machines
	High	Answer/Learning machines	Rationalization machines

Figure 2.5: The four roles of management accounting in decision-making. From (Burchell et al., 1980, p. 14)

If both the objectives and cause and effect are certain, accounting may work as an answer machine. The situation may be characterized as a structured problem, and in the decision-making framework decisions are made by computation. The accounting numbers can serve as the "answer". When the objectives are certain, but the consequences of action are unclear, decision must be made through judgment. The role of accounting in such situations could be to explore and seek to inform the decision-makers of possible consequences of action. Tools such as sensitivity analyses or what-if models are mentioned. Hence, the role of accounting can be described as a learning machine. While some seek to learn about the situation to reduce uncertainty, Burchell et al. claim that some may seek to cover the uncertainty by calculations, giving the impression that the situation is under control. This is why accounting can also take the role of an answer machine in this situation. In situations where causes of actions are known, but the uncertainty (or agreement) of the objectives are high, decisions must be made through compromise. Burchell et al. mention that politics play an important role, and thus involved decision-makers may want to use accounting information in a way that supports their preferred outcome. The role of accounting information thus becomes that of an ammunition machine. For the last quadrant, with the highest combined uncertainty, it is argued that decision makers may want to learn about decisions already made, and thus the role of accounting may become that of a rationalization machine (Burchell et al., 1980).

When it comes to how the economic impact of alternatives are created, Atrill and McLaney (2009) present four specific methods (accounting rate of return, payback period, net present value, and internal rate of return). However, it is noted that smaller companies in many cases do not use any of these formal methods, but instead rely to some extent on gut feeling (Atrill & McLaney, 2009).

2.5.2 Incomplete Accounting Information

Performance measurement is defined as "... the process of quantifying the efficiency and effectiveness of action"(Neely, Gregory, & Platts, 1995, p. 80). Literature on the topic is diverse with guidelines for design characteristics of performance indicators (e.g. (Merchant & Van der Stede, 2012; Neely et al., 1995)). In practice, however, these design features are not always at the center of attention (Jordan & Messner, 2012).

In their longitudinal field study, Jordan and Messner (2012) researched the attitude managers in a manufacturing company had to the incompleteness

of performance indicators. They documented a change in their attitude over time. Initially, managers had a "pragmatic attitude", by treating performance indicators as means rather than ends. The incompleteness was not necessarily an issue, as they provided a point of orientation for action rather than being the principal concern. When top management placed greater importance on the indicators, managers became increasingly concerned about the incompleteness. They developed a cause-effect manner of thinking, as they needed to see the effect their actions had on the indicators. Their performance as managers was now to a large extent being judged by the indicators (Jordan & Messner, 2012).

These empirical findings provide us with insight to the role of accounting information in decision-making. In some cases, it is focal point of attention that to a large extent governs which actions to take. In other cases, the role of accounting information is to provide a basis for further discussion. Jordan and Messner (2012) expresses the latter one as follows.

> Accounting information - even if available in detailed form - provides only for a limited understanding and handling of the complexity of organisational life (Chapman, 1997), and managers therefore tend not to rely 'blindly' on such information. They rather seek to contextualise or complement it by drawing upon other inscriptions or forms of knowledge. (Jordan & Messner, 2012, pp. 544-545)

Chapter 3

Methodology

In the second half of the 20th century, some researchers deviated from the existing normative accounting research (Lukka & Modell, 2017). Traditional research, labeled *mainstream accounting research* by Chua (1986), seeks to reach general theories to explain observed behavior in organizations. Such research resembles that of natural sciences and is sometimes referred to as the *objectivist* approach to social sciences (Burrell & Morgan, 1985; Holden & Lynch, 2004; Lukka & Modell, 2017; Chua, 1986). On the other hand, the new research approach is termed *subjectivist*. These two approaches differ at the fundamental philosophical foundations of ontology, defined as: "philosophical assumptions about the nature of reality" (Easterby-Smith, Thorpe, & Jackson, 2015, p. 47). It naturally follows a difference in epistemology, defined as "a general set of assumptions about ways of inquiring into the nature of the world" (Easterby-Smith et al., 2015, p. 47).

Objectivist research relies on *realist* ontology, that there exists an objective reality externally and independent of the observer (Burchell et al., 1980; Chua, 1986). It follows a positivist epistemology, that this reality "can be measured through objective methods rather than being inferred subjectively ..." (Easterby-Smith et al., 2015, p. 51). Chua (1986, p. 602) criticizes mainstream accounting of producing "... theories *about* practice that, in the main, are neither *of* nor informed *by* practice". One of the arguments of Chua (1986) is that an objectivist researcher would treat agents, such as accountants, in the same objective manner. Hence they cannot create their own social reality. A new course was proposed for accounting research at the time, changing the fundamental philosophy to that of a more subjectivist research.

Subjectivist research relies on *nominalist* ontology, that reality is constructed by individuals and therefore dependent on the person or group in question (Burrell & Morgan, 1985; Easterby-Smith et al., 2015). The epistemology following is *social constructionism* (Berger & Luckmann, 1966; Easterby-Smith et al., 2015). It focuses on "... what people, individually and collectively, are thinking and feeling, and attention should be paid to the ways they communicate with each other, whether verbally or non-verbally."(Easterby-Smith et al., 2015, p. 52). Using a constructionist approach is by some termed *interpretive* (Easterby-Smith et al., 2015). Specific for accounting, there is a research strand called interpretive accounting research which utilizes the subjectivist ideas (Lukka & Modell, 2017).

For this thesis a more subjectivist approach is chosen. We believe that for reshoring decisions, results are highly situation-dependent, as a result of key individuals constructing their reality. This is also one reason why a single company is studied as a case, because the goal is to obtain rich data, such as the thoughts of individuals, instead of less data on a multitude of companies, to answer the research question. Using case-studies in the subjectivist approach is suggested by Lukka and Modell (2017) and Burrell and Morgan (1985).

3.1 Case Study Research

In a case study, a single or multiple cases are studied in-depth. For a qualitative single case study, such as this thesis, the goal is to attain rich data on the case (Heinzelmann, 2012). By reducing the number of cases, the amount and depth of the data can be increased (Hammersley & Gamm, 2000). Although the same statistical rigor featured by quantitative methods cannot be obtained, in some situations a detailed description of a single, or a small number of cases is important (Easterby-Smith et al., 2015). Examples would be companies with exceptional performance, or when studying a fairly unexplored phenomenon (Easterby-Smith et al., 2015). In these situations, which are of rather exploratory nature, it is difficult to know which parameters to measure for a quantitative study, hence the broad data collection of case studies can be appropriate. By collecting a broad range of data, suggestions for future studies can be made. Yin (1994, 2018) notes that in addition to the exploratory use of case studies, such a research strategy may be suited for explanatory research as well. The traditional, what he calls *hierarchical* view, asserts that different methods are appropriate at different stages of

studying a phenomenon. In an early exploratory phase, case studies would be appropriate in this view, while the following explanatory phase requires other methods. Yin instead proposed that there can be both exploratory and explanatory case studies, and similarly also exploratory and explanatory experiments (which is in many ways often seen as the opposite of a case study method). According to Yin (1994), who has made substantial contributions to the case study literature, such research is suitable for answering "how" and "why" research questions.

In his effort to defend the case study research, Yin (1994) mentioned that three classical critiques regards the lack of rigor, of scientific generalization, and that they generate too much data. The latter is supported by Eisenhardt (1989). A scientific experiment as an extreme opponent provides rigor and controlled circumstances, where inferences are reduced by certain procedures. On the other hand, the lack of rigor and control opens up for learning from actions and events that may not have taken place in a controlled environment (Ahrens & Chapman, 2006). The problem of bias remains for case study research, but Yin argues that it can enter other strategies of research as well. In terms of generalization, a wider discussion opens. There seems to be different kinds of generalization, different rationales for generalization and even scholars questioning the desire to pursue generalization above all.

Generalization seems to be the goal for many researchers. Looking at the classical positivist approach of science, being able to generalize from samples allows the formulation of laws and theories regarding the phenomenon studied. In order to generalize statistically, a certain population size is needed to achieve statistical confidence (Devore & Berk, 2012). A single case study represents perhaps the smallest population there is, and therefore such form of generalization with reasonable confidence is impossible. The point of Yin (1994) in this regard is that one has to distinguish statistical generalization from *analytical generalization*. The latter refers to a case's ability to behave according to, or contrary to theories. In this way, the goal is not to generalize to a population, but rather to generalize to theory. Stake (2000a, 2000b) use the term *naturalistic generalization*. It emphasizes the fundamentals of social constructivism, that knowledge is constructed by humans, and through interaction with others (Stake, 2000a; Easterby-Smith et al., 2015; Berger & Luckmann, 1966). For naturalistic generalization, the researcher facilitates the construction of knowledge by the reader in a natural way. In this regard, the particular cases are an important part of this knowledge creation, and not just the statistical generalizations (Stake, 2000a, 2000b). Empirical generalization is also possible by comparing different studies with each other (Heinzelmann, 2016).

