UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

The effect of ICT on trading companies in Sweden

A case study of four trading companies

Department of Business Administration
International Business
Bachelor thesis
Spring 2019
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Abstract

Over the years there has been an increasing amount of literature regarding the effect of information and communication technologies (ICT) on trade. These technologies cause disruption in the way that companies do business by increasing the amount of information available. By facilitating the sharing of information, ICT reduce information asymmetries between businesses. Furthermore, studies show that ICT can perform the same intermediary task as a trading company, possibly even more effectively and at a lower cost. This has led experts to believe that trading companies might lose their intermediary position through disintermediation. Despite this, the trading companies still prevail.

This thesis aims to study the effect that ICT has on the continued relevance of the Swedish trading companies' business models. By performing a case study and interviewing representatives from four Swedish trading companies we have managed to draw some conclusions regarding this effect. The study concludes that while information and communication technologies has affected the modern supply chain, the Swedish trading companies have not been disintermediated. The continued existence of trading companies is due to successful adaptation of their business models to fit the new context in which they exist. This adaptation has shown to be enabled by trust and the inherited flexibility of trading companies' contact network.

Key words: *Trading Companies, Information and Communication Technologies, Disintermediation, Transaction Costs, International Business*

Acknowledgments

First, we want to thank our supervisor Martin Henning, PhD, Department of Business Administration, Gothenburg University, for his support and guidance during the thesis work. Our discussions have been illuminating and we deeply appreciate him for generously sharing his time and knowledge with us.

We would further like to express our sincere gratefulness to the trading companies and their representatives for participating in our thesis. We are thankful for their enthusiastic reception and for sharing their expertise with us. Without their insight and contributions, this research would not have been possible. Presented in alphabetical order.

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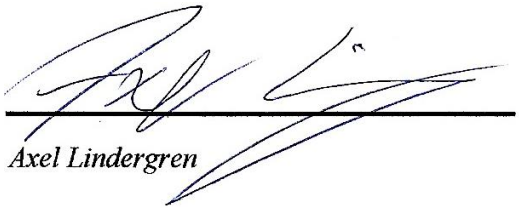
Robin Ekström, Vice President

Korab International
Lars Hadders, Sales Manager

"If you really look closely, most overnight successes took a long time" - Steve Jobs

Gothenburg, 1st of June 2019



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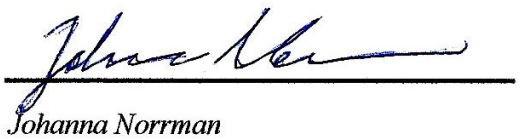

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Abbreviations

FDI	Foreign direct investment
ICT	Information and communication technologies
RQ	Research question
TCA	Transaction cost analysis

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1. Introduction

This chapter will provide the reader with an overview of how the development of information and communication technologies has affected trading companies and the industry in which they operate. It further presents a definition of which companies can be classified as trading companies. After this a problem discussion and our research questions are presented. The study's delimitations and general structure will conclude the chapter.

1.1 Background

This thesis studies the effect that recent development in information and communication technologies (ICT) has had on modern-day trading companies. The trading companies have been a major force in global trade since the nineteenth century, yet their predilection for privacy has sometimes led to their significance being disguised (Kuuse, 1999). The history of the Swedish trading companies is still a rather unexplored field as most attention has been focused on their British and Japanese counterparts (Jones, 1998). But in reality, trading companies have been at the centre of many smaller export-driven economies (De Geer, 1998). The market for many producers in the early industrialized society were located abroad. Providing these markets often became an overly complicated and capital-intensive task for Swedish companies. The rural producers needed the multinational trading companies to act as a link between the cities and the international market. By facilitating trade in iron, steel, grain and forest products the trading companies became of great importance to society (Kuuse, 1999). At first the Swedish trading companies' activities were broad, covering imports and exports of various types of goods. It is only during the last century that they have focused more exclusively on forest industry products (De Geer, 1998).

Trading companies have been continually exposed to a range of political and economic risks which has pushed them to adapt and reinvent themselves throughout the decades. Sometimes to such an extent that they look radically different from generation to generation (Kuuse, 1999). One risk that trading companies has been exposed to recently is the development of E-commerce. During the dot-com era there were many predictions about the demise of intermediaries (Rosenbloom, 2002). The belief was that E-commerce would fundamentally change the way we do business as producers would be able to use the internet to connect

directly to the final consumer. This would then result in the excision of trading companies, retailers, wholesalers and other mediators from the supply chain (Rosenbloom, 2006).

Today digitalization and developments in information and communication technologies poses a new challenge for intermediaries. The foreseeing of the demise of trading companies has been reincarnated under a different name, Disintermediation. This refers to a disruption in which an agent loses its intermediary position as "the role is subsumed by another, or eliminated entirely or taken over by the operation of digital technologies that work at much lower cost margins" (Maharg, 2016: 114). The continued existence of intermediaries is at large based on effective performance of trade intermediating needed by their producers and customers. If trading companies cannot offer this to a lower cost or at a superior level than other options available in the market, then they run the risk of being disintermediated (Casson, 1998). This is an industry that has overcome many previous challenges, but if these claims are true then they would result in the end of trading companies (Rosenbloom, 2002).

1.2 Defining a trading company

Trading companies goes by many names (e.g. trading houses, trading firms) depending on the preference of the writer. This thesis makes no differentiation between these expressions though they will henceforth be referred to as trading companies. Since trading companies originating from different countries operate in various ways, we hereby present a description of how Swedish trading companies generally operate.

Rather than being capital-based, trading companies are information and knowledge-based organizations. This gives them a unique flexibility that many other companies lack. They intermediate trade flows rather than to assume full control of supply chains. They can therefore be described as market-making intermediators (Jones, 1998). The primary function of a trading company is to intermediate trade in markets that are either distant or difficult for buyers and sellers to enter on their own (De Geer, 1998). These markets generally have political, cultural, legal or linguistic barriers which makes it more complicated for companies to establish themselves. Trading companies are experts at dealing with these barriers and they build their business on providing the international knowledge and contacts that is needed for trading with these markets (De Geer, 1998; Jones, 1998).

Trading companies' clients consist of firms that find it easier to buy and sell through intermediaries than to search for partners on their own (Jones, 1998). Clients tend to either be small or medium sized producers who are unable to acquire knowledge about the market by own means. Some larger firms may also do business with a trading companies if the market they want to enter is new to them or viewed as particularly distant. Clients can be from all different types of industries as the trading company's expertise has more to do with the markets it operates in than the actual product it mediates. Though it is worth mentioning that many of the Swedish companies specialize in commodities such as raw material and other input products (De Geer, 1998).

A trading company is at its core a type of intermediary which facilitates trade between sellers and buyers. Linking buyers with sellers can be done in two ways, by *broking* or *reselling* (Jones, 1998). The broker does not assume ownership of the product, its role lying simply in bringing the buyer and seller together. A reseller on the other hand does assume ownership of the product. Thus, they carry the risk of the goods being damaged or depreciating in value during the trade process. The trading companies may engage in broking or reselling, or both (Casson, 1998).

Further distinction can be made between different types of trading companies. Historically, trading companies have tended to move within three categories. They have specialized by either product, region or by a combination of them both (Jones, 1998). Trading companies may also be classified as *pure* or *hybrid* (Casson, 1998). Pure trading companies perform only trade and are comparatively few. Hybrid trading companies are more abundant and perform other activities beyond trade such as finance and logistics (ibid).

These complex corporate structures create complications when defining what a trading company is. However, in this case study they will be defined as follows. Trading companies are companies that at large concentrates on trading goods from business to business on an international level. As the trading company operates internationally it must be able to handle both export and import, having producers as well as buyers as its clients. It may be a broker in some business and reseller in others. Additional services outside pure intermediation may also be offered to is clients. However, this should not be the dominant part of the business model. Because diversification is allowed the company may be either pure or hybrid. But it should

remain relatively free in relation to production interest as to maximize its ability to act on asymmetries in availability and price level between markets.

1.3 Problem discussion

Due to globalization, the industry in which trading companies operate have changed remarkably. This phenomenon has in large been enabled by developments in ICT. ICT refers to technologies used to store, retrieve, and send information. This primary involves the internet, but lately mobile communications has also begun to be included in this definition (Nordin, 2013). Through ICT information can be processed, stored and transmitted anywhere in the world almost instantly. Studies has shown that ICT possess the capability of "enabling convenient, personalized and flexible interaction that can deepen relationships with customers and facilitate knowledge transfer without the services of an intermediary" (Nordin, 2013: 188).

Studies also show the internet has shortened the way from producer to consumer considerably. This has led experts to argue that ICT can enable efficient interaction between economic agents even under uncertain circumstances, thereby reducing *transaction costs* (e.g. Ciborra, 1993; Cordella, 2009). Transaction costs are the consequences of uncertainty in transactions. They are the "outcome of an unequal distribution of information between the actors involved in the transaction" (Cordella, 2006: 855). ICT has due to its ability to lower transaction costs and facilitate interaction amongst agents been recognized as a facilitator of disintermediation (Brozovic et al., 2013).

On the other hand, there are those who claim that digitalization and ICT has created a more complex environment for businesses to handle. As Cordella (2009) argues, there is an increased number of sources from which information emanates. As a consequence, businesses receive more unwanted and unsolicited information. "A key resource for survival in the new environment is the ability to manage and to improve the information flow" (Cordella, 2009: 854). This problem of "information overload" leads to the emergence of extra costs to accommodate the more complex environment. This has led experts to argue that transaction costs may in fact increase as a result of developments in ICT (Cordella, 2009). As trading companies specialize in lowering transaction costs for other companies (Casson, 1998), they may therefore become even more useful because of ICT.

To summarize, two effects of ICT on trading companies can be identified. On one hand, ICT might lower transaction costs to the extent where trading companies are no longer needed, causing them to be disintermediated (e.g. Ciborra, 1993; Nordin, 2013). On the other hand, increased uncertainty due to ICT might result in higher transaction costs, which would make trading companies even more important (e.g. Cordella, 2009; Rosenbloom 2002). This discussion becomes all the more important when adding an internationalization perspective as the transaction costs a company faces will be higher in foreign markets than at home (Kyselica, 2014). In this thesis we will study the de facto effects that ICT has on changing or disrupting trading companies position as intermediaries.

1.4 Problem description

The aim of this thesis is to study the effect that information and communication technologies has on the continued relevance of the Swedish trading companies' business models. In order to create an idea of the companies' current role as intermediaries we will analyse how they avoid disintermediation. To fulfil the aim of this thesis the following questions will be asked.

RQ 1: *What effect does ICT have on disintermediating the supply chain?*

RQ 2: *Which strategies does the Swedish trading companies use to avoid falling victim to disintermediation?*

RQ 3: *What role does Swedish trading companies have in the global supply chain?*

1.5 Delimitations

This study analyses trading companies in a Swedish context with four companies from Gothenburg as case subjects. The representatives had to fit the definition of a trading company which was mentioned in part 1.2 “defining a trading company”. Those companies whose operations has deviated away from this definition were disregarded as they cannot, according to this study, be classified as trading companies. As the Swedish trading companies mainly trade in forest products, this study is naturally somewhat focused at developments in this industry, though its main focus lies on the industry as a whole.

