

CHALMERS



An Investigation in Centralising International Transportation Services

Bachelor of Science thesis in Industrial Engineering and Management

ARTIN ESMAILZADEH	941101-0813
EMIL GLEERUP	930212-5670
LOUISE LINDWALL	930415-5246
ANTON LÖÖF	921106-5835
ADAM PRYTZ	911016-2931
JOSEPHINE RISBERG	940819-8407

Department of Technology Management and Economics
Division of Technology and Society
CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden 2016
Bachelor Thesis TEKX04-16-11

Acknowledgements

This thesis is the last part of the bachelor's programme at Chalmers University of Technology. It was written at the division of Technology and Society at the department of Technology of Management and Economics. It was conducted during the spring semester of 2016.

The authors of the thesis would like to thank Fanny Rosin, Director of Global Supply Chain Business Solutions of Elanders, for inviting and supervising us in our pursuit of the project. Also we would like to thank Elanders for giving us the opportunity to get an insight into their organisation and provide us with information and support during the entire project. Lastly we would like to thank our supervisors at Chalmers University of Technology, Dan Andersson, associate Professor in Technology of Management and Economics, and Nojan Najafi, PhD in Technology Management and Economics, for providing us with ideas and support throughout the project.

Gothenburg 19/5-2016

Abstract

This bachelor's thesis concerns the growing awareness of controlling transportations within a global firm taking advantages of logistic services. The transportation service market is moving towards a few large providers dominating the market. This phenomenon gives companies with global operations the opportunity to centralise their transportation outsourcing and purchasing agreements, to gain a better overview and control of their logistical network. The aim of this study is to examine the central parameters when implementing a global contract that will affect cost and operational efficiency of the outsourced transportation solutions. This is done by combining theoretical knowledge with empirical evidence from a case study involving Elanders, a global supply chain company with multiple subsidiaries. Elanders are undergoing a major shift in their approach of transportation services, as they intend to assemble all logistic services of the corporate group.

To approach the aim, research questions were defined and used as guidelines for the analysis. A literature study was performed and information was provided by the case regarding Elanders, dealing with their implementation of a global contract. Additionally, meetings with logistic service providers were conducted, giving further information of the services provided together with their effect on cost and operational efficiency when implementing a global contract.

Throughout the study, the theoretical knowledge was applied to the case creating a comparison between the theory and the empirical evidence. The situational analysis of Elanders narrowed the study down to the overarching areas including services, business relationships, communication, risk and uncertainty, as well as sustainability. From these, valuable information was gained, such as the importance of defining the requirements and expectations from a business relationship, in terms of the degree of collaboration. Additionally, essential aspects of having an efficient communication system was discovered. The use of reliable logistic service providers and effective IT systems will help reduce the level of risk and uncertainties, and increase flexibility. The literature studied together with the case showed strong connections between relationship, communication and uncertainties which were the final areas that were discussed to reach a conclusion regarding the aim.

Many potential benefits with a centralised approach regarding purchasing of transportation services were found when analysing the Elanders case. No specific recommendation has been made as further studies required for each individual case.

Sammandrag (Abstract in Swedish)

Denna kandidatarbetsrapport berör den ökande medvetenheten av logistikhantering ur en global supply-chain-koncerns perspektiv. Marknaden för transporttjänster rör sig mot att ett fåtal tredjepartslogistikföretag innehar stora globala marknadsandelar. Denna situation har inneburit att globala företag har fått möjligheten att samla sina inköp av transportlösningar. Detta för att erhålla en bättre överblick och kontroll gällande hantering av logistikaktiviteter. Målet med rapporten blir därför att utreda centrala parametrar vilka påverkar kostnader och operationell effektivitet, då ett globalt kontrakt ska implementeras. Utredningen har gjorts genom att kombinera teori med empiri från en fallstudie. Fallstudien involverade Elanders som är ett internationellt supply-chain-företag med flertalet dotterbolag. Elanders genomgår för tillfället ett skifte av deras tillvägagångssätt gällande transportlösningar då de försöker samla samtliga av koncernens logistiklösningar.

För att angripa syftet har frågor formulerats som definierat och väglett studien till målet. För att fördjupa kunskap inom området har litteraturstudier tillsammans med information från fallstudien utförts. Även tredjepartslogistikföretag involverades i fallet genom företagspresentationer där de bidrog med information om hur deras tjänster kunde bidra till Elanders verksamhet. Detta har inte bara inneburit informationsinsamling utan har också möjliggjort att teori har kunnat testas med verkligheten.