Both Cooper and Morgan (2008) and Otley and Berry (1994) remark that case study research is useful for studying management accounting, but that the amount of such research is limited. The research strategy provides a possibility to study a topic in its context (Otley & Berry, 1994) and is suited for complex phenomena (Cooper & Morgan, 2008), which the concerns of management accounting usually are.

3.2 Quality in Qualitative Research

There are competing views on what is considered good quality in qualitative research. The classical approach, with the criteria of *validity* and *reliability*, has been adopted from natural science. Some qualitative researchers dispute this approach by claiming that it is based on positivistic assumptions (Seale, 1999; Guba & Lincoln, 1994; Messner, Moll, & Strömsten, 2017; Heinzelmann, 2012). They have therefore developed alternative quality criteria (Heinzelmann, 2012). An example of this is Messner et al. (2017), who use the terms *credibility* and *authenticity* to describe quality.

This section will study the main challenges with the aforementioned quality criteria. Chapter 4.6 will describe the strategies to increase research quality applied in this study.

3.2.1 Validity and Reliability

Kirk and Miller (1986, p. 20) define validity as "... the degree to which the finding is interpreted in a correct way." This refers to the issue of whether the researcher is studying the phenomenon he or she claims to be studying (McKinnon, 1988). Reliability is defined as "... the degree to which the finding is independent of accidental circumstances of the research" (Kirk & Miller, 1986, p. 20).

Common threats to the validity and reliability in qualitative research, as classified by McKinnon (1988), are *observer-caused effects, observer bias, data access limitations,* and *complexities and limitations of the human mind.*

The first type of threat, observer-caused effects, occurs when the participants being studied change their behavior due to the presence of the researcher. In this case, the researcher is not observing the natural state of the participants. This usually occurs when the researcher is placed in the role of a "management spy" (McKinnon, 1988).

Observer bias concerns the way the researcher understands the empirical data. Cultural background, occupation and prior experiences are unique to each researcher. These biases can cause different researchers to create different interpretations of the same data. McKinnon (1988) stresses that observer bias cannot be eliminated, but should be accepted and managed.

Data access limitations can be imposed on the researcher by the research hosts. The researcher may be restricted from accessing certain documents, events, or people. This is also the case when the research host does not have historical data available. This causes issues with validity, as the researcher could be missing key empirical data, which may be a source of misinterpretations. Another type of data access limitation can happen due to the researcher being limited to observing the phenomenon for a certain period of time. The observations could coincide with abnormal states of the phenomenon (McKinnon, 1988).

The last type of threat is complexities and limitations of the human mind. It describes how participants may act opportunistically to make the researcher report events in a way that is favorable to the participant. Limitations to the cognitive ability of the human mind, i.e. bounded rationality, may also cause the participant to remember events incorrectly or imperfectly. The statements of the participant should therefore not always be taken at face value (McKinnon, 1988).

3.2.2 Credibility and Authenticity

Messner et al. (2017, p. 433) define credibility as "... the extent to which a qualitative account is convincing in terms of its proposed findings". The credibility of the study depends on how the researchers decide to collect the empirical data. This involves ensuring a good "fit" between research focus and the research design. This means that the choice of research format (e.g. single case study, comparative case study) and data collection methods should be suitable for the research question. Another concern, with regards to data collection, lies in the selectiveness of the researcher. In a qualitative study, researchers must be selective in what data to collect, and make decisions on which leads to investigate. This turns into a problem when the researchers do not sufficiently expose themselves to the empirical setting, resulting in only a superficial understanding of the findings (Messner et al., 2017).

Challenges in attaining credibility also lie in how the researcher communicates the empirical findings to the reader. The researcher must put effort into making the theoretical meaning of the findings apparent, and support their theoretical arguments with empirical data (Messner et al., 2017).

Using empirical data to support theoretical arguments also increases authenticity. Messner et al. (2017, p. 437) argue that an authentic study "... skillfully exploits the richness of the empirical material rather than providing only highly condensed findings as in the form of abstract theoretical propositions or the like". The aim is to show the reader that the researcher has based conclusions on in-depth understanding. It may also help the reader understand the complexity of the empirical setting (Messner et al., 2017).

The main challenges in authenticity lie in the collection and communication of the data. The researcher must first ensure that the empirical data is rich enough. This depends on the methodological choices of the researcher. The researcher must then focus on communicating and exploiting this richness (Messner et al., 2017).

3.3 Qualitative Research Methods

Regardless of the research strategy or methodology chosen, some methods must be applied to gather data. These can be classified into *primary* and *secondary* data. Secondary data is the use of existing data, for example documentation or records. Primary data is gathered during the research (Easterby-Smith et al., 2015).

Methods for gaining primary qualitative data include observation, video recordings, interviews, and also participatory methods such as action research (Easterby-Smith et al., 2015). The methods described in the following section are interviews and textual data since they are the main methods used to gather qualitative data in this thesis.

3.3.1 Interviews

Interviews take the form of a structured conversation between the researcher and the interviewee. An interview can be understood as a conversation with a purpose. The aim of an interview is often to obtain the interviewee's understanding of the phenomenon (Easterby-Smith et al., 2015; Lincoln & Guba, 1985).

A common way of classifying interviews is by their degree of structure. Easterby-Smith et al. (2015) uses the terms *structured, semi-structured,* and *unstructured* for this purpose. In a structured interview, the interviewee is given only predefined questions, and answers may even have to be from a set given by the interviewer. This has similarities to surveys, which are often found in quantitative research. The semi-structured interview features predefined questions, but the interviewee is allowed to answer freely. The conversation may take unpredicted turns on the basis of answers given or the follow-up questions. In the last category of interviews, unstructured, the researcher has not prepared questions, and the interview takes place as a conversation (Easterby-Smith et al., 2015).

This thesis uses semi-structured interviews as the main source of primary data. To aid the formulation of interview questions, Patton (1990) argues that interview questions should aim to be *open-ended, singular, clear,* and *neutral*. Open-ended questions are questions that do not draw out a predetermined response, but let the interviewees respond freely. A singular question does not include more than one idea. Asking multiple questions at once may confuse the interviewee, as they may not know which part of the question to respond to. Another problem with non-singular questions is that they are difficult for the researcher to analyze. This difficulty occurs both during the interview, when considering follow-up questions, and when the researcher is analyzing the data. Questions should also aim to be clear, i.e. understood by the interviewee. This may involve adjusting the language to that of the interviewee. Neutral questions are meant to allow the interviewee to express their own experiences and opinions. Non-neutral questions often have underlying assumptions that may influence the interviewee to respond in a way that does not reflect their actual understanding (Patton, 1990; Mahama & Khalifa, 2017).

3.3.2 Textual Data

Written correspondence has been used as a source of primary data in this thesis. Using this method, the interviewee will have time to think about and control their responses, which can be an advantage or disadvantage depending on the study. Written correspondence is more efficient in several ways, when compared to traditional face-to-face interviews. The interviewer and interviewee can manage their time more flexibly, and do not need to meet in person. In addition to this, the data is already transcribed when the researcher receives it. The main disadvantage to this method is that

the researcher cannot read the non-verbal communication present in face-to-face interviews. Distraction, or sudden drop-out may also occur using this method (Easterby-Smith et al., 2015).

In order to gain background information about the case, news articles were collected. Secondary data of this kind are produced for a different purpose than the research. One should always critically evaluate the credibility of these kinds of sources (Easterby-Smith et al., 2015).

Chapter 4

Research Design

4.1 Elaboration of Research Question

The research question guiding this master's thesis is:

1. *What is the role of managerial accounting information in reshoring decisions?*

The phenomenon to be studied is reshoring. More specifically, aspects of the decision-making of companies relocating their production back to the home country. The collection and usage of management accounting information, both financial and non-financial, will thus be studied. Because the role is studied, emphasis will also be put on how management accounting information is treated and relied on for the decision-making.

To gather the necessary data, the overall research question has been broken down into the following secondary research questions:

2. *Why do companies reshore?*
3. *How are reshoring decisions made?*

Question 2 serves the purpose of both being a backdrop for the primary research question and attempting to contribute to the topic that reshoring literature until now has concentrated on. This research contributes with the reasons for a Norwegian company, while the majority concerns American and central European countries.

Similarly, question 3 will be useful as a background for understanding the particular decision in order to assess the role of managerial accounting infor-

mation. There is little existing research regarding how reshoring decisions are made. This thesis may therefore, together with for example (Valkonen, 2016) serve as a starting point for such research.

4.2 Choosing Research Strategy

After formulating the research question, the task was to find a suitable research strategy (Ji, 2017). Early one must decide between using qualitative or quantitative methods for data collection and analysis. For answering our research question, a qualitative approach was identified as a good fit.