The Swedish trading companies have developed in a very different way compared to their much more studied counterparts. The Japanese general trading companies being arguably the most widely known and researched within the industry. Mostly due to their size and the governmental support which facilitated their growth (Jones, 1998). Trading companies such as the ones from Britain, the United States and France also differ from their Swedish counterparts as these are companies that have grown large due to their strong colonial past (Casson, 1998). Swedish trading companies on the other hand have been forced to expand internationally as the country's small domestic market provided insufficient growth opportunities (De Geer, 1998). The favourable financial conditions offered in Sweden combined with the access to a plentiful supply of goods has mad Swedish firms to pioneers of the business. The hallmark of the Swedish trading companies is that while they have managed to become widely known in international markets, they have kept a low profile at home (Kuuse, 1999). There is little research that deals with their role in today's digitized society. In this thesis we want to contribute to the research by exploring this area. Therefore, we decided to limit this study to analysing developments amongst the Swedish trading companies.

1.6 Thesis disposition

1. Introduction: The thesis will begin by giving a background to the subject, followed by a discussion of the problem at hand as well as delimitations to the study.

2. Theoretical framework: In this chapter we will present the theories that will later be used in order to analyse the gathered data.

3. Methodology: The methodology part provides the reader with a description of how the research has been conducted.

4. Empirical findings: In this chapter findings from interviews with the trading companies will be presented.

5. Analysis: The analysis provides a discussion of how the empirical findings are related to the theories presented in the theoretical framework.

6. Conclusions: The thesis final chapter concludes a summary of the analysis in regard to the research questions. Here we will present our main conclusions and discuss their relevance to the theoretical field. Furthermore, we will present recommendations for trading companies as well as suggestions for further research.

2. Theoretical framework

This chapter presents the theories which will be used in the study. The chapter begins with a presentation of two theoretical fields, the transaction cost theory and the Uppsala model. There after follows a discussion of the role of trading companies in relation to the theories as well as the effect of information and communication technologies on the theoretical framework.

Casson (1998) identifies two impediments to international trade. Lack of information and lack of trust, both of which creates uncertainty in the economic system. Real resources such as investments and time must be used to overcome this uncertainty which results in transaction costs. Transaction cost economics is a theoretical field which explains the organisation of economic transactions. According to this field, firms should organize transactions to lower transaction costs. As the theoretical role of trading companies is to lower uncertainty for buyers and sellers, they also constitute a way to lower transaction costs (Williamson, 1975).

This claim is further supported by the Uppsala internationalization model. The Uppsala stage model of internationalisation explain what paths, patterns and pace companies take when internationalizing (Hollensen, 2014). Here, intermediaries are also seen as a low uncertainty alternative to entering new markets (Johanson and Vahlne, 1977).

2.1 Transaction costs theory

2.1.1 The development of the transaction cost theory

Up until the end of the 20th century the costs of performing a transaction were often assumed to be zero. The first to connect the concept of costs of transactions to the study of firms was Ronald Coase. In his 1937 paper "The nature of the firm" Coase found that theories of the time did not sufficiently explain the basis on which firms choose how to allocate their resources. Coase argued that "a firm will tend to expand until the cost of organizing an extra transaction within the firm will become equal to the cost of carrying out the same transaction by means of an exchange on the open market" (Coase, 1937: 395). Based on this assumption,

Coase (1937) discusses the existence of companies and why certain transactions are organized internally while others are performed in the open market. This was the foundation to what would later become the transaction cost theory.

Coase's ideas were then further built upon by Professor Oliver E. Williamson who is considered to be one of the main individuals behind the theory. Williamson developed the theory by describing the underlying features of transaction costs. According to him these costs depend at large on uncertainty and asset specificity (Williamson, 1979). Williamson argued that it is essential that firms understand how transaction costs occur and how to avoid them. Companies should identify which factors cause transactions to become more or less complicated and then apply a structure that best minimizes the costs of the transactions (ibid).

2.1.2 The cause of transaction costs

Transaction costs occur due to uncertainty in transactions. Drawing inspiration from Simon's (1982) concept of *bounded rationality*, Williamson (1985) managed to theoretically explain the occurrence of uncertainty by including what he referred to as *opportunism* into the transaction cost theory. Williamson defined opportunism as "a condition of self-interest seeking with guile" (Williamson, 1985: 47) which can be translated into individuals acting in their own self-interest. Opportunism causes individuals to "mislead, distort, disguise, obfuscate, or-otherwise confuse" their trading partners (Williamson, 1985: 47). This will result in a transaction partner receiving distorted or incomplete disclosure of information. This unequal distribution of information will result in uncertainty between the actors involved in the transaction, which in its turn causes transaction costs to appear (Cordella, 2009). Protecting oneself against opportunistic behaviour can also give rise to transaction costs. An example of this is companies that receive incomplete or distorted information will face high cost of screening and monitoring the partners behaviour (Nooteboom et.al, 1997).

The degree of *asset specificity* will also affect to what degree transaction costs will occur (Williamson, 1985). Asset specificity concerns the degree to which an investment can be used in multiple areas, that is to say how transaction specific an investment is. In his research, Williamson (1985) found that investments that have a high specificity will be "non-redeployable" and therefore create high transaction costs. For example, distribution of products may require investment in special facilities, or there might be a high requirement of

professional skills and knowledge for certain products and services (ibid). Studies has found that product idiosyncrasy and asset specificity are closely related. Williamson even treated them as being indistinguishable (ibid). Complex products are assumed to require higher investments, in part because they can be associated with high contrast cost, and therefore procures higher transaction costs. Standardized products on the other hand tend to require less investment and lower contracting costs (ibid).

2.1.3 Defining transaction costs

Transaction costs can be split into to two distinct groups, *ex ante costs* and *ex post costs* (Williamson, 1985). Uncertainty and asset specificity are the factors considered to give rise to these transaction costs. It is fundamental to the transaction cost theory that firms should attempt to minimize ex ante and ex post costs when undertaking a transaction (Butter and Mosch, 2003).

Ex ante costs arise before the transaction and includes *search and negotiation costs* (Butter and Mosch, 2003). Search costs are costs which arise from locating and evaluating a potential buyer or seller. They emerge as a consequence of information being neither free, complete or easily accessible. Which results in a need for trading partners to invest in search costs (ibid). Negotiation costs arise when formulating a contract with a partner. There are difficulties in creating contracts which treat all possible events, especially since uncertainty and opportunism makes it impossible to predict all potential outcomes. This cause a need for negotiation of contract terms which results in costs (Williamson, 1985). International trade usually results in higher costs as different laws and praxis makes contracting even more difficult (Butter and Mosch, 2003).

Ex post costs occurs during and after a transaction has been made. These typically contains *costs of monitoring- and enforcement* (Williamson, 1985). Monitoring costs are incurred when having to continuously check that a partner is fulfilling its end of the contract. If one party does not adhere to the agreed upon contract, then enforcement costs may occur. These typically include costs for bargaining and sanctioning with the trading partner (Butter and Mosch, 2003).

2.1.4 Transaction cost analysis

The boundary of a company will be determined by what degree of uncertainty is associated with a specific transaction (Cordella, 2006). This led to the development of the transaction cost analysis in which Williamson (1975) define different economic organization systems based on how efficiently they manage uncertainty. A transaction cost analysis (TCA) can explain why firms carry out some transactions within the firm boundaries and others at arms-length. TCA assumes that decision makers are rational and can determine all transaction costs affecting a decision, which has at times been disputed (e.g. Simon, 1982). However, TCA still offers a useful theoretical explanation to why firms choose to adapt a certain structure to their international activities. At its core, the framework states that if the friction between buyer and seller is high, the firms should keep transactions in the company through hierarchical integration, commonly referred to as *internalization* (Williamson, 1981). When transaction costs are low a company may instead access them on the open market through *externalization* (ibid). By externalizing transactions, companies can avoid the risks and commitment associated with investing in their own subsidiaries. Externalization is also commonly adopted for spot trading, when a company only has occasional transactions with others (ibid).

TCA provides the basis for research into organization of international activity in firms (Hollensen, 2014). In a world where parties are inclined to be opportunistic, firms are faced with the risk of being exploited by a trading partner. If this risk is great enough, it may warrant replacing market transactions by integrating activities into the firm (Williamson, 1975). As the TCA assumes zero friction within a company, internalizing transactions should theoretically lead to firms facing zero transaction costs, though there are scholars who believe this assumption to be incorrect (Hollensen, 2014).

2.2 The Uppsala stage model of internationalisation

During the 1970s a group of Swedish researchers in Uppsala focused their interest on explaining the internationalization process of firms (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977). Researchers at the university of Uppsala found that Swedish manufacturing firms tended to follow a pattern of gradually increased international involvement. They noted that firms started by entering markets that were geographically close to their home market and only gradually entered more distant markets. Firms also tended to

initially enter markets through exports rather than through foreign direct investment. Building upon the behavioural theory of the firm (Cyert and March, 1963) and the growth theory of the firm (Penrose, 1959), Johanson and Vahlne (1977) were able to use these findings to create a model that suggest a pattern of successive entry into foreign markets. This has largely been referred to as *the stage model of internationalization* (Johanson and Vahlne 2009).

The Uppsala model assumes that deeper knowledge about a foreign market leads to increased commitment from the firm in the form of investments. A company setting up operations abroad will face *liabilities of foreignness* that domestic firms do not (Hymer, 1976). This is in part due to *psychic distance* which Johanson and Vahlne defined as factors that hinders or disturbs the flow of information between the company and the entry market (e.g. Brewer, 2001; Dow, 2000). These hinderance or disturbance in information flows which according to transaction cost theory will result in the emergence of transaction costs (Williamson, 1985).

In 2009, the Uppsala internationalization process model was revisited and updated in light of changes in business practices and theoretical advance. The new Uppsala model was expanded to include the importance of networks and relationships in the internationalization process of firms (Johanson and Vahlne 2009). In addition to the original model, firms are assumed to be connected and embedded in business networks. Firms that are not part of a network will suffer a *liability of outsidership*. Johanson and Vahle defines this concept as follows. "If a firm attempts to enter a foreign market where it has no relevant network position, it will suffer from the liability of outsidership" (Johanson and Vahlne 2009: 1415). These networks were seen as fundamentally created by commitment and trust. A firm with no experience from foreign markets might let a trusted intermediary operate the business (Arenius, 2005). As trust lowers the risk of opportunistic behaviours it will simultaneously lower transaction costs.

Johanson and Vahlne (2009) found that companies use incremental internationalization to keep uncertainty and transaction costs at a manageable level. Johanson and Wiedersheim-Paul (1975) suggested incremental internationalization happens in four sequential steps. Each successive step represents a higher degree of uncertainty. Which is dealt with by raising commitment in order to acquire knowledge. These steps are as follows. No regular export activities [1]. Export via independent representatives [2]. Establishment of a foreign sales subsidiary [3] and subsequent establishment of foreign production/manufacturing units [4]. Figure 1 illustrates this process.

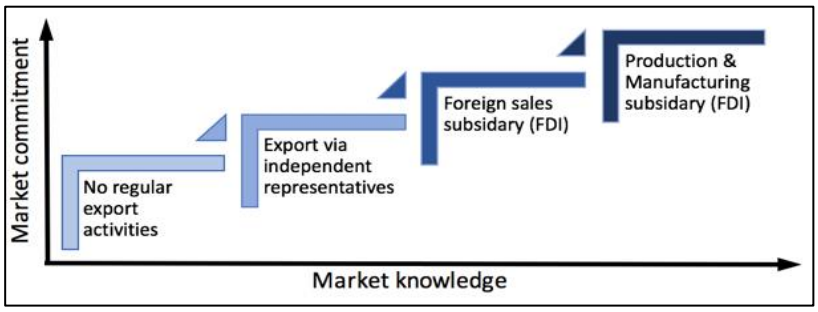

Figure 1 (Adapted from Johanson and Vahlne, 1977)

No regular export activities [1] is the first step in the establishment process. The firm exports only sporadically and tends to have insufficient prior international experience. Companies with little interest of international expansion might not proceed further than this stage (Carneiro et.al, 2008).