Under studiens gång har den teoretiska kunskapen tillämpats på fallstudien för att möjliggöra en jämförelse mellan teorin och de empiriska data. Med hjälp av nulägesanalysen kunde studiens områden specificeras till service, företagsrelationer, kommunikation, risk och osäkerhet samt hållbar utveckling. Från dessa övergripande ämnen kunde användbar information anskaffas för fallet. Dessa handlade om vikten av att definiera behov och förväntningar på en företagsrelation med avseende på samarbetsdjup. Vidare upptäcktes viktiga aspekter av att ha effektiva kommunikationssystem. Användandet av pålitliga tredjepartslogistikföretag och effektiva IT-system, kommer att reducera risker och osäkerheter, samt öka flexibilitet. När den insamlade teorin applicerades på fallstudien kunde ett tydligt samband påvisas. De starka sambanden gällde mellan relationer, kommunikation och osäkerhet vilka slutligen blev diskussionsunderlaget för studien.

Flera potentiella fördelar upptäcktes med en centraliserad struktur gällande inköp av transporttjänster i Elanders fall. Dock ges inga specifika rekommendationer då vidare studier bör genomföras för varje enskilt fall.

Table of contents

1. Introduction.....	1
1.1 Background	1
1.2 Problem Discussion.....	4
1.2.1 Research questions	4
1.3 Limitations	6
2. Method	7
2.1 Study design	7
2.2 Process.....	7
2.2.1 Problem introduction	7
2.2.2 Problem approach	8
2.2.3 Current situation analysis of Elanders	8
2.2.4 Literature studies and 3PLs' contribution	8
2.2.5 Final analysis and discussion.....	9
2.2.6 Conclusion.....	9
2.3 Approach	9
2.4 Data collection.....	10
2.5 Criticism regarding information and methodology	11
3. Theoretical Framework.....	13
3.1 Services	14
3.1.1 Service within business relationships	14
3.2 Business Relationships with 3PLs.....	16
3.2.1 Relationship models	16
3.2.2 3PL Relationship Management	18
3.2.3 Procurement process.....	19
3.3 Communication and Information sharing	20
3.3.1 The Importance of good communication.....	20
3.3.2 Trust or formality.....	21
3.3.3 The Role of Information Technology	21
3.4 Risk & Uncertainties	22
3.4.1 Defining Risk & Uncertainty.....	22
3.4.2 Taking Risks during Uncertain Events	22
3.4.3 Uncertainty in a Logistic Network	23
3.4.4 Vulnerability and Risk in a Complex System	24
3.5 Sustainable Development within the transport sector	25

3.5.1 Environmental aspect	26
3.5.2 Social and economic aspect	26
3.5.3 Combining sustainability with profit	27
4. Case study of Elanders	28
4.1 Background	28
4.2 Procurement process	29
4.2.1 Further process of procurement	31
4.3 Third-party logistics providers' role for Elanders	32
5. Case Analysis	34
5.1 Relationships	34
5.1.1 Initiating a relationship	34
5.1.2 Risks and costs regarding different types of relationships	35
5.1.3 Depth of relationship	37
5.1.4 Relationship impacts when moving towards a centralised structure	37
5.2 Communication	39
5.2.1 Elanders' global network	39
5.2.2 Implications of communication with a more centralised solution	40
5.2.3 Impact of communication and information sharing during the transition phase	41
5.3 Risks and Uncertainties	42
5.3.1 Risks and uncertainties in the procurement of a global contract	42
5.3.2 Method used to encounter risk and uncertainty during the transition phase	44
5.4 Environmental impact of a global solution	45
6. Conclusions and discussion	49
6.1 Discussion of the RQs	49
6.1.1 What parameters need to be considered when initiating a relationship towards a logistics provider?	49
6.1.2. How can communication be utilised to maximise efficiency both internally and externally in the procurement process of implementing a global contract?	51
6.1.3 How does a global firm dependent upon logistical operations encounter risk and uncertainty when entering a global contract with outsourced transportation solutions? ..	52
6.2 Concluding statement	53
References	i
Appendices	vi
Appendix 1 – List of figures	vi
Appendix 2 – Interview template	vii
Appendix 3 – 3PL interviews	ix