Studying the role of managerial accounting information requires an holistic understanding which only qualitative methods can provide. If we were interested in quantifying the degree to which particular information was used, or to trace relations between quantifiable dimensions, a quantitative analysis would have been appropriate. The latter would for this particular area, reshoring decision-making, be challenging. Because literature on the topic is scarce, there are few, if any, existing constructs to utilize for quantifying data. It is reasonable to assume that reshoring decision-making is situation-dependent, and thus different companies have different approaches. Therefore it is important to capture the context, something that qualitative methods are better suited for.

Cooper and Morgan (2008, p. 160) recommend using a case study if the following elements are present:

- complex and dynamic phenomena where many variables (including variables that are not quantifiable) are involved;
- actual practices, including the details of significant activities that may be ordinary, unusual, or infrequent (e.g., changes in accounting regulation); and
- phenomena in which the context is crucial because the context affects the phenomena being studied (and where the phenomena may also interact with and influence its context) (Cooper & Morgan, 2008, p. 160).

For the reshoring decisions, all of the above points are true. As indicated by (Fratocchi et al., 2016) and mentioned in Chapter 2, the phenomenon considers challenges from different fields, and a holistic approach may therefore be useful. As indicated above, the lack of established constructs for analyzing the reshoring phenomenon, adds that multiple variables may not be

quantifiable. Also, because of the lack of previous literature, initial studies of actual practices is an appropriate approach. Studying a single case would allow us to gather more and richer data on that case, given the amount of time available.

There are also practical considerations for the choice of the single case study as research strategy. Given the extent of the reshoring phenomenon for the time being and difficulties getting access to companies, studying a single case was a natural choice.

Two different instances of reshoring within the company will be studied, thus making up two *embedded cases* (Easterby-Smith et al., 2015).

4.3 Literature Review

To gain a better understanding of the subject, and to establish a theoretical framework and language for this thesis, a literature review was conducted. This was one of the first tasks, after initially framing the topic and preliminary research question. In general, searches were made for academic publications using the search engines of *Google Scholar* and *Oria*, which is a common search engine for Norwegian university libraries. For peer-reviewed journal articles, the quality of the journal was assessed using a compiled list which shows the score a specific journal has received from multiple rankings (Harzing, 2018).

As a starting point for the reshoring literature, existing literature reviews were used. Two of these were found, where the latest was published in 2017. The reviews also aided in finding the relevant search phrases. As described in Section 2.2, a variety of terms are used to describe the phenomenon of reshoring, and thus searching only for *reshoring* would not yield all relevant literature. The reviews themselves pointed at publications, which were included in the review. Using both references and future citations of publications, a good overview of the reshoring publications was gained. Due to the limited amount of publications on reshoring, it was possible but also important to cover as much of the literature as possible. In this way research gaps could be identified and the prevailing terminology determined.

The few publications on the use of management accounting information and the reshoring decision, pointed in the direction of relevant management accounting literature for decision-making. Further searches were made in the previous mentioned databases, to obtain an overview of relevant publications.

4.4 Preparing and Conducting Data Collection

Before starting the data collection, a meeting in person with the CEO was arranged. In addition to serving the purpose of settling the practicalities and time frame, it was a way of building mutual trust. At this stage possible informants were discussed, and introduced. To set the context, a tour of the factory was granted. In this way the products in question were seen in the production, and background stories for the cases given.

Since no documentation granting overview of the different cases existed, a timeline of the reshored products was sent to the CEO based on the data from the factory tour and publicly available information. This includes news articles, since the company received some media attention because of the reshoring. The CEO filled in and corrected details, which served as background information for making the interview guide and prepare for the data collection.

Ways of gathering qualitative data for the study were discussed. Two prevailing methods are observations or interviews. The events that were studied had already taken place, since the decisions in both cases were already made, and no reshoring decision was currently being discussed. This impedes the use of observation (Patton, 1990), and thus interviews were chosen.

4.4.1 Making the Interview Guide

The interview guide is informed by the literature review and the background information on the cases obtained. It is grouped into the topics *opening questions, the product, offshoring, reshoring, reshoring process, management accounting information,* and *closing questions*. In addition to the categories, it was decided to formulate questions and include them in the guide as opposed to only listing the topics. In this way, emphasis could be put on formulating the questions according to Patton (1990)'s recommendations, which could be challenging to do during an interview. The reflections of Ji (2017) were of valuable support for making the interview guide and preparing for interviews.

The first topic served the purpose of gaining some mutual trust, and to make the interviewers and interviewee comfortable. The questions were supposed to be easy to answer, and to get the subject talking. Additionally it served

the purpose of getting to know the informant and his or her role in the company better.

When discussing the draft for the interview guide, it was discovered that the important question for answering the research questions were planned towards the end of the interview. This could potentially make us miss central questions due to time restrictions. However, the first topics were seen as important for building the chronological timeline and context for the reshoring decision. Therefore questions about the offshoring, reshoring and the reshoring process were kept at the beginning of the guide. To avoid running out of time, a time limit for the first part was included. The questions regarding the reshoring process was supposed to start at approximately half the time remaining, if the conversation was still on the first topics.

The closing questions included a possibility to let the interviewee add more information he or she felt was relevant to the topics discussed. This would hopefully provide freedom to add important aspects perhaps overseen in the formulation of the interview guide. We would also ask if there were other persons involved, or others we should interview on the matter of the reshoring cases. This would hopefully facilitate a snowball-like effect (Easterby-Smith et al., 2015), where informants that the CEO forgot or did not know were involved, could be added to the list of interviewees throughout the project.

Suggestions for questions were set up individually for each category, and then discussed. To aid the formulation of questions, the works of Patton (1990) and Mahama and Khalifa (2017) were used. After drafting a set of questions, they were reviewed for redundancy, and if all desired aspects were covered. They were also discussed with our supervisor, who is experienced with qualitative research and field interviews in management accounting research.

As discussed in Section 2.1, there is no consensus on the terminology used to describe these location choices for production. This posed a challenge as the interviewees most likely would be acquainted to different terms than is used in this thesis. For the formulation, terms used in everyday language was used to facilitate that "... respondents can express their own understandings in their own terms." (Patton, 1990, p. 290).

A matter that had to be considered carefully was that of interview language. It was from the beginning decided that this thesis would be written in English. The company is a smaller Norwegian one, possibly with employees not practicing the English language on a daily basis. Conducting the interviews in English could have the undesired effect that potential data could be lost, either because the interviewee would struggle to formulate answers, or in

the worst case the formulations could contradict the intended meaning. If the informant felt uncomfortable speaking English, some points and opinions may not have been conveyed at all. It was therefore decided to conduct the interviews in Norwegian. The English translation of the interview guide can be found in Appendix A.

An important choice is the length of the interview. Too short interviews may not provide the necessary data for answering the research question, and too long interviews may make both interviewee and interviewers lose focus, and may result in too much data. How much of the interviewee's time to occupy was also considered. Longer periods of time may be difficult to arrange due to the frequency of meetings at the company, and the interviewee could feel like he or she should be doing something else. The interviews were planned to last approximately one hour. This seemed like an adequate amount of time to ask from the employees, and enough to get the necessary data.

We decided that all interviews should be recorded. In general the benefits seemed to outweigh the disadvantages. If the interviews were not recorded, we would probably have needed to take notes continuously throughout the interview, resulting in a loss of focus and connection with the interviewee. Also, the advantage of having the original formulations on tape, helps us avoid misinterpretations of the data.

4.4.2 Conducting the Interviews

The informants were contacted via email, and a suitable date and time for the interview found. Because of some travel distance to the company, it was decided to have two interviews each day. With the initial four informants, that meant two visits to the company. Conducting the interviews at the company was chosen deliberately for the comfort of the interviewee. In this way, there was no time wasted on traveling for the employee, and being in the familiar surroundings would hopefully make them more comfortable. For the first two interviews, a larger meeting room was booked, and for the latter the interviews were conducted in the office of the informant.

Before the interviews, the interview guide was read carefully by both of us, and split between us. Being two or more interviewers is mentioned by Ji (2017) as an advantage because while one is asking questions and focused on the interview guide, the other one can act more independent and add additional questions.

Four interviews with four different informants were performed. The approxi-

mate length of the interviews are given in Table 4.1. During these interviews we asked if others were involved in the decision-making process. After the fourth interview it was clear that the four informants were the ones involved in both decisions. The responses from the two last interviews were similar to the data already gathered, and thus a certain degree of saturation had been achieved. In cases were specific questions arose during the analysis, emails were sent to clarify these concrete matters.

Table 4.1: Interview Overview

Interview number	Interviewee	Approximate length
1	R&D Manager	1:00:00
2	Procurement Manager	45:00
3	Contract Specialist	45:00
4	CEO	1:05:00

At the beginning of each interview the interviewees were asked to consent that the interviews were recorded. Recordings were made with both our cellphones simultaneously in case one should fail.