Export via independent representatives [2] consists of the usage of an intermediary. One example of an intermediary trader is a trading company (Hollensen, 2014). These are typically used for initial entry into foreign markets. Intermediaries manages risks and uncertainties when trading with a foreign market (Peng, 2009), thereby reducing transaction costs. This allows companies to trade internationally without the commitment and risks related with other entry modes. Export entry modes can be further divided into direct and indirect exporting. Indirect export is where a company sells their products through a domestic representative, essentially outsourcing their market development to the intermediary. Trading companies are included in this category. Direct exporting functions in much the same way but the representative is located in the foreign target market (Root, 1994). Companies stay on this stage either because of the high risk associated with direct investments or because the market size does not warrant further investment (Johanson and Wiedersheim-Paul, 1975).

Establishment of a foreign subsidiary [3&4] is a way for companies to bridge the gap caused by the intermediaries involved in the previous stages. These final two stages are associated with very high degrees of uncertainty and risk (Hollensen, 2014). Establishment of a subsidiary require not only initial establishment costs, but also continuous investment to manage the operations (Nordin, 2013). Success can usually not be reliably predicted since it depends on a number of factors such as capital, size and networks contacts in the market. However, the viability of an establishment increases with the financial strength of the company (ibid). Accordingly, it is unusual for smaller firms to start at this stage. Nonetheless,

firms with extensive experience from other foreign markets might jump directly to this stage (Johanson and Wiedersheim-Paul, 1975). Market size and perceived opportunities influences whether or not firms decide to progress to this last stage (ibid).

2.3 Trading companies in relation to the theoretical framework

Much of the existing research regarding the theoretical role of trading companies gives only a snapshot of its function at certain points in time and place (e.g. Jones, 1998; Wichmann 1997). Despite this, trading companies have been included into many international business theories as facilitators for trade. The Uppsala internationalization theory states that its role lies in supporting initial market entry for firms (Johanson and Vahlne, 1977; Johanson and Widestein-Paul, 1975). Due to their ability to reduce uncertainty and lower transaction costs, trading companies tend to be hired by firms that trade with markets which are perceived to be unfamiliar (Jones, 1998). The internationalizing company will face liabilities which causes transaction costs to be relatively higher when doing transactions in the foreign market than at home. In part because it makes drafting, negotiating and contracting more complex (Kyselica, 2014). According to TCA, the trading companies exist to lower transaction costs (Jones, 1998).

There are many obstacles to trade that arises when transactions are performed on the open market. Costs will occur even in those cases when market holds great similarities to the home market (Kyselica, 2014). These obstacles are detrimental to trust building (Casson, 1988) and represents a significant impediment to partner cooperation (Lou, 2007). Most obstacles to trade come from either a lack of trust or from information asymmetries. Information asymmetries can simply be dealt with by providing information (Casson, 1998), but generating trust is a bit more complicated and requires some further explaining.

A trading company can reduce uncertainty, and thereby lower transaction cost, by instilling trust. Research has shown that ”the hazards of opportunistic behaviour in long-term relationships can be mitigated or removed if there is trust between the two parties” (Ganesan, 1994: 3). Trust is based on “a belief, sentiment, or an expectation about an exchange partner that results from the partner's expertise, reliability, and intentionality” (Ganesan, 1994: 3). Initial trust is judged through past behaviours and prior experience of the parties involved (Ganesan, 1994; Huang, 2013). Making it important for trading companies to be consistently

trustworthy over time. In order to build this trust, it is important to show commitment by investing in the relationship. Examples of such investments are continuous interaction and sharing of a common goal (Huang, 2013). Face-to-face interaction also plays a crucial role in building trust between parties as it provides specific advantages in the development of trust, especially in newer relationships (Growe, 2017).

2.4 Effect of ICT

In 2014, Kjellin and Lawrence, wrote "the modern role of trading companies" which investigates how trading companies maintain their competitive advantage when faced by external transformation. The main conclusion derived from this research was that all trading companies have been affected by external transformations and responded by adapting their strategic business models. The study found that Swedish trading companies possess dynamic capabilities in order to adapt to a changing environment (Kjellin and Lawrence, 2014). Many different studies seem to support this fact (Ellis, 2001; Collis and Montgomery, 2008) Despite the existence of such studies there are those who claim that the existence of trading companies is being threatened (e.g., De Geer, 1998; Nissen, 2000).

Because of developments in ICT, modern-day trading companies have been called both "superfluous" and been criticized for having "outlived their usefulness" (Wortzel, 1983: 74-75). But it is unclear if ICT will make matters better or worse for trading companies. ICT has certainly caused an increase to the amount of information available (ibid). One view is that this would remove uncertainty and complexities from transactions by making necessary information available to decision makers. Accordingly, ICT causes a reduction in transaction costs (Ciborra, 1993). Lower uncertainty further reduces the risks and potential liabilities that companies face when establishing in a foreign market. Hence, decreasing the need for incremental market entry (Hedlund et.al. 1985).

If uncertainty and complexities decrease, this would have an effect on both theories presented in this chapter. The information asymmetries that result in the development of transaction cost could then be evened out by adding ICT into the system (Cordella, 2006). It has been suggested that "ICT enables an easier matching between buyers and sellers once goods have been located, and lowers the cost of brokerage" (Cordella, 2006: 198). There is a possibility that this might cause companies to leapfrog over stages in the internationalization process or

allow them to establish purely virtual organizations (Ciborra, 1993). This disintermediation would certainly be a challenge for trading companies.

2.5 Theoretical positioning

The theoretical positioning of this thesis lies within the field of international business. More specifically it is positioned towards the intermediary role that trading companies has in international trade. In sum, this chapter has presented an overview of the theoretical field of transaction costs and the Uppsala model. These two theories where chosen due to their strong connection with organization of trade and transactions. They are both frequently used to explain why intermediaries exists and what their place is in international trade.

In part 2.3 we presented a summary of trading companies role in relation to the transaction cost theory and the process of internationalisation. This chapter was included in order to give the reader a description of how the theories might be applied to the trading companies included in this study. Here, the main area of discussion was trading companies' ability to lower transaction costs by reducing uncertainty and complexities.

This chapter has also presented an overview of the effect that ICT has on trading companies and their intermediary role. Here, the main area of discussion was ICTs ability to cause disintermediation. This section also discussed the potential effects that ICT might have on the theoretical framework. These more specific theoretical areas were included as they have crucial part in connection our empirical findings to the main theories in this chapter.

3. Methodology

This chapter presents an overview of the methodology that have been chosen to achieve the aim of the study and answer its research question. The chapter consists of 7 sections where the study's approach is reviewed in chronological order. The chapter ends with a self-critical discussion.

3.1 Research strategy

Business research can be classified as belonging to one of two umbrella terms. There is *quantitative* research methods and *qualitative* research methods. The status of distinction between these two terms is ambiguous. Some regards them as being clearly distinctive while others claim they are plainly 'false'. Bryman and Bell (2013) claims that it can still be useful for researchers to distinguish between quantitative and qualitative research methods as they classify different methods of business research. A qualitative research approach "emphasizes words rather than quantification in the collection and analysis of data" (Bryman and Bell, 2013: 38). It is distinguished from quantitative methods mainly because quantitative researches employ measurements and qualitative researches do not.

The qualitative approach is suitable when analysing behaviour. It is concerned with gaining an understanding of "the social world" by studying how this world is interpreted by the actors in it (Bryman and Bell, 2013: 392). As the aim of this thesis is to study the effect that ICT has on the continued relevance of the Swedish trading companies' business models, the qualitative approach was applicable. According to Bryman and Bell (2013) there are six steps that can be used to visualize the qualitative research process.

Step 1. General research question. The research question has been described and discussed previously.

Step 2. Selection of relevant site(s) and subjects. Gothenburg was chosen to be the site of this research project due to the city housing many of the biggest trading companies in Sweden. Four of the largest firms were chosen to be representatives of the industry. In total there were seven respondents, all of them possessing many years of professional experience in the field.

Step 3. Collection of relevant data. Data was collected through qualitative interviewing with the subjects mentioned above. Interviews were between 60 and 90 minutes and were recorded and transcribed by the researches.

Step 4. Interpretation of data. The analysis began by coding the transcribed interviews in order to find any repeating patterns between answers given by the respondents. The patterns are presented in the empirical chapter of this report.

Step 5. Conceptual and theoretical work. This step involves studying the data through a theoretical perspective.

Step 6. Writing up findings/conclusions. The thesis ends by presenting a summary of the main findings from the analytical chapter.

3.2 Research design

After deciding on a qualitative or quantitative research strategy there are two other key dimensions upon which the researcher has to make a decision. The first concerns the choice of research design which provides a framework for the collection of data. The second concerns the choice of research method which constitutes a technique for gathering data (Bryman and Bell, 2013). The first dimension will be presented here. The choice of research method will be presented in the next section due to its connection to the data collection.

This thesis was written using a *multiple case study design*. The case study is concerned with developing a deep understanding of the complexity of a case. A multiple case study, or comparative study as it is sometimes called, uses a more or less identical method of analysis on two or more cases. The study "embodies the logic of comparison, in that it implies that we can understand social phenomena better when they are compared in relation to two or more

meaningful contrasting cases or situations" (Bryman and Bell, 2013: 72). The multiple case study design was selected because it allows comparison and contrasting of the findings derived from each case. Furthermore, the case study an ideal strategy for when the research question includes a "why" or a "how", as the case for this thesis is.

There are four Swedish trading companies used as cases in this study. Their names are *CellMark, Ekman & Co, Elof Hansson and Korab international.* These companies were purposefully selected based on the judgment that they would help answer the research question, making this a form of purposive sampling (Bryman and Bell, 2013). The goal is to sample cases in a strategic way so as to guarantee that the samples are relevant to the research question. In order to answer our research question, we wanted the respondents to have a lot of experience from the field and preferably from different sized operations. This was done to create a sample that accurately represents the industry.

3.3 Data collection

3.3.1 Primary and secondary data

Data is classified in two ways; as either *primary* or *secondary*. Secondary data is second-hand information which has already been collected by someone other than the researcher (Bryman and Bell, 2013). Using secondary data means that the researches run a risk of applying misleading data which might lead them to draw incorrect conclusions about a subject (ibid). Therefore, the secondary data presented in this study is used only to explain existing theories and concepts that were needed in order to support the primary data.

Primary data is original data that has been generated by the original researcher (Bryman and Bell, 2013). Primary data is typically gathered for the specific purpose of a research project. It is commonly collected in the form of questionnaires from a survey or from transcripts of interviews (ibid). The advantage with primary data is that it may be information that has not been gathered before (ibid). The choice to mainly use primary data was based in a wish to assemble data more accurate aligned with the purpose of the study. Furthermore, the research regards the current role of trading companies of which little public data has been generated.