Appendix 4 – Elanders group.....	xiii
----------------------------------	------

Glossary

3PL (Third party logistics provider) - A firm that provides multiple logistics services for use by customers

B2B (Business-to-business) – A situation where one business makes a commercial transaction with another business

Consolidation - A service provided by a freight forwarder in which several smaller shipments are assembled and shipped together to avail of better freight rates and security of cargo

CSR (Corporate Social Responsibility) - The responsibility a firm has towards the society

KSF (Key success factors) - Factors that have a high leverage potential on business

ROI (Return on investment) - Abbreviation used in business context to emphasise the weight of return on investment

1. Introduction

The chapter starts with a background describing the challenges of coordinating and organising global transportation solutions within firms. A case study has been performed with the company Elanders, which is introduced further on, regarding problems of their global logistical network. Elanders' main difficulties together with the general problems of global transportation solutions provides the aim of this report, which is then further divided into the three research questions described in the problem discussion.

1.1 Background

Over the last two decades, transportation has continued to gain importance in firms across the market, with globalisation and technology being the major driving forces behind this trend (Coyle et al., 2015). As a result, firms encounter new challenges which they have not previously encountered. The increasing concern about the environmental impact, volatile fuel prices, increasing labour costs around the world and growing infrastructure problems are just some of the challenges firms face within a supplying network (Coyle et al., 2015).

According to Lai et al. (2004), an increasingly competitive global economy forces multinational companies to increase their overall effectiveness. As a result, a structured supply chain management is desired in order to gain a competitive advantage for the firm, and the concept of managing all business in-house belongs to the past. Instead, firms tend to revise their priorities and focus their resources to where their core competences lie and as a consequence, outsourcing of various activities, both non-core and mission-critical, to third-parties has become a frequently occurring phenomena (Coyle et al., 2015). Within logistics, the supplying firm providing the services is known as a third party logistics provider, later called 3PLs. The spending on 3PLs is growing worldwide; a Georgia Tech-Capgemini study in 2016 found that an average of 50 percent of total logistics expenditures amongst 3PL users were directed to outsourcing. Amongst outsourcing, transportation was the most common logistics service (Langley, 2016). Outsourced transportation solutions is a central service purchased by a firm to maximise the efficiency within their global network. In essence, outsourced transports allow the buying firm to expand their global network by utilising the supplying firms' resources.

With the choice of transportation solutions having a major impact on costs, service levels and the environment, thus the process of outsourcing transportation is critical to a firm's success. This becomes a challenging task for the purchase and decision makers within a firm (Sink and Langley, 1997). Trends are moving towards globally active third party logistics service providers that offer transportation solutions, regardless of location requirements (Coyle et al., 2010). With customers requiring separate punctual deliveries, it becomes a challenging task for logistics providers to coordinate transports in order to avoid elevated costs and keep a competitive edge (Dorion et al., 2009).

The transportation sector stands for 25 percent of all emissions and is increasing fast, therefore environmental awareness and sustainability become more important (IEA, 2009). The rising awareness of the customers, both end customers and business-to-business customers, have made their wish for products that are environmentally friendly higher and this places high demands on that companies should work with sustainability in an active and transparent manner (Hohnen and Potts, 2007). Connections have been made between bad environmental performance and low market value, which makes it even more important for companies to work with sustainability (Konar and Cohen, 2001).

Regarding a global transportation network, there are both centralised and decentralised structures which fulfils different purposes benefiting a firm in various ways. For multinational companies in general, a major concern involves the coordination of the decision makers at each location. For the multinational company Elanders, the units in each country acts as an independent firm. This is now becoming a struggle for the company due to the lack of control over the transports as a whole. In a decentralised structure it commonly that each unit acts in their own best interest, taking no advantage of the firms' global network and potential services (Pibernik and Sucky, 2006). Elanders, currently operating a decentralised structure, sees the potential to achieve cost savings and improved efficiency along the chain by moving towards a centralised structure. A centralised approach is defined as "having a single decision maker to optimise the network with the union of information that the various decision makers have" (Pibernik and Sucky, 2006). Arguments for each structure will be discussed further in the study, with Elanders in focus.