One lesson learned from the first interviews and applied to the last two, was that we stressed to follow the guide too much. As we wanted to cover every topic, we followed the guide closely. We soon experienced that the interviews took different turns, and that in many cases the conversation naturally jumped back and forth in the guide. In retrospect it is indeed intended that such turns and changes take place in semi-structured interviews. It can be argued that these interviews in practice moved closer to what Patton (1990) calls *standardized open-ended interviews*. During the last two interviews the conversation was allowed to develop more naturally. The guide was now used at later stages to make sure that all topics were covered, and that answers to most of the questions were obtained through the conversation.

4.5 Transcribing and Analyzing the Data

All four interviews were transcribed. After transcribing the first two interviews, the data so far was discussed. This was done informally, and mainly to gain an overview of what could be emphasized for the next interview, and to build on the existing background knowledge.

After all four interviews were transcribed, all were read in detail by both of us. They were then coded, using keywords for the answers, in order to structure the data for further analysis. The keywords were a combination of topics and factors derived from literature and repeated statements in the interviews.

The following keywords were used:

Changes in home country	Efficiency	Offshoring
Cultural differences	Financial information	Product development
Decision-making	Intellectual property	Quality
Dependency	Logistics	Reshoring
Effects of reshoring	Market changes	Uncertainty/risk

4.6 Strategies to Increase Research Quality

Section 3.2 studied the various quality criteria used in qualitative research. This section will describe the strategies used to increase the research quality of this thesis, and discuss this thesis' challenges with regards to research quality.

4.6.1 Exposure to the Empirical Field

Increasing one's exposure to the empirical field is a common strategy used to increase research quality. Staying in the field for a prolonged time reduces the pressure on the researcher to seek meaning immediately. It allows the researcher to reflect on findings, especially those that contradict preconceptions the researcher may have. This is an effective way of reducing observer bias. This strategy may also assist in overcoming observer-caused effects. As the subjects spend a longer time with the researcher, their ability to behave differently is lessened (McKinnon, 1988; Messner et al., 2017).

This strategy was employed by increasing the time spent at the research host when collecting data. We spent almost a full work day at the research hosts for each visit. Two interviews were scheduled for each visit, with three to four hours of "breathing time" between them. This gave us time to reflect on the findings, and discuss potential new directions for the following interviews. In addition to this, the research host generously gave us two tours through their

production facility. This deepened our understanding of reshored products' roles in the production process.

A weaknesses to this thesis, with regards to field exposure, is that we were not able to observe the decision-making process directly. Being present at decision-making discussions or meetings would have had positive effects on validity. We are mainly relying on the research subject's ability to recall events in the past. This also means that we have little ability to know if the subjects are misrepresenting events intentionally. Direct observation was not possible due to the timing of the study.

4.6.2 Triangulation

Messner et al. (2017, p. 435) define *triangulation* as "... the use of multiple and different sources of data (e.g. interviewing multiple informants), methods (e.g. using archives and interviews), investigators (e.g. having two researchers independently code an interview), or theories (e.g. developing alternative interpretations of data)". Triangulation has the potential to reduce threats to validity and reliability by allowing the researcher to "test" data from different sources against each other. For example, being able to compare what a subject says to what a subject does is a powerful counter to human mind, observer bias, and observer-caused effects (McKinnon, 1988).

Triangulation has been used in this study in several ways. We've compared empirical data from different interviewees, and compared data from different data collection methods (interviews, written correspondence). Studying two instances of the phenomenon, i.e. two products that were reshored, is also a form of triangulation.

All of the triangulation methods used offset the threat of observer bias. Being able to compare data from sources and methods allows us to compensate for biases in our interpretations. Studying two instances of the phenomenon improves our ability to delineate accidental circumstances. This increases reliability, and reduces the risk of distorted conclusions.

We are basing most of our primary data on interviews concerning events in the past. This makes us vulnerable to interviewees forgetting important information. However, the probability of that occurring is significantly lower when using multiple informants, as we are relying on their collective ability to recall the events. Additionally, we will be able to "test" if an interviewee intentionally misrepresents an event. It should be noted that these benefits do not apply for experiences unique to a single interviewee.

There was little internal documentation to collect. Much of the decision-making was not documented, and the company was reluctant to provide for example quotations containing prices. This, along with documents specifying the technical properties of the products were deemed irrelevant. This is definitely a weakness to this study, as we will not be able to triangulate by different methods for a large part of our data.

4.6.3 Social Behavior

The social behavior of the researcher may play a deciding role in the quality of the empirical data. If the research host or subject regards the researcher's behavior as inappropriate, data access limitations and observer-caused effects may be the result. Therefore, the researcher needs to build trust with the subjects (Mahama & Khalifa, 2017; McKinnon, 1988).

We have attempted to build trust in several ways. As mentioned in Section 4.4, we met with the CEO in person prior to data collection. This was mainly to discuss practicalities, but was also helpful in building mutual trust. At the beginning of each interview, we explained the purpose and format of the research, and encouraged interviewees to speak as freely as possible. The interviews started with simple warm-up questions aimed at making the interviewees more comfortable. Interviews were conducted in Norwegian, as this was the first language of the interviewees. This was a deliberate decision made with the intent to allow the interviewees to express themselves as authentically as possible.

An issue could come from the limited interaction we had with some of the interviewees. Besides a short introduction, the interview was the entire social interaction we had with some of the interviewees. This makes it harder for us to understand their character, and could therefore make us vulnerable to their biases and limitations (McKinnon, 1988). Informal communication may increase the richness of the data, and may even reveal key information. Ji (2017) invited the interviewees for lunch in addition to the interview. This could have been a way for us to arrange for informal communication.

Chapter 5

Empirical Findings

This chapter will present the results obtained from the empirical data collection. First, relevant details about the case company and a general timeline for future reference will be presented. Following this, the rationale and decision-making process for both instances of reshoring will be described.

5.1 The Case Company

The case company is a Norwegian manufacturing company. It belongs in the category of small and medium-sized enterprises (SME)[1]. Products are mainly sold in Norway and the other Nordic countries, but also to an international market. They are sold through retailers to end consumers. Within its industry, the company places itself in the product differentiation category by offering products of high quality. In addition to the focus on quality, all interviews showed that innovation and product development is of great importance to the company, and that such work is performed continuously.

Three years ago, the company was under pressure to relocate to a low-cost country by its parent company. This was undesirable from the perspective of the company, as they believed it would negatively affect product quality. To avoid this, the company set an aggressive target to increase turnover by 100% in five years. In order to reach this target, the company employed a strategy of improving production efficiency and increasing sales. Reshoring was not

[1]Different definitions exist in literature. In this thesis a company is regarded a SME if employess are less than 250 and balance sheet total is less than 43 million € (Directorate - General for Enterprise and Industry, 2014)

consciously used as a tactic to meet this target, but the company remarks that marketing products as "Made in Norway" has positively affected sales.

As mentioned previously, this thesis studies two reshored products. The first product will be referred to as *prefabricate*, and the second as *raw material*. Figure 5.1 indicates when the offshoring and reshoring decisions were made for each product.

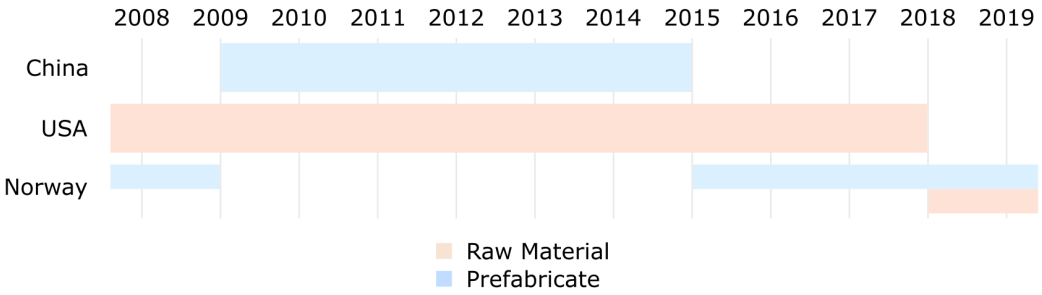

Figure 5.1: Relocation Timeline

5.2 Case: Prefabricate

The prefabricate product is a fairly simple component used for the final assembly of the product by the end-consumer. As it is not physically attached to the rest of the product before final assembly, the production of the prefabricate and the rest of the product are separate. The design is owned by the company, but the production is outsourced. It is one of the less technologically complex products sold by the case company with regards to design, technical specification, and production.

The material cost of the prefabricate is fairly constant globally. Therefore, the main cost differentiators of countries are the processing and logistical costs. As potential suppliers of the prefabricate are abundant, shortage of supply is not a concern.