3.3.2 Research method

The empirical data presented in this thesis was gathered through *semi-structured interviews*. In this research method the researcher has an interview guide with a list of questions regarding the topics that should be covered during the interview (Bryman and Bell, 2013). The researcher may not follow the questions exactly the way they have been outlined as the aim is to give the respondents leeway in their replies (ibid).

This choice of research method was chosen for a number of reasons. It makes it more likely that the researcher will see things as the respondents see them without bringing in their own presumptions and expectations. It also ensures that cross-case comparability will be possible, which is desired when performing a multiple case study. Furthermore, a semi-structured interview allows for exploration of the respondent's opinions and perceptions regarding complex issues while simultaneously enabling the interviewer to ask for clarifications and development of answers (ibid). This is something that we deemed desirable.

The companies that we found to be of interest were contacted in the beginning of April 2019. The interviews were held the same month and took place at each company's location in Gothenburg, Sweden. The respondents were held in Swedish and lasted for between 60 to 90 minutes. The company representatives were asked to respond to five broad questions. The broad questions were chosen in order to not lead the respondents to respond in a certain way as the findings of the study should be shaped by the respondents. For each of the five question there was checkpoints for subjects we hoped that the answer would touch upon. Most frequently the answer was sufficient, but in those cases when the respondent did not touch upon one of these checkpoints a follow up question was asked. This was done in order to give the respondent opportunity to discuss all areas that we deemed to be of interest to this study.

The interviews were recorded and later transcribed by the researchers themselves and represent the source for the empirical data presented. A Swedish and English version of the interview template containing the five questions and subsequent checkpoints are attached as an appendix to this thesis.

Company	Respondent	Position	Procedure	Date
Elof Hansson	Danielsson, Isak Ekström, Robin Yang, Nawei	Vice President Vice President Vice President	Face-to-face	19-04-16
CellMark	Hellstrand, Anders	Vice President	Face-to-face	19-04-23
Ekman & Co	Tidebrant, Hans Trägårdh, Fredrik	Senior Vice President Executive Vice President	Face-to-face	19-04-24
Korab Int.	Hadders, Lars	Sales Manager	Face-to-face	19-05-03

Table 1. Conducted interviews

3.4 Analysis of primary data

The key process in grounded theory is coding. In fact, most forms of qualitative analysis use coding as the starting point. Coding entails giving labels to parts of transcripts or field notes which seem to be of theoretical significance (Bryman and Bell, 2013). As suggested by the grounded theory, the interviews were transcribed and coded in a continual manner. The first set of codes were plentiful and referred to broad concepts such as “service” which represented any adaptations in service offerings, and “risk” which included any perceived challenges or threats to the continued existence of trading companies.

After coding all data, the transcripts were read through again. This time keeping in mind how the data related to our theoretical framework. This resulted in a number of notes regarding more specific observations and their possible relation to theory. The codes were then reviewed and updated using these notes. This resulted in some codes being grouped together due to them relating to the same phenomenon. In the end we were left with the following set of codes.

COFACT	Facts about the companies involved
DC: ICT	Disintermediation challenges relating to ICT
DC: L	Disintermediation challenges relating to suppliers leapfrogging
DC: T	Disintermediation challenges relating to rising transparency
MC: F	Managing challenges by diversification into finance
MC: L	Managing challenges by diversification into logistics
MC: R	Managing challenges by diversification into risk management
MC: T	Managing challenges by providing trust
SUP	Trading companies' role in the supply chain

The transcribed material was derived from questions which were asked in order to give answer to our research question. Thus, it fell naturally that these codes ended up relating in some way to these research questions. The "COFACT" where gathered in their own chapter, which describes the background of the companies. The "DC" codes relate to RQ1 or what effect ICT has on disintermediating the supply chain. The "MC" codes relate to RQ2 or what strategies trading companies use to avoid disintermediation. The "SUP" code relates to RQ3 or what role of trading companies have in the global supply chain. For this reason, the empirical chapter used the research questions as headlines.

In the analytical part of this thesis we compared how the empirical data related to the existing theories. The focus lies mainly on gaining an understanding of how ICT has affected trading companies' theoretical role. The analytical chapter is structured according to our theories. Starting by giving a theoretical perspective on the role that ICT has in disintermediation of the supply chain followed by what strategies trading companies use to manage the challenge of disintermediation (RQ 1 and 2). It then continues by analysing the current role of trading companies in the supply chain (RQ 3).

3.5 Ethical considerations

The ethical principles regarding business research has been broken down by Diener and Crandall (1978) into the following four areas. Whether there is: harm to participants, a lack of

informed consent, invasion of privacy or whether deception is involved (Denier and Crandall, 1978). In order to not transgress any of these four areas, the company representatives have been asked to give their informed consent upon a number of areas. In the initial stage the representatives were contacted and asked whether they would be interested in participating in the study. At this time, they were also presented with a summary of what the thesis would be about so that they would gain an idea about what areas the interview would touch upon. Prior to the interviews the respondents were once again contacted. This time they were given the five main interview questions.

The respondents have all been given the chance to read through this paper prior to its publication. They have all given their consent to the usage of the data derived from the interviews in which they were present. This was deemed to be necessary as to not present any information that the companies perceived to be sensitive or confidential. The respondents also consented to having their own names and the company names written out in the report. Citations that were made from specific persons have all been approved by the person in question.

3.6 Quality of the study

The trustworthiness of a research study is important in evaluation of its worth. Lincoln and Guba (1985) presents a *trustworthiness criteria* which may be employed in order to assure the reader of the credibility of a qualitative study. This encompasses four criteria's; *credibility*, *transferability*, *dependability* and *confirmability*.

Credibility concerns the degree to which the findings of the study can be deemed to be correct (Lincoln and Guba, 1985). The establishment of credibility also entails ensuring that research has been carried out according to good practice. It also involves ensuring the reader that the researcher has correctly understood and interpreted their findings (Bryman and Bell, 2013). The primary data presented in this report is purely based on the view of the respondent. It has been clearly divided from any secondary data. This was done in order to allow the reader to draw their own conclusions regarding the correctness of the researchers' analytical interpretations. One more way to establish credibility is by triangulation (Lincoln and Guba, 1985). In using multiple sources to strengthen the findings presented in this thesis we aim to assure the reader that our findings are correct. The conclusions in this thesis are based on

patterns discerned from interviews with seven respondents from four companies in order to ensure their credibility.

Transferability concerns the degree to which the findings of the study have applicability in other contexts. Due to the contextual uniqueness of qualitative studies, whether findings "hold in some other context, or even in the same context at some other time, is an empirical issue" (Lincoln and Guba, 1985: 316). Therefore, Lincoln and Guba suggest that trustworthiness could be established by using thick descriptive data. So that others may pass judgments about the degree of fit or similarity (Lincoln and Guba 1985). This methodology chapter aims to fulfil this criteria by providing a detailed account of the process of data collection for this thesis.

Dependability concerns the degree to which the findings of the study are consistent and could be repeated. Lincoln and Guba (1985) suggest that researchers assume what they call an auditing approach. The paper and information related to its creation, such as transcripts and fieldwork notes, should be made accessible to peers whom would act as auditors. The peers would then establish how well proper research procedures has been followed. This thesis has been put through an external audit where it was reviewed by peers from the school of business, economics and law at the University of Gothenburg.

Confirmability concerns neutrality or the degree to which the findings of the study are shaped by the respondents and not affected by the researchers own motivations or interest. The researchers should be able to show that they have acted in good faith (Bryman and Bell, 2013). Lincoln and Guba suggest that the establishment of confirmability should be one of the objectives of the auditors (Lincoln and Guba 1985).

3.7 Reflections on the methodology

3.7.1 Criticism regarding the qualitative research method

Bryman and Bell (2013) address various types of criticism that exist regarding qualitative studies. One common critique is the difficulty in replicating a qualitative study. It is almost impossible to conduct a true replication of studies of this kind as there are hardly any standard procedures to follow. Researchers may differ in what areas the find significant and responses

of the respondents may be affected by the characteristics of the researcher, such as their gender and age (Bryman and Bell, 2013).

Qualitative studies also frequently exhibit problems with generalization (ibid). The scope of the findings may sometimes be restricted if unstructured interviews are conducted with a small number of individuals (ibid). There are also other research designs that we could have used to answer our research question which might have given us a different result. The thesis uses a case study design and for this reason the sample size is smaller. To get a wider sample we could have instead used a quantitative study design which might have allowed us to draw more general conclusions about the industry.

3.7.2 The quality of primary data

Common critique of qualitative research studies is that they sometimes have a lack of transparency. It can sometimes be hard to establish what a quantitative researcher actually did and how conclusions were drawn. It may also be hard to determine how the interview subjects were chosen and how credible they are (Bryman and Bell, 2013). We are aware that there are certain aspects of the primary data where validity could be questioned. Firstly, the interviews were conducted with individuals holding different positions in the firm and whose length of experience in the industry varies. This might affect their perceptions and understanding of the areas that the interview questions touch upon, which might affect their answers. They might also have overstated the importance of trading companies. However, all respondents have given answers that represent both positive and negative views on trading companies.

One other reflection is that selection bias might also have an effect on this report. The companies that we interviewed represent those that have survived until this day. There have been other trading companies throughout the years, such as AB Scharins Söner and L E Handelshus Aktiebolag, that have shut down their operations. If there had been a possibility to interview these trading companies then individuals that worked at firms might have a different perspective on the issue at hand.

4. Company presentations

An overview of each company is presented in this chapter. This includes information regarding the companies' history, their ownership structure, their business areas and their market presence.

In order to clarify how the trading companies operate today, we map out the geographical trading patterns and analysing the trends of the industry. Together, the business networks of the trading companies of Gothenburg covers all the continents in the world. Still, by observing the main flows of trade, each firm has its own geographical pattern and a difference in where to operate is distinguished among the trading companies. The four trading companies emphasizes unambiguous the impact that Asia, and specifically China, has on the industry. Traditionally strong paper producers in North America and Europe have been challenged by the low production prices in Asia. China is the biggest importer of pulp in the world and their rapid development attracts attention from the whole business. With an estimated fivefold rise of paper production over the past twenty years, China has become an absolute key market (Representative, CellMark, 2019; Representative, Ekman & Co, 2019; Representative, Elof Hansson, 2019; Representative Korab, 2019).

A common denominator among the trading companies in this study is a trend of positive economic results. By taking part in the companies' annual reports for the five-year period 2013-2017, a picture of the latest cycle is given. All participating trading companies shows upgoing graphs with an increase of the yearly turnover within a range of 17-35 per cent. Seen to net profit, the results increase by between SEK 20 - 136 million (Retriever Business, 2019a, b, c, d).

4.1 CellMark

CellMark was founded 1984 in Gothenburg by a group of individuals with extensive experience from the industry (CellMark, 2019). With the employee's broad expertise and already existing contact network, CellMark had the capability to quickly establish themselves and become a significant actor in the market (ibid). As the company employs 750 persons, they are the biggest trading company in Gothenburg in terms of the number of employees. They are also the company which has the largest yearly turnover (Reteriver, 2019a). CellMark consists of a network with 70 offices divided over 30 countries. The company is privately owned by its employees together with the investment firm Ernström & Co (CellMark, 2019).

CellMark has its roots in the forest products industry, dealing in international trade and mediating commodities related to the divisions of pulp and paper (CellMark, 2019). Chemicals, packaging and metals are other divisions where Cellmark are active, providing an abundant range of different business units (ibid).