Reasons for Offshoring

At the time of the offshoring, production of the prefabricate required intensive manual labor in both Norway and China. Assuming wage levels in the US and Norway have been comparable, and the same for trends in the 2000's and 2010's, reports like (Sikrin, Zinser, & Hohner, 2011; Sikrin, Zinser, &

Rose, 2014) show that there has been a substantial difference in wages in China and US. This remains true when adjusting the wages for differences in productivity. In 2004, the adjusted wage in China was at 25% of the US hourly manufacturing wage (Sikrin et al., 2014).

Lower wages in China resulted in the Chinese supplier having a significant price advantage over any Norwegian supplier. This price difference was substantial enough to outweigh other disadvantages choosing a supplier at such a distance would have. The company refers to this decision as being "obvious" at the time. Given that they sourced from this supplier over a period of six years, they assumed that this conclusion remained true.

Reasons for Reshoring

During the six years the prefabricate was being offshored, developments happened in both China and Norway. Firstly, the labor costs in China increased steadily, this is documented in Boston Consulting Group (BCG) reports (Sikrin et al., 2011, 2014), and recognized by the interviewees. However, developments in automated production in Norway was emphasized by interviewees as the most important reason for the reduced price gap. Automation reduces the amount of expensive human labor necessary for processing, while exploiting cheap energy prices in Norway. Both of these developments reduced the price difference between the countries, and opened the company up for other considerations than price. The factors in Table 5.1 were mentioned by the informants, and are discussed in more detail below.

Table 5.1: Reasons for the case company to reshore the prefabricate

Distance to supplier	**Cultural differences**
Supply risk	Time difference
Lead time	Language barriers
Flexibility of production volume	Mental distance
Tied capital	Intellectual property issues
Inventory volume	
Meeting facilitation	
Environmental impact	

The factor repeated by all informants is the supply risk[2] related to the long lead time from China. The lead time itself has several disadvantages. Production plans must be made earlier and are less flexible, more capital is tied up because of multiple shipments underway, and possible quality issues are discovered late. If a fault is found on multiple parts in a shipment that just arrived in Norway, chances are that the shipments underway are subject to the same fault. Even if the supplier is contacted right away and production stopped, faulty products still in transit will continue to arrive. For the case company, six shipments can be in transit at any time. There was mentioned one example where an entire container contained mislabeled products. As returning the products to the supplier was not feasible due to the long distance, the company had to exert additional effort to find an alternative solution. The example also shows a drawback of the larger batches sent because of the long distance. For a local supplier the product would arrive in smaller batches, and thus a similar problem would result in less extra work. As a means to mitigate the risk of such an event or other logistical disturbances, safety storages are built up at the factory and in some cases at the supplier as well. Such storages induce both costs and tied capital.

Demand for the prefabricate was not reported as volatile. However, a long lead time causes the company to be considerably more vulnerable to even moderate changes in demand. The new supply chain configuration with the Norwegian supplier, from unprocessed material to end consumer product, is remarkably short. This reduction in lead time drastically helps manage changes in demand by increasing flexibility.

Another factor with seemingly great importance was the cultural differences between Norway and China. Most of the supplier's staff proficient in English worked in the sales department. Relying on few people to interpret and translate technical and logistical issues could be challenging due to time differences, language barriers, and mental distances.

> There's an economic consideration behind proximity in time zone, culture, and language. It's important to us even without doing any calculations. ... We have the supplier of [the prefabricate] here today, and you can bring him two products and say "Look, these have different lengths". We can solve the problem much faster despite the existence of telephones, cameras, and emails.

[2] "Supply risk is defined as the probability of an incident associated with inbound supply from individual supplier failures or the supply market occuring, in which its outcomes result in the inability of the purchasing firm to meet customer demand or cause threats to customer life and safety." (Zsidisin, 2003)

> ... He has a shorter travel distance, we speak the same language, we have the same culture.. there's no insult in placing two products in front of him and saying "Look..". You're never certain about that when speaking with people from far away. That is why culture is important in getting quicker and better solutions. (CEO)

The interviewee emphasizes the benefit of sharing the same culture when problem-solving. The safety in knowing that the counterpart will not be offended by being direct significantly improves communication.

Although no concrete examples were mentioned, the R&D manager expressed concern regarding intellectual property when dealing with the Chinese supplier. "... Secrecy is easier in Norway than in China. You can sign as many documents you want, but it's easier." (R&D Manager). This is especially of concern regarding new product development. Information about new designs, not yet protected by patents are exchanged in such situations. There is a risk that the supplier uses designs in development for own production or in collusion with competitors of the case company. In their experience, secrecy in such situations is easier to achieve in Norway.

5.3 Case: Raw Material

The raw material is more technologically complex than the prefabricate from the perspective of the company. As the given name suggests, this material is added early into the company's production process, and has a large impact on the final quality of the product. Since quality is one of the ways the company differentiates itself in the industry, strict quality requirements are placed on the raw material. This does, however, make suppliers with adequate quality hard to find even on a global scale.

Reasons for Offshoring

The strict quality requirements left the company with few options for suppliers. This is why two suppliers in the US have been supplying this product to the company for over 20 years.

Reasons for Reshoring

Innovation was the main driver for reshoring the raw material. The company has since the start of the 2000's researched the possibility of using recycled

material. This research was done as a collaboration with the current Norwegian supplier and another Norwegian research organization. This effort recently resulted in a product that satisfied the quality and price requirements of the company.

Innovation is a natural part of the company's differentiation strategy. However, this research project was initiated as a way for the company to safeguard itself from potential changes in environmental regulation. They have observed a trend in environmental regulation affecting other products, and expect the same to happen with the raw material.

> We're certain that recycling regulations are coming for most products ... You can either be proactive, or wait for the 'big bad wolf' to come with demands ... You would have to make enormous investments in a short period of time. (R&D Manager)

Furthermore, the company argues that product development is easier to perform with domestic partners. This is related both to the differences in distance and cultures. Since the previous supplier is located in the USA, the cultural differences are not as prominent, but they are nevertheless present. Large distances, on the other hand, make the necessary collaboration more difficult. Longer lead times and less frequent meetings slow down research projects considerably. In this regard, the economic incentive given by the Norwegian government to perform product development domestically is also important. With this development project, the company was able to apply for programs such as the tax refund program *SkatteFUNN* (Norges Forskningsråd, 2013).

To summarize, the reasons for reshoring the raw material are shown in Table 5.2.

Table 5.2: Reasons for the case company to reshore the raw material

Pressure to innovate	**Distance to supplier**
Changes in the global economy	Supply risk
Company strategy	Lead time
Potential changes in environmental regulation	Flexibility of production volume
	Tied capital
	Inventory volume
	Meeting facilitation
	Environmental impact

5.4 The Decision-Making Process

This section will describe the reshoring decision-making process for each of the two products. It is important to note that the company does not have a formalized method of making such decisions. Therefore, the following processes are our interpretation of the decision-making processes based on the company's description. Figure 5.2 depicts the decision-making processes.

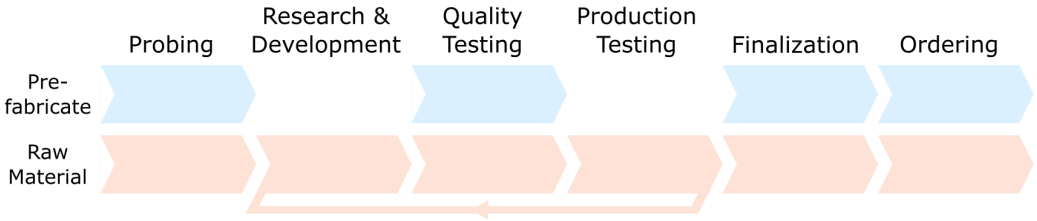

Figure 5.2: Decision-Making Process Overview

Probing

The first step was in both cases the result of a desire for a better supply alternative. The company continuously evaluates potential suppliers in the search of the best combination of cost and quality. This step starts by collecting supplier quotations and technical specifications to evaluate if basic internal requirements will be met. Reliability is also assessed by investigating the supplier's financial history and reputation. Basic logistical considerations are also made at this step.

While this step most of the time is initiated at regular intervals by the purchasing department, it can also occur spontaneously. In the case of the prefabricate, it began through small talk with the Norwegian supplier during another research project. "We worked with [the supplier] on the [similar product], and we brought the question up when the supplier visited us ... It was almost like small talk that the subject came up" (CEO).

In the two cases studied, the decision-making was initated by different departments. For the prefabricate, it was initiated by the procurement department after receiving signs that the Norwegian supplier might be able to offer a competitive price. For the raw material, the R&D department initiated the process. The data also indicates that the department that initiates has the main responsibility throughout the process.