The location of where CellMark sources its paper and pulp suppliers has changed over time. It started with a general shift from paper mills mainly located in Sweden towards sourcing from producers in North America. For the last two decades many pulp producers can also be found in Brazil and Indonesia as well as in Chile to some extent. This shift is can be explained by the low costs of production and the large access to fast growing trees in these countries. Low production costs are necessary in order to reach out to more markets and meet a varied demand. Margins in the industry have decreased and low costs are increasingly important (Representative, CellMark, 2019).

4.2 Ekman & Co

The original Ekman & Co was formed in 1802 in Gothenburg. However, its history goes back as far as the end of the 17th century (Ekman & Co, 2019). This makes Ekman & Co the oldest of the four companies present in this study. The Ekman family has had significant impact on the historical development of Gothenburg trough their involvement in many different industries and business operations. The family were involved in business as well as in politics, contributing with donations and frequently engaging in their community (ibid). Today, Ekman & Co is represented in over 100 countries, with approximately 40 sales locations worldwide.

In total, Ekman & Co employs almost 300 people and the firm is owned by the Ekman family as well as by employees within the group (ibid).

Over the years Ekman & Co managed several products and business areas, before shifting its focus to the forest products industry at the start of the 19th century. They presently conduct trade with pulp, paper, bioenergy and recovered materials. Even if the company has been focused on specific products over the different periods, the ability to adapt is demonstrated over the years. In order to conquer new markets and gain competence expansion and diversification have taken place in the form of internal development and acquisitions (Andersson, 2002).

Ekman & Co stresses the importance of having a business network in Asia. Their main trade pattern of pulp goes from west to east. Many of the producers are located in North America and South America, and the buyers are located in China. The company has over hundred years of experience from trading in China. By using Ekman & Co, producers get access to what might be both the toughest and the most important market in the world. Still, a vast volume of the mediated commodities is intra-trade in USA and Europe (Representative, Ekman & Co).

4.3 Elof Hansson

The company was founded 1896 in Hamburg by a young merchant from Sweden, Mr. Elof Hansson (Elof Hansson, 2019). The founder created a well-established identity for the company which prevails to this day. Mr. Hansson valued structure, a hands on-attitude and the ability to identify and act on opportunities (Ohlon, 1959). These qualities shaped his legacy constitutes a pivotal role for the company (ibid). In 1914, the company moved the headquarter of their international organization to Gothenburg, where it has remained ever since (ibid). Elof Hansson is now owned by Elof Hansson Stiftelse. This foundation is actively participating in the business sector of Gothenburg and contributes to the community by supporting research projects, academic development and training in the commercial sector (ibid).

Elof Hansson started with transatlantic export of pulp to one single buyer in Japan. Today, the trading company has evolved into a worldwide business network with strategic hubs (Elof Hansson, 2019). The company is active in more than 100 countries, with 250 employees in 28 global offices. Elof Hansson use this network to offer a win-win deal for all parts involved, by

providing a global presence and local expertise (Elof Hansson, 2019). Together with the vast knowledge of large well-developed markets, Elof Hansson also possesses experience from emerging markets. The conditions for financing are more challenging in these markets. Furthermore, these markets often have high commercial and geopolitical risks, which causes uncertainty for companies that trade in the area. Elof Hansson uses their experience in emerging markets to manage these risks for their clients (ibid).

The core of Elof Hansson is trade with forest products, involving pulp, paper, building materials, recovered materials and stock-lots (Elof Hansson, 2019). In addition to this, Elof Hansson consists of two more units. One dealing with properties in the real estate business and the other offering project execution and project financing and providing machines and equipment related to the forest industry (ibid).

4.4 Korab International

Korab was founded in Istanbul in 1912 by Aaron Sigala and his two brothers (Korab, 2019). The company opened its first office outside Turkey in Vienna in 1960, followed by Geneva in 1986 and later Gothenburg in 1990 (ibid). Korab is an international pulp and paper trader with sales over 40 countries divided over Europe, Asia, Africa, United States and Latin America. This is a family owned company with about 60 employees in five offices around the globe (ibid).

Having been in the industry for over a hundred years, Korab has relations with producers in that stretch far back in time (Korab, 2019). Previously, Korab acted as a pure agent for paper mills in the north who wanted to sell their products in Turkey. Even today, Turkey is an important market in terms of buyers, representing approximately 50 per cent of all sales. During Korab's almost thirty years of experience from being a traditional trading company with office in Gothenburg, the geographic network has expanded. In the beginning of the 21st century, the business increased between the Scandinavian suppliers and buyers in India, China and the rest of Asia. Then the expansion increased geographically also on the supplier side. At this period the United States became a very important source base. At the same time, multinational cross-trade took off seriously. Cross-trade means doing business between countries where the company is not present physically (Representative, Korab, 2019).

With paper and pulp as a specialty, Korab offers several of products within the area. Different types of board and hygienic products are also part of the portfolio. A trade that is closely supported by customized services, from financing and logistics to stock lot operations. (Korab, 2019).

Today, Korab International have increased their presence in emerging markets and expanded the business organization in Asia and Africa. To manage variegated and challenging environments is an intrinsic part of the organization, in order to establish and develop new networks in the sphere of pulp and paper (Korab, 2019).

5. Empirical data

This chapter presents the findings which have been derived from interviews with the four trading companies. This chapter consists of three parts where each part is focused on one of the research questions. This structure was chosen because the empirical data is based on the interview questions which in their turn are based on the research questions.

5.1 The disintermediary effect of ICT

5.1.1 Previous research regarding the effects of ICT on trading companies

Due to developments in information and communication technologies, companies now have the ability to act at once locally and globally (Torre, 2011). ICT facilitates long-distance exchange which is generally considered as a necessary condition for companies to cooperate. Much of the information that enables companies to conduct trade can be transferred from a distance and can often be accessed for free by whomever needs it (ibid). These developments in ICT signifies a risk for trading companies to be disintermediated. Disintermediation might happen at a smaller scale as some of the services that trading companies get replaced by a digital solution (ibid). One other example of a digital solution is the creation of digital platforms which spread information about prices indices and news about the industry (ibid). Traditionally it has been the trading company's job to search out and synthesizes information regarding current supply and demand. They would then use this information to quote a uniform buying price to producers and one for buyers, giving each a better deal than they could conduct on their own (Casson,1998).

Fastmarkets RISI is a successfully established digital platform. They provide forecasts, analysis, as well as consulting services to companies in all areas of business. Fastmarkets RISI is the leading reporter of prices and analytics for global forest products. With the core mission to provide transparency, Fastmarkets RISI delivers critical insights by spreading market information to businesses. Their reports enable all participants in the market to get a qualified update on the state of the industry. (Fastmarkets RISI, 2019). ICT has also enabled commodities to be sold through digital platforms. Timber as a commodity is available on

digital exchange markets over the world. Refined forest products are also available for direct purchase on more niched platforms (ibid).

Disintermediation might also have much more severe effects. Trading companies could be replaced by their own suppliers as ICT provides them with enough information to trade by their own means (Cordella, 2006). The wish to streamline supply chains by excluding trading companies is usually motivated by a desire to increase control over sales and to save money charged in commission (Kuuse, 1999). It is also a way for producers to build a closer relation to their customers (Nordin, 2013).

5.1.2 Perceptions on the effects of disintermediation

There are companies that streamlines their supply chains by excluding trading companies. However, there is also an alternative cost to using a trading company. The producers have to set up their own business or hire their own sales personnel. This includes establishment cost and it might take a long time set up. What determines if a producer decides to use a trading company or not is whether the trading company is able to do a better job than the producer could accomplish on their own (Representative, Ekman & Co, 2019).
However, clients desire to do business with a trading company is cyclical. Sometimes the producers want to trade with foreign markets by having their own offices. In these cases, a conflict of interests occurs. The trading company has to adapt what they offer to the interested buyers, in order to preserve a good relation to the supplier. Sometimes they want to cut costs by shutting down these offices. Because trends go in cycles a trading company must be dynamic to handle this kind of fluctuations (Representative, Elof Hansson, 2019; Representative, Korab, 2019).

> *"In the past we experienced that producers began to question the purpose of trading companies. Believing they could enter markets by their own means. However, in many cases this did not occur. Trading companies are just as relevant as ever."*
>
> -LARS HADDERS, SALES MANAGER AT KORAB

Previously trading companies were able to make money because of asymmetries in information. ICT has resulted in a transparency which allows them to access an increasing amount of information. Producers' global presence, in combination with this transparency has drastically decreased the benefits of market knowledge for trading companies. This makes it harder for trading companies to use and capitalize on information. One example of this is the effect that increased access to price information has had on trading companies' ability to profit from shifting price levels on traded goods. Previously there could be huge differences in prices between markets as information about prices were not shared to the same extent as it is today. Due to globalization this information flows more freely. Hence, the previously large price differences between markets have started to converge towards a global level. This has caused lower margins and profits for trading companies (Representative, CellMark, 2019; Representative, Ekman & Co, 2019; Representative, Korab, 2019).

There have been some attempts to create a principal digital platform for forest industry product. These attempts have mainly focused in selling more standardized commodities using apps and other digital platforms. However, they have not yet been commonly accepted by the industry. (Representative, CellMark, 2019; Representative, Korab, 2019). The reason for this scarcity in digital sales platforms is unclear, but it might hinge on the degree of commodity in the products. Digital solutions sometimes have problems handling deviations, which means standardized products may be easier to sell online. It is possible that some of the trading will be moved to digital platforms, but developments have not yet reached the point where it causes big disruptions in the industry (Representative, Korab, 2019).

Key findings

Development in ICT increases the transparency and reduces the distance in the market. This facilitates streamlining of the supply chain through disintermediation, in one of two ways. Either by replacing intermediaries with digital solutions. ICT enables digital solutions to provide industry news, global price indices and making trade on digital platforms possible. However, they have not yet been commonly accepted by the industry and might be more applicable to standardised products than more complicated ones. Or ICT might facilitate disintermediation by creating direct connections between buyers and sellers. There is a cyclicality in clients desire to do business with intermediaries, a trading company must be dynamic to handle this kind of fluctuations.

5.2 Managing the risk of disintermediation

5.2.1 Previous research regarding trading companies' adaptive ability

Diversification into new services has been a prominent characteristic of the Swedish trading companies (De Geer, 1998). Historically the value of exports exceeded the value of imports for trading companies, resulting in a growth in financial resources. This is what gave them the scope to invest in other business areas (ibid). According to De Geer (1998), Swedish trading companies typically used these financial resources to diversify their operations to include financial or logistic services (ibid).

Diversification into finance is a common feature of some of the world's most successful trading companies. Some trading companies have even been so successful in their financial services that they eventually stopped intermediating trade in order to focus solely on intermediated financial flows (Casson, 1998). Previous research has found trading companies financial capability to be caused by "the public good property of the information that they synthesize for trading purposes" (Casson, 1998: 46). By public good information Casson (1998) refers to "the information collected in order to forecast the volume of trade, and to identify opportunities" (Casson, 1998: 38). Information of this kind may be used for other purposes as well. One of them being the recognition of opportunities in areas where the trading company is on indirectly involved. This ability to recognise opportunities is what has caused trading companies to start providing financial services to their clients (Casson, 1998).