Following initial information gathering, the company analyses the quotation(s) received using a multi-criteria analysis method. A wide array of qualitative and quantitative aspects are weighed against each other based on factual data and intuition. This method of analysis does not focus on the quantification of qualitative factors (such as the factors described in Chapter 5.2 and 5.3). It does, however, allow the company to make quick decisions. This is beneficial when the conclusion is obvious, or when multiple suppliers are under consideration. On the other hand, the conclusion is only as sound as the intuition of the decision-maker(s).

Our data indicates that, in some cases, qualitative factors are evaluated by using a rating scale. Decision-makers rate the suppliers' performance on the qualitative factors on a scale from 0-5. This is done mainly to create an overview of the situation, as the final decision does not blindly follow these ratings. However, the data also indicates that this method of quantification was not applied in the two reshoring cases.

Suppliers that pass the multi-criteria analysis are studied in-depth. A visit to the plants in question may be organized. It is then possible for the company to assess the supplier's production processes through observation and interviews. In some cases, the supplier has already been selected at the end of this step.

Information gathered and used for decision-making in this step is presented in Table 5.3.

Table 5.3: Information used for decision-making in the probing step

Financial information	**Non-financial information**
Supplier quotation	Historical sales volume
Supplier financial history	Supplier reputation
	Product quality and specifications
	Supplier production process functionality and quality
	Geographical location

Research & Development, Quality Testing, Production Testing

At this point, the supplier has shown promising results and is being seriously considered as a future supplier. The purpose of these steps is to ensure that the product is of adequate quality and compatible with the company's production processes. It is also at this step the two decision-making processes diverge.

The prefabricate is well-known and technologically simple. Therefore, only a quality tests were necessary. The raw material, on the other hand, required all three steps. The company had an indication that the research would yield a product which met cost and quality criteria. The Norwegian supplier had passed the probing step, but a product with adequate quality had not yet been developed. As the research developed, the product eventually passed the quality requirements. The company then tested the product for compatibility with their own production processes. New product properties may have unexpected consequences on the production processes, and are therefore respected through production testing. The batches increase in size until they are at the typical order size. This method of ramping up batches safeguards the company from potential opportunistic behavior. Suppliers may cherry-pick their best samples for quality and small-scale production tests. As batch size increases towards full orders, this will no longer be possible. It is also a time consuming process which may take up to a year.

Multi-criteria analyses akin to the one during probing may be performed should any new overly demanding challenges arise during these three steps.

Finalization, Ordering

The supplier is now considered to have a product of adequate quality that is compatible with the production processes of the company. The next step is to develop a contract for future transactions.

Prior to negotiations, the company refines existing information, and gathers additional information related to the transaction. This includes planned order volumes, expected tied capital as a function of products in transit and safety storages, logistical plans, and more (see Table 5.4). This information is then used to develop a contract with the supplier. All information gathered so far is used in a final overall assessment before contractual commitment. Again, this is done using a multi-criteria methodology accounting for both qualitative and quantitative factors.

In addition to Table 5.3, the information in Table 5.4 is gathered and used for decision-making in this step.

Table 5.4: Information used for decision-making in the finalizing step

Financial information	**Non-financial information**
Final supplier quotation	Expected order volume
Cost of transportation and storage	Logistical planning
Expected tied capital as a function of lead time and safety storages	
Historical cost of supply issues related to quality and delivery	
Predicted cost of supply issues related to quality and delivery	

5.5 Usage of Managerial Accounting Information

In both reshoring cases, decisions are made by using a multi-criteria analysis. Managerial accounting information is only a part of the considered elements, as decision-makers add qualitative elements into the discussion.

This may not always have been the case for the company. The CEO illustrates how this was done differently by previous management. Shortly after entering the position as CEO, he questioned why a certain sub-process was not running at the factory. He was told that it had been outsourced due to the cost advantage of a supplier. He immediately challenged this decision. It turns out that previous management had relied heavily upon accounting information, and had not considered the fact that a parallel process was being executed in-house. In his experience, this would lead to "... lots of trouble, administration, and dissatisfaction ...". These are non-financial factors that are not easily quantifiable, which based on his experience outweighed the price disadvantage. In retrospect he points to reduced inventory size and spoilage, which is critical for a perishable product. From his perspective, this was an obvious decision.

The reason why these elements were not included in the analysis of previous management is not entirely clear. However, it is reasonable to assume that the element was overseen due to lack of experience. This example may also give us insight into the role of experience in decision-making. The experienced decision-maker quickly identified the variables and consequences closest

connected to the decision. Assuming bounded rationality, imperfect imagination must be used to anticipate and value consequences when experience is absent (Simon, 1997). This led to the inexperienced decision-maker overseeing a closely connected variable in the decision. The two decision-makers had two different bases for their decision for the same problem, which led to two different conclusions.

Chapter 6

Discussion and Analysis

6.1 Rationales for Reshoring

6.1.1 Automation as a Substitute for Low-Cost Labor

As mentioned in Chapter 5.2, China's increase in wages combined with Norwegian developments within automation is understood as the main reason for the negligible price difference between the Chinese and Norwegian supplier. In the case of the prefabricate, both the offshoring and reshoring decision can be analyzed in the light of the resource based view. Adapting the theory to fit the location choice, the level of analysis will be that of countries instead of individual companies.

The resource in question is China's low-cost labor. In order for a resource to be considered a source of sustainable competitive advantage it must be valuable, rare, imperfectly imitable, and not substitutable. Low-cost labor is a valuable resource because it makes it possible for manufacturing companies to reduce production costs for labor intensive processes. In combination with the access to labor and the infrastructure for production in China it is rare. This resource is, by Norway at least, imperfectly imitable. However, as developments in automation over the years have shown, human labor can be substituted by machine labor. Automation has to a certain degree neutralized China's competitive advantage of low-cost labor. Reshoring is a symptom of this. On the other hand, automation as a resource does not either possess all of the four characteristics of a sustainable competitive advantage. There is no reason to believe that China will not imitate current automated solutions.

Applying the resource based view to the example of the company shows this clearly. At the time of offshoring, the low-cost labor was a resource of competitive advantage for the Chinese supplier. A multitude of companies, including the case company, wanted to appropriate this resource. Because the resource lacked the final criteria, it did not provide a sustainable advantage. This is supported by the empirical findings:

> I believe that at the time when most of [the companies] offshored, we went from manual industry in Norway to manual industry abroad. The industry which is left in Norway, or has reestablished in Norway, is much more automated. (CEO)

This discussion may contribute with an explanation to the observed reshoring trend, but may be over-simplified. There are indeed characteristics of both human labor and automated production that are not acknowledged by the previous discussion. Automation is not able to substitute all kinds of human labor. Humans can for example perform a multitude of tasks, where automated equipment is specialized to one or maybe a few production activities. This lessens the threat of automation towards low-cost labor as a resource for sustained competitive advantage. On the other hand there are other advantages of automation than being able to compete with human labor on price. Automated production systems and robots provide high production volume flexibility, repeatability, the possibility to run continuously day and night without the variances sometimes experienced from operator to operator.

6.1.2 Distance to the Supplier

In both cases, the distance to the supplier was an important reason behind the decision to reshore. Shortening the distance to the supplier has many advantages, see Table 5.1. These advantages are recognized as supply chain drivers for reshoring in the literature review by Wiesmann et al. (2017). The empirical data supports the notion that there are no disadvantages to shortening distance covered by the supply chain.

One of the advantages of shortening the distance, which is not explicitly mentioned in the literature, is the facilitation of meetings. When the distance to the other party is shorter, the threshold to organize meetings is significantly lower. Being able to meet in person more often allows for more mutual adaptation between the parties. Spending more time together results in the parties understanding each other better. It facilitates the development of mutual language regarding technical matters, processes, and other routines

(Grabher, 1993). This is especially important when performing innovation activities.

The short distance of the supply chain configuration is a source of competitive advantage for the company. As Nordic countries are the company's main target market, the entire supply chain (from unprocessed material to end consumer) is domestic. Using the resource based view, it is a valuable resource because it results in lower logistics costs and increased flexibility (and more) compared to global supply chains. The resource is rare, as the possibility of obtaining it is limited to the extent of the Norwegian industry. With the existing modes of transportation it is not substitutable. It is, however, imitable by other Norwegian competitors, and will therefore not be a source of sustained competitive advantage.

6.1.3 Cultural Differences

A reason for reshoring that was prominent with the Chinese supplier, but not as important with the one in USA, was cultural differences. Especially the ease of communicating with the Norwegian supplier, both in terms of language and culture, seemed as an important factor. Miscommunication and misunderstandings could result in extra and unforeseen costs.

Discussions in literature about TCE mention cultural differences as a factor that may increase transaction costs (Kinkel, 2014). Cultural differences as a more standalone reason for reshoring are found in the papers of Tate (2014); Tate et al. (2014); Gray et al. (2013). Gray et al. (2013, p. 28) does not elaborate on how cultural differences favor reshoring, but as a factor that is "... not as easily quantifiable" as other cost related items. Tate (2014); Tate et al. (2014) state that the cultural differences deter innovation. For the case company, in two cases a Norwegian supplier was chosen for new product development as they expected better collaboration.