Many trading companies also diversify into logistics as this constitutes another opportunity to provide more value to clients (Casson, 1998). It is costly for clients to develop an organization capable of performing many different kinds of logistic services. For smaller clients it may even prove to be deeply uneconomical due to high establishment costs (Rosenbloom, 2006). In many cases even the very large producers do not enjoy the same economies of scale in providing logistic services as they do in production (Rosenbloom, 2004). Handling all aspects of the logistics procedure is challenging. In order to be able to manage both large and small orders the producer needs to develop substantial order processing capabilities. In order to meet demand in a timely fashion they need to be able to maintain a large inventory (El-Ansary, 1993).

To implement this efficiently often requires several warehouses in different locations. In addition to these more fundamental logistical services, the producer needs to provide many other tangential services such as sales contact, market analysis, advice and technical support (El-Ansary, 1993).

5.2.2 Perceptions on managing the risk of disintermediation

Diversifying by developing commercial activities alongside their trading operations is a way for trading companies to deal with the challenges of disintermediation. Trading companies used to build their business upon having information before suppliers and buyers could get a hold of it. Today information flows much quicker. For trading companies to survive in this new world they need to be able to add value to the business. This can be achieved by providing added services such as logistics, finance and risk management. Offering these services is a way for trading companies to create additional value for their clients, making them seem more attractive as intermediaries. Companies that cannot offer their clients any added value may in fact struggle to survive (Representative, CellMark, 2019; Representative, Elof Hansson, 2019).

> *"It is important that we broaden our business and expand beyond being just a middleman. This is how you add value to the business."*
> - ANDERS HELLSTRAND, VICE PRESIDENT AT CELLMARK

These services are a form of risk management that trading companies offer their clients. In many cases it can be beneficial for clients to let a trading company intermediate their products and handle the additional services involved with trade. In doing so, they let the trading company assume a larger part of the risk involved with international trade. A risk management that is especially favourable for clients who does not have much prior knowledge about trading with foreign markets. Unlike these companies, the trading companies possess experience and expertise which enables them to manage risks in a more efficient way. This is a fundamental reason why trading companies are still important as intermediaries (Representative, Ekman & Co, 2019).

"Our experience and expertise enable us to offer better selling services, market knowledge, market coverage and risk management. There is definitely a place for us in the future."

- FREDRIK TRÄGÅRDH, EXECUTIVE VICE PRESIDENT AT EKMAN & CO

Within economics it is a generally accepted fact that suppliers want to be paid as quickly as possible while buyers want the trade credit period to be as long as possible. This is explained by both parts possessing a need to finance the ongoing business. The amount of days a buyer expects to get before having to pay the debt from the trade varies in different parts of the world. The general credit period in Europe varies from 30 to 90 days. While in emerging markets it might rise to as much as 180 days. This creates a conflict of interests between actors in different markets due to different perspectives on the terms. Trading companies play an important role in filling this gap by financing the credit period (Representative, CellMark, 2019; Representative, Ekman & Co, 2019; Representative, Elof Hansson, 2019; Representative, Korab, 2019). A client that is offered a short credit period might have to take a loan in order to finance the purchase. In these cases, it could be a better option for them to finance their imports by turning to a trading company (Representative, CellMark, 2019; Representative, Elof Hansson, 2019).

Long credit periods and high interest rates on financial loans often leads to payment problems for clients operating in markets exposed with high risk. Sweden is currently amongst the countries with the lowest interest rate in the world, which makes it possible for trading companies to offer better terms of financing than the clients might get from their bank. This gives incentives for producers and buyers to use a trading company as it can gives them access to financial resources at a lower cost (Representative, Elof Hansson, 2019; Representative, Korab, 2019). Instead of suppliers having to tie their own capital in receivables they can turn to a trading company that will finance their business deal and take over the credit risk. This improves the firm's working capital and minimizes risk taking, as it will now be up to the trading company to make sure that the claim is paid (Representative, CellMark, 2019; Representative, Ekman & Co, 2019; Representative, Elof Hansson, 2019; Representative, Korab, 2019).

Unstable currencies and fluctuating freight costs leads to a relocation of the business to markets where conditions are stable. Trading companies are taking advantage of changes in the markets by offering logistic services to less flexible actors in the industry. Many suppliers are motivated to operate via a trading company to avoid the risk entailed by opening a subsidiary in a new market. This gives fast access to contacts and an established logistic solution. A close collaboration with shipping companies are crucial for trading companies. Organizing the logistics for a large number of producers at the same time enables that favourable terms in price and priority can be negotiated for the shipment (Representative, Elof Hansson, 2019). By having the trading company assume the payment risk, deliveries can be made instantly which both enables producers to carry lower stocks, have fewer warehouses and provides a steady cash flow. Without having trading companies insure the payment and taking over the risk, the supplier must wait until payment has been made before deliver the goods. This is a value adding service that many companies are willing to pay for (Representative, CellMark, 2019).

Efficient solutions for financing, logistics and risk management are important services offered by trading companies. It is also increasingly important for traders to have a deep knowledge about the product that they intermediate, as this enables them to add more value to the deal (Representative, Korab, 2019).

Key findings

ICT reduces transaction costs, thereby decreasing the need for companies to use intermediaries when performing transactions on the market. Trading companies deal with this disintermediation challenge by diversifying their operations to include additional value adding services. The Swedish trading companies have diversified by including financial and logistical services into their business models.

5.3 Trading companies' role in the modern supply chain

5.3.1 An overlook of trading company's role as intermediaries

Despite all attempts to revolutionize the industry, it is still characterized by a traditional conservatism. The core business of trading companies has not changed that drastically even after centuries of trade. Many Swedish trading companies acts as intermediaries of commodities such as paper and pulp. Trading companies are still to be found in the centre of highly urbanized cities and the producers are still settled in more rural areas, close by to where the forest is growing. Trading companies' strategic location in larger cities works as a link between the paper mills and the world, much as it did in earlier days. Albeit the proximity to the producers of the goods is not a must for the international trading companies, it has played a major role historically and thus for how the industry has taken shape (Representative, Elof Hansson, 2019).

Superfluous actors are continually being eliminated due to changes in the surrounding environment. Thus, the ability to adapt fast by predicting the next trend are decisive for the trading companies (Representative, Ekman & Co, 2019; Representative, Elof Hansson, 2019). Trading companies are part of an industry with a climate that forces them to constantly demonstrate their value and prove their adaptive capabilities. In the 19th century it was usual for trading companies to acquire its own production mills. However, trading companies are exposed to new risks if leaving the core business as intermediaries. Diversification into production is something that is rarely seen today. Operating their own factories would interfere with the interests of other actors in the industry (Representative, CellMark, 2019). If a trading company chooses to compete in the initially stages of the production chain, an imminent risk of losing existing contracts with other paper mills occurs. Producers often have access to a market through multiple channels, therefore it is essential for a trading company to provide a well-functioning collaboration. Flexibility is greater when primarily acting as an intermediary, rather than if production is integrated into the business (Representative, CellMark, 2019; Representative, Ekman & Co, 2019; Representative, Elof Hansson, 2019).

5.3.2 Trading company's current role in global supply chains

The equilibrium of a stable market is a threat to the industry of trading companies as it makes it easier to conduct international trade without the need of an intermediary. Trading companies' profits on the uncertainty that asymmetry of information creates in markets. Hence, their operation is often concentrated to geographical areas where uncertainty is high. Trading in emerging markets involves a high risk. Many countries in Africa, Latin America and Asia are characterized by geopolitical insecurity and risk associated with the payment procedure. The risk, strongly reinforced by the general requirement for credit periods of up to six months, creates a considerable uncertainty. In order to still trade in emerging markets, many suppliers and buyers requires assistance to reduce the uncertainty. This motivates the companies to look for a trading company which can carry out the transaction (Representative, Elof Hansson, 2019).

In western Europe the demand for trading companies is generally low due to a stable and symmetrical market. Stable markets make insurance companies more willing to offer insurance directly to the producer. It allows them to eliminate the risk and thus limits the incentives to use a trading company. Insurance companies are more likely to insure a trading company than a single company that conducts trade in an unstable market. Through many years of business and a solid payment history, many trading companies are highly credible and therefore in a better position to negotiate with insurance companies. This enables a safe deal for both the supplier and the buyer, which would not be possible without the involvement of a trading company (Representative, Elof Hansson, 2019).

Trading companies are flexible due to their business being based in knowledge rather than in actual production. It allows them to take advantage of changes in the markets by offering services to less flexible actors in the industry. For a producing company a relocation to a new country is costly and time consuming. Therefore, many suppliers chose to operate via a trading company to avoid the risk entailed by opening a subsidiary in a new market (Representative, Elof Hansson, 2019). By using a trading company, the client gain access to their already established global network while simultaneously minimizing risks involved with entering unknown foreign markets (Representative, CellMark, 2019; Representative, Elof Hansson, 2019).

Establishing a connection with a new partner in a foreign country takes time and involves a great deal of risk. In order to manage this risk, relationships and trust are necessary. This feeling of trust is essential for a trader when building a relation with a producer or a buyer. Many of the trading companies has relationships with their business partners that has been built over many decades (Representative, Ekman & Co, 2019). By offering trust and having continuous face-to-face interaction with clients, trading companies build personal relationships for sustainable and long-term business. Trust cannot be digitalized and so constitutes as one of the trading companies' biggest assets (Representative, Elof Hansson, 2019; Representative, Korab, 2019).

> *"Compared to an email, which may be far more detailed, the meeting is still valued higher. We benefit from digitization as the personal meeting becomes more unusual and therefore more important. It is about the fact that we sell trust."*
> -ISAK DANIELSSON, VICE PRESIDENT AT ELOF HANSSON

Key findings

The equilibrium of a stable market is a threat to the industry of trading companies. Stability reduces uncertainty, which makes it easier for companies to trade without the use of an intermediary. As they profit on uncertainty they are often operating in unstable markets where risk is perceived to be higher. Producers and buyers trading in uncertain markets will face a great deal of risk. Trading companies manage this risk for them. They are able to do so because they possess a flexibility due to their established global networks, which they create by building long term relationships based in trust.

6. Analysis

This chapter presents a discussion of the empirical data relation to the transaction cost theory and the Uppsala internationalization process. The chapter has three sections, each section is represented by one of the research questions. First is a discussion of the effects that information and communication technologies have on trading companies. Then follows a discussion of how trading companies manage these effects. Finally, a discussion of trading companies' current role in the supply chain is presented.

6.1 The role of ICT in the disintermediation of the supply chain

Increasing information is one of the main ways in which ICT can act to lower transaction costs. ICT has the ability to diminish the property right to information. It makes knowledge available to those who previously were unwilling to bear the costs for gathering data, thereby reducing the value of possessing it and turning it into a public good. This constitutes a risk for trading companies as they profit from information asymmetries (Jones, 1998). If these asymmetries are lowered or eliminated by ICT the trading companies risk becoming irrelevant, leading to them being disintermediated from supply chains.

The ability to digitally transfer information has reduced the search costs, also referred to as ex ante costs, that arise when gathering information and evaluating different options. According to transaction cost theory, ex ante costs arise due to information being either incomplete, difficult to access or not free (Butter and Mosch, 2003). Development in ICT makes information easier to access and, in many cases, it can be accessed either for free or at a low cost through digital platforms (Torre, 2011). According to the transaction cost theory, ICT should therefore result in companies facing lower transaction costs. ICT also enables information to be transferred globally, which might lower the transaction costs that occur from trading with international markets.