A characteristic of Norwegian business culture is the flat organizational structure, where the distance between managers and employees is smaller (Norwegian Centers of Expertise, N.D.). Combined with informal communication, it is easier for employees to tell their managers about ideas or complaints. This might be useful for innovation, because more ideas can be brought to the table. Especially for a Norwegian company, which is used to this business culture, it may be easier to perform innovation than with a more hierarchical organizational structure.

6.1.4 Pressure to Innovate

In the case of the raw material, new product development was initiated with a Norwegian supplier. This can be seen in relation to the company's aggressive target to increase profitability. The strategy to reach this target was not solely to eliminate costs, but also to increase sales. This involves a continued focus on innovation.

> And how do we earn twice as much money? The simplest and cowardly solution is to cut costs. Fire some employees, save on [the quality of] raw materials, stop research and development, because doing that costs quite a lot. ... But we chose a different way. We chose to increase efficiency and increase sales. ... Then the whole organization grows, and also the bottom line. It works very well for us. Then we continue to do research on new products, we build new [production] lines. We are able to do this in a sustainable way. (CEO)

As discussed above, innovation is easier to perform with a local supplier. The empirics of the case company shows this, and it is supported by literature (Tate, 2014; Tate et al., 2014).

Looking at the characteristics of the raw material, innovation could be an adequate strategy from a supply chain perspective. Analyzing the product in the two dimensions of profit impact and supply risk, one can argue that profit impact is low while supply risk is high. The product does not constitute a large portion of the product's value and therefore the profit impact is low. Because there were only two distant suppliers able to deliver the desired quality of the product, the supply risk can be assessed as high. This combination of profit impact and supply risk characterizes the product as a *bottleneck* item in the framework of Kraljic (1983, pp. 111-112). To establish the adequate sourcing strategy for this product, it should be placed in the *purchasing portfolio matrix* which consists of the two dimensions *company strength* and *supply market strength*. In relation to the large suppliers of raw material, and given the low volumes bought, the case company is in a position of low company strength and high supplier strength. Empirical evidence also supports this assessment. In such a case, it is important for the company to be defensive towards its suppliers, and look for new supply options (Kraljic, 1983). Developing a new product with a supplier could be such a new supply option.

Developing the recycled material was also mentioned as an early response to environmental requirements that could arise in the future. The company has noticed that Norwegian government impose rules for recycling on an increasing range of materials. They do expect that such rules may be introduced for the raw material. Such as for the "Made in Norway" label, using environmental-friendly recycled material is a sales argument, which they expect works as long as the price of the product is not increased as a result of it.

For the prefabricate, the findings are consistent with the observation by (Heikkilä et al., 2016). As presented in Section 2.2.1, they found that the most important reasons for offshoring among the surveyed companies were different costs. Similarly the prefabricate was exclusively offshored because of the lower production costs in China. As discussed in this chapter, the reasons for reshoring are, in correspondence with Heikkilä et al. (2016), more loosely related to costs. For the case company such considerations are triggered because of a more similar price: "... if the difference in price is very large, price weighs heavily. But if the price is fairly competitive, ... then [qualitative arguments and price] have more or less equal weight." (Procurement manager)

6.2 The Decision-Making Process

6.2.1 Research and Reshoring

In both cases, we observed that research played a role in the decision to reshore. The raw material was reshored as a result of research with a Norwegian supplier, and another product's research project was the starting point for the reshoring of the prefabricate. When asked about this correlation, an interviewee responded:

> I believe [research] matters, and I think it has something to do with awareness. We've developed the habit of looking abroad when buying materials ... That's just the mindset you're in, so that is where you look. We have global platforms for gathering prices, and low-cost countries often come out on top. We discover things we didn't know were possible through these research projects. We develop new contacts we didn't know we had. (CEO)

Research projects, which are easier to perform domestically, raise the company's awareness of the possibility of using Norwegian suppliers. This leads us to believe that governmental programs encouraging domestic research projects indirectly lead to an increase of reshoring.

> We were, to be honest, a bit surprised that the final cost was so competitive. The decision to source globally was obvious at the time. So moving it back was maybe a little surprising. (CEO)

The interviewee describes the mindset of immediately looking abroad when selecting suppliers. This is the reason why they were surprised when they received a quotation from the Norwegian supplier. This mindset may have been time-saving when low-cost labor was the deciding factor in supplier selection. Nowadays it will misguide companies' sourcing decisions, as the best option may be a domestic supplier.

6.2.2 Product Complexity and Commercial Uncertainty

Fisher (1969) outlines how the product complexity and commercial uncertainty affects which disciplines will be involved in a purchasing decision-making process. Product complexity is regarded as the complexity inherent in the product and its application. Commercial uncertainty is defined as the magnitude of sums involved, organizational adaptation required, and predictability of costs and benefits (van Weele, 2014; Fisher, 1969).

According to this framework, products with low product complexity and low commercial uncertainty (such as the prefabricate) are dominated by the purchasing department. Products with high product complexity and low to medium commercial uncertainty (such as the raw material) are dominated by the engineering department (van Weele, 2014; Fisher, 1969). The empirical data is in agreement with this framework. For the prefabricate, the purchasing department was leading the decision-making process. For the raw material, the R&D department was in the lead of the decision-making process.

6.2.3 Reshoring Decisions and Generic Purchasing Processes

Examining the supply chain management literature, one can find that the modeled process for this case company (Figure 5.2) resembles more that of

a generic purchasing process. One example is the purchasing process by van Weele (2014, p. 28), shown in Figure 6.1. The reshoring process has a distinct resemblance to the first part of the purchasing process. The stage *Select Supplier* is emphasized in more detail in the reshoring process. This could indicate the company's take on reshoring. The company does not have a strategy that dictates Norwegian suppliers to be preferred. The best supply option is to be chosen, regardless the location. Therefore for this, and one might expect for other companies with similar sourcing strategies, reshoring is more of a special case of sourcing where the best option is in the home country.

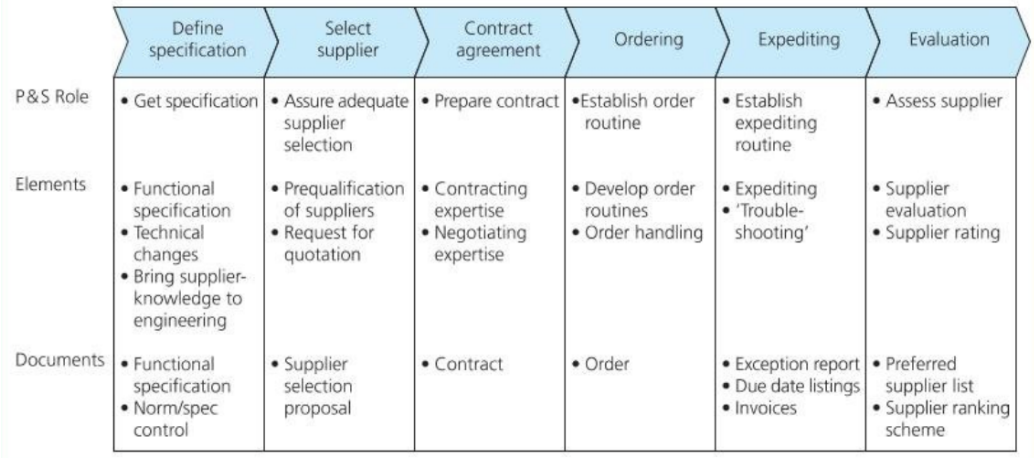

Figure 6.1: The Purchasing Process. From (van Weele, 2014, p. 29)

6.3 The Role of Managerial Accounting Information

As seen in Chapter 5.4, managerial accounting information is gathered throughout the decision-making process. It is evident that the company does not rely only on the financial and non-financial but quantifiable information that makes up managerial accounting information. Using the multi-criteria analysis method, this type of information is supplemented with qualitative arguments, such as cultural differences, to evaluate the supply options.

Relating to the framework for decision-making by Thompson and Tuden (1959) and the model by Burchell et al. (1980), and their "machine" analogy

of the role of management accounting, the role can be assessed. The uncertainty or disagreement over the objectives seemed to be very low in both cases. The interviewees were the only members of the organization involved in the decision-making, and there was consensus that the supplier providing the overall best supply solution should be chosen. This was regardless of operating country or other principles that could have introduced uncertainty or disagreement of objectives. On the other dimension, the uncertainty of cause and effect was higher. The qualitative factors, or as Holweg, Reichhart, and Hong (2011) refers to as *dynamic* and *hidden* costs, makes it difficult to calculate and thus foresee the consequences of actions.