6.1.1 ICTs effect on intra-industry competition

ICT has resulted in fundamental changes in how firms structure their supply chains (e.g. Cordella, 2006; Rosenbloom, 2006). As a consequence of ICT, it has become easier for producers to connect directly to buyers. The argument in favour of the creation of direct channels is often based in transaction cost reduction. It argues that ICT is enabling interaction and facilitating knowledge transfer without the need of an intermediary (Cordella, 2006) which would lower transaction cost, something that firms should always strive to achieve (Williamson 1985). As producers tries to overcome transaction costs by internalizing market transactions, they start to compete with their trading company. This may result in conflicts among the actors within the supply chain.

When asked during the interviews, the companies confirmed that they are aware of the fact that some companies may desire to remove intermediaries from their supply chain. However, access to information through ICT is not a perquisite for success per se. The trading companies argue that it often takes many decades to gather the amount of knowledge and experience that is needed to establish a global network of their amplitude. Producers and buyers could streamline their supply chains, but it will result in them losing access to the trading company's network. Furthermore, to organize these services internally will generate switching costs. If the client repeatedly interacted with the trading company, these costs could be very high (Williamson, 1985). It is up to each individual company to determine if the new opportunities created by ICT will outweigh any possible switching costs.

6.1.2 Disintermediation enabled by ICT

There is a growing stream of digital platforms existing in the market. These solutions can function as alternative option to many of the services offered by a trading company. RISI Fastmarkets is one of the most established and widely used provider of industry knowledge. RISI Fastmarkets provide their users with news regarding current developments in the industry. Stock exchange and other digital platforms provides the latest global prices indices in real time and the offers opportunity to conduct trade direct on-line. In theory, this should create an industry where intermediaries such as traditional trading companies play a very small role.

Despite repeated attempts to disintermediate trading companies by using digital platforms, these has not been as successful as some studies has predicted (Rosenbloom, 2002). Why the impact from these platforms has been limited does not have a simple explanation, but some of the respondents believed that the degree of standardization of the products might be the cause. The representatives perceive the threat of digitalization to be larger in regard to more standardized products. According to transaction cost theory the degree of asset specificity will influence to what degree costs will occur between actors (Williamson, 1985). If a product requires special know-how or investments, then this will result in higher transaction costs. Standardized products have a lower asset specificity while more complicated products generally require more asset specific investments in order to effectively intermediate them. Thus, even if ICT reduces transaction costs improved information flows, the complexity of the product that is being transacted may counteract this effect.

Studies has associated complex products with high asset specificity and high transaction costs (Williamson, 1985). The trading companies believed that the standardized products might be easier to sell through digital platforms while more complex products would be harder to digitalize. Because standardized products do not require the same degree of investment, they cannot counteract the effect of ICT. This could mean that companies which focus on intermediating standardized products would be more likely to be replaced due to ICT. Consequently, the threat of disintermediation might vary depending on what product the trading companies intermediate.

The respondents suggested market prices as one area that has been digitized due to it being relatively uncomplex. ICT has caused a transparency in prices that stops the trading companies from capitalizing on information to the same extent as they have done in the past. When digital solutions are better able to handle transaction costs than a trading company, clients will be unwilling for pay a trading company for this service. As discussed in the empirical data, the converging of prices has a notable effect on the industry. According to the respondents, price transparencies has resulted in lower margins and less profit. However, the trading companies believe that there might exist a resistance in accepting technologies that cause full transparency in prices. Price information being a public good is not always in the interest of the sellers, as they might suffer loss of income because of it. Producers might benefit from non-transparency in prices as this could result in higher profits due to potential buyer's lack of knowledge.

6.2 How trading companies avoid disintermediation

6.2.1 From pure to hybrid - managing the risk of disintermediation

Based on discussions with the trading companies and supported by previous research (e.g. Cordella, 2006; Maharg, 2016; Rosenbloom, 2007) the effect of ICT on the disintermediation of trading companies has been as follows. The trading company risks being disintermediated from their market position for two reasons. Either because they are taken over by digital technologies that operate at a lower cost. Or because their role is eliminated entirely by streamlining of supply chains. Previous research looks favourably on ICTs disintermediary capabilities due to its ability reduce imperfection in the economic system (Cordella, 2006). Yet, the empirical gatherings suggest that the de facto effect of ICT on trading companies differs from what previous research would suggest.

The companies involved in this study express that the threat of disintermediation is not something that they have been particularly affected by. This may not come as a surprise as these four companies represent those that has successfully adapted to their environment and survived. Other companies did not adapt as well and therefore no longer exist (Kuuse, 1999). Evidently, they are still a relevant player in the supply chain, their continued existence should be sufficient proof of it. These trading companies have counteracted the trend of disintermediation by offering a high level of personalized services to their clients. They have shifted their focus from lower value adding transaction, which could easily be replaced by ICT, into offering personalized services which ICT cannot duplicate. This enables them to efficiently manage the risk of disintermediation.

By offering their clients several additional services, the trading companies have essentially changed their business models. What the companies have done theoretically is that they have adapted a hybrid structure to their operations by diversifying into services, mainly of the financial and logistical kind. According to Casson (1998), pure trading companies solely focus on intermediation of products. To act solely as an intermediary involves using information to connect producers with those that want to buy their products. This is essentially the same function as what ICT provides, which puts pure trading companies at a risk. Trading companies become hybrids when they integrate upstream or downstream in the supply chain by investing in shipping, finance or other services outside of the pure intermediary role. Hybrid trading companies have integrated much further in the supply chain

than their pure counterparts. This allows them to offer more value adding services to their clients.

If producer wishes to remove a hybrid trading company by streamlining their supply chain, they commit to handle finance and distribution services themselves. This involves negotiating, concluding contracts and making sure that these contracts are followed. This might not be a big problem for larger firms with foreign subsidies and a knowledgeable sales department. But the trading companies expressed that they also have many clients that are either small or medium sized. For these clients it might prove to be too risk full to handle all transaction costs associated with international trade (Rosenbloom, 2006). They would then gain from letting the hybrid trading company handle the risks for them.

6.2.2 Diversification into financial and logistic services

The four Swedish trading companies have all diversified their operations to include financial and logistic services. Financial and logistical services constitute a form of risk management that hybrid trading companies offer their clients. Undertaking business with partners located in foreign markets involves a great deal of risk. This is especially true for emerging markets where companies often perceive the psychic distance to be larger. Trading companies manage the uncertainties of trading with high-risk markets by providing a customized service package to their clients.

According to the representatives, intermediary financial services are especially important to facilitate trade between markets where the length of credit period differs. A large part of trading companies' financial services involves offering long-term credit to producers who trade with markets with longer credit periods. Though they may also offer to finance buyers who are offered a short credit period. In general, a difference in credit period between market creates a conflict of interest between actors, making transactions harder. Thus, differences in credit periods creates opportunities for trading companies to offer intermediation. By offering financial services, trading companies make it possible for companies to enter foreign markets that they might otherwise not trade with. High interest rates on loans may also make transactions more difficult as they often lead to payment problems for clients. This results in high transaction costs as it makes contracting between partners even more difficult (Butter

and Mosch, 2003). By providing financial services the trading company help its clients to avoid theses payment problems.

Trading companies that provide logistical services lowers transaction costs by handling various risks involving commodity flows for their clients. There are high costs associated with developing an organization capable of handling all logistical aspects of trade (Rosenbloom, 2006). Producers typically do not ship goods on a daily basis, since it is not cost efficient. Instead they often preferring to save costs by shipping larger volumes of goods less frequently. This form of spot trading has a tendency to increase transaction costs. Trading companies, on the other hand, constantly handle multiple flows of products. Due to their broad operations they benefit from economies of scale in their logistical operations. They may, for instance, combine shipments of many different products in one vessel. This combined with the large volumes involved enables them to provide services at a lower cost than clients might reach on their own.

Trading companies also possess expertise knowledge which means that they are better able to handle unstable currencies and fluctuating freight costs. According to the trading companies they often combine their financial and logistical services to manage uncertainty in markets. By taking over the payment risk from the producers they are enabling continuous shipment and eliminating the need for clients to keep stocks.

By including financial and logistic services into their business models, the trading companies run the risk of facing competition from other finance and logistics companies. However, the trading companies does not offer these services on their own. Instead they are bundled up in a package of value adding activities such as sales services, market coverage, market intelligence and overall risk management. To access all services separately from different actors in the market involves multiple transactions. Hence, it will result in higher transaction costs. Trading companies stop clients from turning to others for logistics and financial services by minimizing transaction cost through providing an all-inclusive offer to trade.

6.3 Trading companies' role in the global supply chain

6.3.1 Facilitating trade by managing uncertainty

The industry in which trading companies operate has changed remarkably due to developments in ICT. The way from producer to consumer has been shortened considerably through ICTs ability to store, retrieve, and send information. In facilitating knowledge transfer between markets these technologies have enabled direct connections to form between producers and buyers. This development has led experts to argue that ICT can enable efficient interaction amongst economic agents (Nordin, 2013). ICT has been recognised as a tool to reduce transaction costs by eliminating information asymmetries, which has led to the belief that these technologies might enable direct trade even under complex and uncertain circumstances (ibid).

According to Johanson and Vahlne (2009) the internationalisation of companies depends heavily on the level of uncertainty in a market. Companies that internationalize will face liabilities due to factors which hinders or disturbs the flow of information between the company and the entry market. These hinderance or disturbance in flows of information will result in transaction costs which firms need to manage in one way or another. How far the company will proceed in the internationalisation process depends on how effectively these transaction costs are managed (Johanson and Vahlne, 2009). If a company lacks the knowledge or resources to organize these transactions internally then they may reduce transaction costs by hiring a trading company which can manage these costs for them.

Effective management of uncertainty is important for companies that wish to trade successfully in international markets. The respondents all agreed that clients need for trade intermediation is especially large in markets where uncertainty is higher. But they also pointed out that the industry is cyclical. This cyclicality was used to referred to two situations. The first one concerning market and the second one focused specifically on clients' desire to enter these markets.

The respondents stated that there is a cyclicality in markets which effects how sought after their services are by clients. The incentive to use a trading company is generally lower in markets where uncertainty is low, this is the case for geographical areas where markets are stable and symmetrical. Under favourable economic conditions, producers sometimes switch to trading directly with buyers. In poorer times and in unstable markets, these producers tend

to seek trading companies' services to a larger extent. However, markets may switch between these two states. A market that has previously been stable can be influenced by political and economic changes by which it can turn unstable. This cyclicality has an effect on clients in these markets. If a market moves from stable to unstable it might become unprofitable for a company. As a result, they might shut down their subsidiary and revert back to using an intermediary and thereby moving backwards in the internationalization process. Trading companies gives these producers the opportunity to gain access to an unstable market without assuming a higher risk.

From the perspective of a trading company, business cycles and shifts are equal to business opportunities. To act on these opportunities, they need the capability to manage this cyclicality. The respondents pointed out the importance of having a global network when dealing with fluctuations in markets. Having an established global network makes them capable of quickly act on opportunities by moving from market to market. Trading companies are unlike most multinational companies in that they generally do not have their own production or manufacturing plants. Instead their network is created by forming relationships with producers who are already established in the market. Consequently, maintenance of the relationships that trading companies have with their clients are of particular importance.

6.3.2 Managing uncertainty through trust

Business networks are fundamentally created by commitment and trust. Trustful relationships are likely to lower transaction costs due to its ability to reduce opportunism (Williamson, 1985). A client's trust in a trading company reduces the risk of opportunistic behaviours which lowers transaction costs in the relationship and increases the likelihood of a long-term benefits for both parties.

The representatives stated that the ability to create trust is one of the biggest assets of a trading company. Since the human factor plays a vital role in creating trust it is highly complex to digitize. ICT can facilitate communication and sharing of information, yet it does not master the full register of human interaction. Individuals ability to lie, distort or refuse to share information cannot be entirely diminished by ICT. The respondents believed times of face-to-face interaction to be important as it is highly beneficial for business relationships.

Not least for newly established relationships, where the physical meeting is especially hard to replace. Hence, they do not believe that ICT could completely substitute human interaction.

Trust may also prove to be increasingly important when transactions are complex. Complex transactions require partners to perform investments that have a high asset specificity (Williamson, 1985). Because these investments are non-redeployable they pose a risk to the investor. Investments in a partner's specific assets might be hard to convert (Ganesan, 1994) and once they have been made the transaction partner could become opportunistic and break the contract. This impose high transaction cost on the investing partner. Previous studies have shown that one way for companies to remove the hazards of opportunistic behaviour is by creating trust between them and the transaction partner (Williamson, 1985). Therefore, the more complex a transaction is, the more crucial trust is in relationships.

Complexity and uncertainty are moving the industry towards becoming even more dependent on trust. This speaks to the trading companies' advantage. As intermediaries, trust has always been an essential part of trading companies' business models. Trust has and continues to enable trading companies to maintain their relationships with clients. In addition to this, trust enables facilitation of complex transactions between buyers and sellers, which provides incentives for producers and buyers to use the services from a trading company. Trust cannot be digitized, and therefore represents an asset which ICT cannot remove or reduce.

7. Conclusion

In this final chapter, the answer to the study's research questions is presented. Then follows a summary of the study's conclusions based on the theory and analysis presented in the study. Thereafter theoretical implications and recommendations for the Swedish trading companies will be given. In the chapter's final part proposals for further research is discussed.

7.1 Conclusions of the thesis

7.1.1 Research question revisited

The aim of this thesis is to study the effect that information and communication technologies has on the continued relevance of the Swedish trading companies' business models. To create an idea of trading companies' current role as intermediaries we have analysed how these companies avoid disintermediation. We had three research questions to support us in fulfilling this aim. The main findings for each of the research questions is presented below.

RQ 1: What effect does ICT have on disintermediating the supply chain?

In theory, developments in ICT facilitates the creation of a supply chain where intermediaries are no longer necessary. ICT increases access to information which facilitates the disintermediation of trading companies from the supply chain. ICT has enabled the creation of digital platforms which operate at a lower cost. This might cause clients to replace some of the services that trading companies offers with a digital solution. Furthermore, ICT facilitates streamlining of clients supply chains, which might cause trading companies to be eliminated entirely. This development has resulted in some fundamental changes in the structure of supply chains.

The effects of ICT vary depending on the size of the client company and the complexity of the transaction. A client's propensity to use a trading company increases with the complexity of the transaction and the product. Large producers of standardized products can more easily organize trade on their own, therefore they see more benefits from ICT. Small producers of more complicated products have a greater need for the services of the trading companies, here ICT has a much smaller effect. Consequently, even if ICT facilitates the exclusion of

intermediaries from some transactions, they may still be relevant in others where the level of complexity is higher.

RQ 2: Which strategies does the Swedish trading companies use to avoid falling victim to disintermediation?

Trading companies' risks being replaced by a digital solution, if this solution prove to be better able at handling transaction costs. To act solely as an intermediary involves using information to connect producers with those that want to buy their products. ICT has essentially the same function, which puts intermediaries' risk of being disintermediated. Trading companies avoid falling victim to disintermediation by changing their business models. The Swedish trading companies have adapted a hybrid structure by diversifying to include more value adding services, financial and logistics services being the most common. By incorporating these services into their business model, trading companies shift their focus from low value adding transaction into offering personalized services which ICT cannot duplicate. Trading companies that provide an all-inclusive offer to trade can minimize transaction cost more effectively than those who focus solely on trade intermediation.

RQ 3: What role does Swedish trading companies have in the global supply chain?

Effective management of uncertainty is necessary for companies that wish to enter foreign markets. If a company lacks the knowledge or resources to accomplish this on their own, then trading companies can manage these activities for them. However, the desire to use a trading company seems to vary depending on the degree of stability in markets. If a market is stable, then it is more likely that direct connections between buyers and sellers will form due to ICT. If a market is unstable then trading companies' services tend to be sought after to a larger extent. As markets shift between stable and unstable the need for the services of trading companies may shift as well. Trading companies shift focus between different markets by using their already established networks. These networks are fundamentally built on long term relationships between trading companies and their contacts. To maintain these relationships trading companies needs make sure that trust is formed between them and their clients. Trust is a way for trading companies to facilitate transactions in unstable markets with high risk exposure.

7.1.2 Main conclusion of the case study

The main conclusion derived from this study is that while information and communication technologies has affected the modern supply chain, Swedish trading companies have not been excluded from it. This is because the trading companies have succeeded in adapting their business models to fit the new context in which they exist. Changing their business model to include additional value adding services means that trading companies handles more transaction costs for their clients. As this makes them more attractive as intermediaries it reduces the risk of disintermediation.

As has been previously defined in this study, the term disintermediation refers to a disruption in which an intermediator loses its position. In the introduction of this report we stated that previous research suggest that ICT could affect trading companies in one of two ways. Either it lowers transaction costs to the extent where trading companies are no longer needed, resulting in disintermediation. Or it creates higher transaction costs by increasing uncertainty which would make trading companies even more important. Based on the analysis of the primary data in this thesis we conclude that none of these scenarios are entirely correct. ICT has lowered transaction costs and thereby enabled streamlining of the supply chain. But it has only had this effect on some companies. There are still those that need the intermediary services that these trading companies has to offer as they are unable to handle uncertainties on their own.

Clients desire to use a trading company varies depending on the degree of stability in markets and the complexity in transactions. Complex transactions and unstable markets amount to high transaction cost. Consequently, ICTs ability to reduce transaction cost will not be as effective if one of these conditions apply. This means that trade intermediation will be more important when companies perform complex transactions in unstable markets.

7.2 Theoretical implications

The effect of ICT on disintermediation of the supply chain is an area that deserves further exploration in academic research, especially in its implication for Swedish trading companies. This thesis aimed to contribute to the exploration of this research gap by striving to provide an understanding of how ICT affects intermediaries by facilitating streamlining of supply chains. This has led to a study of trading companies in Sweden and how they structure their business models to avoid disintermediation.

At large, the two factors that cause disintermediation of supply chains are; increased access to information as this enables direct connections to form between companies, the development of digital platforms which operate at a lower cost than the intermediaries. Results show that Swedish trading companies have managed to keep their roles as intermediaries in the supply chain by adapting a hybrid structure. These findings correspond with those made in previous studies regarding trading companies, ICT and disintermediation. However, the findings still contribute an understanding of their implications for Swedish trading companies.

In addition to the theoretical implication stated above, this study contributes an understanding of how ICT-driven disintermediation affect internationalisation of firms. The ability of ICT to even out information asymmetries between actors in the market enables some of them to leapfrog intermediaries in their internationalisation process. This indicates that firms might not be as incremental when entering foreign markets as Johanson and Widestein-Paul's (1975) internationalization process might suggest. This report also found that cyclicality in markets and complexities of transaction may cause companies to move backwards in the internationalization process. Which further suggest the need for a more dynamic model of internationalization.

7.3 Practical recommendations

From the Swedish trading companies' perspective, the improved communications with a shrinking world can be seen as an opportunity to find new focal areas. As their services are in higher demand in unstable and uncertain markets these could constitute as opportunities for them. However, due to the cyclicality in markets they need to be able to adapt and shift operations to wherever opportunities currently exist. For most trading companies this should not be a problem as the inherent flexibility of their network gives them the ability to shift between markets.

According to this study, trading companies intermediating products with a high degree of complexity are less likely to be negatively impacted by developments in ICT. Diversifying operations to include more complex products should therefore be beneficial to trading companies. Our suggestion for the future would therefore be that trading companies utilize their adaptive capabilities to focus on intermediation complex products in high-risk areas.

However, in order for this strategy to be successful it is important that trading companies find producers that have sufficiently large volumes for them to mediate. This is important as ICT creates transparency in prices which might lower profit margins even for complex goods. If gaining access to sufficiently large volumes proves to be difficult then intermediation of complex products should be complemented by larger volumes of standardised products.

7.4 Suggestions for further research

This thesis has focused on the effect that information and communication technologies have on the continued relevance of trading companies in Sweden. As previously discussed, this study was intentionally limited to Swedish trading companies. We made this decision as there is little research regarding their role in today's digitized society. In choosing only to study Swedish trading companies we were able to shed some light to this scarcely explored area. As a result of this delimitation, we are unable to say if the conclusions drawn in this report are applicable to trading companies originating from other parts of the world. Therefore, we believe it would be interesting if a similar study were to be made using a sample of trading companies from some other country.

Another feature of this delimitation is that the study is based on a selection of trading companies that are currently active. We decided to only interview companies that are currently active since our intention was to study how ICT is currently affecting the Swedish trading companies' role in the supply chain. We see great value in studying those companies that have closed down their operations during the last few decades as there could be a possibility that these ceased to exist due to disintermediation. If this is the case, then they might provide a different perspective on the effects of ICT. Including non-active trading companies in a future study would allow further and deeper conclusions to be made.

Finally, we believe that it would be interesting to study the effects that ICT has on the consolidation of producers. During our research process we learned that the representatives from the trading companies carefully follows the development of how mergers and acquisitions has led to an increasing number of very large actors in the market. We cannot say if this is a just a passing trend or radical shift in the behaviour of the producers. What we can say is that major consolidations among producers is perhaps an even more imminent risk than ICT. How trading companies would be affected by such a development could be a highly interesting subject for further research.

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Appendix 1

Interview guide in English

1. How has the industry changed during the last three decades?

- What services do you offer today?
- Which service is in highest demand?
- How has ICT effected the industry?

2. Can you see any pattern in where companies are more or less inclined to use a trading company as an intermediary?

- Company sizes
- Geographical areas
- Products

3. Could you describe the trading companies' main competitive advantage compared to other options on the market?

- Product knowledge
- Market knowledge
- Contacts
- Risk management
- Others

4. Is disintermediation something that has affected your organisation?

- Potential challenges
- Online sales
- Streamline tendencies in the supply chain
- Correlation to ICT

5. What do you think will be the biggest challenge for the trading companies in the future?

- Preparations

Appendix 2

Interview guide in Swedish

1. Hur har branschen förändrats under de senaste tre decennierna?

- Vilka tjänster erbjuder ni idag?
- Vilken tjänst efterfrågas mest?
- Hur har ICT påverkat branschen

2. Ser ni något mönster i när företag är mer eller mindre benägna att använda sig av ett handelshus som mellanhand?

- Företagsstorlek
- Geografiska områden
- Produkter

3. Kan ni deskriva ett handelshus främsta konkurrensfördel i jämförelse med andra alternativ på marknaden?

- Produktkännedom
- Marknadskännedom
- Kontakter
- Riskhantering
- Övrigt

4. Är disdisintermediering något som påverkar er organisation?

- Potentiella utmaningar
- Försäljning online
- Tendenser till streamlining av leveranskedjan
- Korrelation med ICT

5. Vad tror ni blir handelshusens största utmaning i framtiden?

- Förberedelser