This combination of the dimensions puts the reshoring decisions in the state where *decision by judgement* is the suggested method. Keeping in mind that multi-criteria analysis was utilized, the empirics harmonize well with the suggestions of theory. The role of management accounting information in this case should be that of either a *learning machine* or an *answer machine*. As accounting information was not used to directly compute which alternative would be the best option, the learning machine analogy fits the empirics better. Accounting information was presented where it was available, and supported a judgmental decision-making. An alternative, the answer-machine, would have been to quantify and translate to costs the qualitative arguments, with the pertinent uncertainties.

The illustration presented in Section 5.5 where accounting information had a larger emphasis shows an example of the *answer machine* approach. Although the positioning in the matrix should be the same as for both the cases, managerial accounting information had a different role. Whether this is the result of an attempt to mask uncertainty, which sometimes is the case (Burchell et al., 1980), is not possible to conclude.

Empirical findings may indicate a drawback on generally relying on experience for decision-making. After sourcing from low-cost countries in the far east for a longer period of time, a mindset developed that these countries were the places to find the most cost-efficient alternatives. Receiving a competitive quotation from a Norwegian supplier was therefore somewhat surprising.

Chapter 7

Conclusion

The aim of this master's thesis was to address the research gap related to the reshoring decision-making process. We have approached this phenomenon from a managerial accounting perspective, and have contributed to reshoring literature by providing a case study of the decision-making process of a Norwegian manufacturing company. Additionally, the company's rationale has been investigated, and previously unmentioned decision variables have been identified.

We have found that reshoring decisions are far from clear-cut, as managers are confronted with not easily quantifiable decision variables, such as efficiency of communication. This stands in contrast to offshoring decisions found in preceding literature (see Figure 2.2 on page 11) and in the case company. What seems to be the case for many offshoring decisions is that cost differences between vendors are substantial enough to render the qualitative variables as insignificant. The company perceived their offshoring decisions as "obvious".

For both the cases of reshoring studied, the company used a multi-criteria analysis for evaluating the supplier candidates, and for the final decision to reshore. Managerial accounting information was integrated with qualitative decision variables based on experience and intuition. Using the machine analogy of Burchell et al. (1980), the role of managerial accounting information was that of a learning machine. The aim was therefore to learn from the accounting data in order to make a more informed choice. Qualitative factors were used directly in the assessment, without the effort of quantifying these. As one example from the company shows, different uses of managerial accounting information, resulted in opposite outcomes to the same location

consideration. In this example, previous management based their decision on cost-data, whereas current management included qualitative arguments to reach the opposite conclusion.

Important factors such as proximity to innovation environments, protection of intellectual property, and efficiency of communication without cultural boundaries had significant influence on the final decision to reshore. The distance to the offshore suppliers caused several disadvantages, such as long lead time, increased tied capital, increased supply risk, inventory volume, reduced meeting frequency and higher emissions.

This case is also an example of how governmental programs that encourage domestic research lead to an increase of reshoring. Companies undertaking such projects expand their professional network, and discover previously overseen supply opportunities.

After modeling the reshoring process of the company, a resemblance was found to the generic purchasing process defined by van Weele (2014). We expect this to be the case for companies that do not have a strategy that explicitly dictates domestic suppliers to be evaluated. For this company, reshoring is more of a special case of sourcing where the best option coincidentally is in the home country. Such a suggestion was not found in the reviewed literature, where it seems to be assumed that a reshoring decision is distinct from a regular purchasing process.

7.1 Limitations of this Study

The main limitation to this study lies in its validity. This is due to several reasons. First of all, the amount of empirical data gathered was limited. We did however experience a reasonable degree of saturation, this is therefore not our main concern. The main issues lie in the fact that we were not able to observe the decision-making process directly, and that the decision-making process had not been documented. Because of this, we were not able to triangulate by different methods for a large part of our data. This could have been solved by timing the study differently.

7.2 Recommendations for Future Research

During the literature study and the analysis of the empirical data, some possible areas for future research were discovered. In both the reshoring decisions studied, new product development played an important role in the decision. This has not been mentioned as a driver before. It seems that for the case company, developing new products with a Norwegian supplier made them leave a mindset where they looked east, to realize the potential gains from sourcing in Norway. It is quite evident that it is easier to perform innovation and research activities with a local supplier. Future studies could examine the link between innovation and reshoring, and the possible competitive advantages gained through doing research and development with a local supplier.

An interesting question that emerged during analysis is how the Norwegian suppliers are able to provide competitive offers. It could be interesting to approach this from a supplier-perspective. This would further broaden the understanding of why domestic suppliers are becoming competitive, and how they can increase their attractiveness towards Norwegian, and possibly also international companies.

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Appendix A

Interview Guide

About the product

- Why is this a competitive product? (Price, differentiation)
  - What makes this product differentiated? (Quality, design, brand name)
  - What characterizes competing products?

About the outsourcing

- Why did you choose to outsource product x?
  - Was it considered to make the product yourself? Why/why not?
- Did you consider investing in manufacturing facilities offshore? Why/why not?

About the offshoring

- Why did you choose to offshore product x? (cost reduction, flexibility?)
- Was the goal of the offshoring achieved? Why/why not?
  - If not, which advantages do you consider the offshoring gave you? Why?
- Why did you choose to offshore to these countries?
  - Which other countries were considered?
- What challenges/difficulties did you face with the supplier in the offshoring country? Why?

- Do you think it was the right decision to offshore? Why/Why not?

About the reshoring

- What was your role in the reshoring decision-making?
- Why did you choose to reshore product x?
  - Were there any changes in the offshoring country that affected the decision to reshore? (Economical, political)
    - Which?
    - How did they influence the decision?
  - Were there any changes in the home country that affected the decision to reshore? (Economical, political, market)
    - Which?
    - How did they influence the decision?
  - Were there any changes within the company that affected the decision to reshore? (change in management, strategy, product development)
    - Which?
    - How did they influence the decision?
- Was the goal of reshoring achieved? Why/why not?
- Was it considered to perform these activities in-house? Why/why not?
  - Was it considered to buy the factory? Why/why not?
- Was it considered to move production to other countries than Norway?
  - Which countries?
  - Why were these not chosen?
  - Why was Norway chosen?
- Which (other) advantages do you think the reshoring gave you?
  - What are the biggest advantages of the Norwegian supplier?
- Which (other) disadvantages do you think the reshoing gave you?
  - What are the biggest disadvantages of the Norwegian supplier?
- Do you think it was the right decision to reshore? Why/Why not?

The reshoring process

- What did the decision-making process look like?
  - What started the process?
  - What are the main phases of the process? (Do you have a model/structure for making such decisions?)
  - How long did the decision-making process last?
    - Do you feel this was enough time to make a good decision?
  - What kind of information was gathered for the different phases of the process?
  - Who was involved? (Management, suppliers, engineers, accountants..)
    - Who made the decision?
  - Is there anything you feel that this decision-making process didnt consider well enough?
    - What? Why?
- What have you learned from this process?
  - How has this experience been used in future decisions? (Can specify towards what was done differently for the raw material)

Use of accounting information

- How did you calculate the financial implications/consequences of the reshoring decision? (cost of buying vs cost of making/supplier selection)
  - What costs were included in calculation of the alternatives? (Price, TLC, TCO etc.)
  - How was the information collected?
  - To what extent did you feel you could trust the financial information?
    - Why?
  - To what extent did you feel financial information was available?
  - Did you develop key performance indicators (KPI) to compare the suppliers? Which? Why these?

  - To what extent did you feel you could trust the non-financial information?
    * Why?
  - To what extent did you feel like non-financial information was available?
- How did you weigh the different types of information against each other? (How was the information aggregated?) (financial, non-financial, quantitative, qualitative)
  - How is this different from the offshoring-decision?
- What did you do when reliable information was unavailable?
  - Which assumptions were made?
- Is there anything else, that hasnt already been mentioned, that affected the decision?

Properties of the Relationship/Transaction

- How is the relationship with the Norwegian supplier different from the one with the Chinese supplier? (What is the difference between the relationship with the Norwegian supplier and the Chinese supplier?)
- To what extent did you invest in manufacturing equipment unique to this transaction?
  - Why?
- To what extent did you invest in training/competency unique to this transaction?
  - Why?
- Prior to reshoring, how many suppliers were in a position to supply this component?
- If this contract were to be terminated, to what extent would there be costs related to changing supplier?
- To what extent is there uncertainty connected to this product?
  - Does the technology change rapidly?
  - Is the market demand volatile?

- To what extent can you confirm/control that the Norwegian supplier meets the requirements described in the contract?
  - How is this different to the Chinese supplier?

Closing questions

- Is there anything in the reshoring/offshoring process, aside from what already discussed, that you want to highlight?
- Who else involved in the decision-making process should we talk to?
- Are there any other products/components that have been or will be reshored?
  - Who should we talk to?