Elanders is a global supplier of integrated solutions in the areas supply chain, print & packaging and e-commerce operating in more than fifteen countries, with local sites in twelve of these (Elanders, 2016). All of Elanders sites are responsible for their own purchasing of transportation services and has therefore negotiated individual contracts with 3PLs. According to Kakouris et al. (2006), outsourcing is an arrangement where the acquiring firm pays the provider to perform a service, which alternatively could have been performed in-house. The transportation services acquisition is more a case of purchasing in Elanders' situation. This is because Elanders realistically does not have the resources required to perform transportations on a global scale by themselves. The distinction between outsourcing and purchasing is often blurred when studying theory dealing with procurement of logistics services according to Bing (2008) and therefore the two concepts may overlap in the report.

An implementation of global contract, which includes several subsidiaries in different countries, with a few selected 3PLs, is a way of achieving a more centralised organisation. An initial stage will involve a pre study of the requirements needed when selecting transport service providers, as well as the process of matching demands and services available between client and provider. Elanders wants to map all the transportations within their different sites and negotiate global transportation contracts, common for all sites, with one or a few external freight carriers. At an initial stage, all negotiation with the 3PLs will be done by Elanders Sweden. By doing this, Elanders seek to minimise variations in transportation services between their different sites and thereby reduce their overall costs for transportation, decrease their environmental impact, and improve lead times within the transportation network. An

investigation with Elanders is carried out, to determine if implementing a centralised structure can enhance logistics services. Further on, Elanders hope to use this investigation as a basis to analyse procurement strategies regarding transportation solutions.

Thus, the aim of this report will be to examine the central parameters when implementing a global contract that will affect cost and operational efficiency of the outsourced transportation solutions.

1.2 Problem Discussion

To reach the aim it is necessary to categorise the common challenges that firms face when having outsourced transportations. This study intends to identify factors that affects the outcome and determines the prosperity of the transportation solution in terms of costs and efficiency. Therefore, in this chapter reasoning about the potential factors are made to reach research questions which will be analysed and discussed in chapter 5 and 6.

Figure 1.1 presents the main focus areas that were determined as important for firms in situations similar to Elanders. Reasoning behind chosen focus areas are explained in section 1.2.1. These will be further defined through an abductive approach, by combining information gained from Elanders with a general literature study. These areas will be further examined to identify the critical factors required to reach closure regarding the aim. The study will select information from these main areas and later in the analysis specify the key parameters that are required when implementing a global contract.

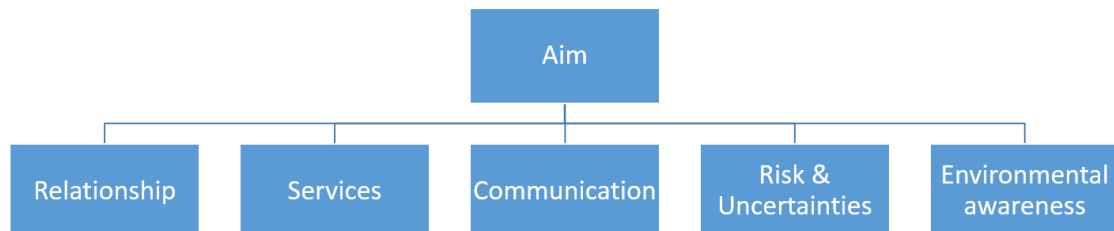


Figure 1.1 - Illustration showing the areas studied in this report in order to fulfil the aim

1.2.1 Research questions

Outsourcing is a business strategy to spread risks and leverage resources to be able to focus on critical problems relating to future growth (Sink and Langley, 1997). Therefore, it is important to select a supplier that will match the preference of the client and be culturally similar regarding work ethics. Moving towards a more centralised structure might lead to a higher overall supply chain performance, but it will come at the cost of temporary instability (Pibernik and Sucky, 2006). An implementation of a global contract will require for all units of the firm to work towards the common goal of the company. If these goals are not aligned with the goals set by each individual unit, a compromise needs to be reached which can be a challenge when dealing with a larger logistics network (Pibernik and Sucky, 2006). The challenges that arise when moving towards a more centralised organisation are expressed in the following research questions.

Firstly, a main challenge is to create and maintain a good working relationship between a supplier and a 3PL. This has the potential to reduce costs and improve services in many areas throughout the supply chain process (Sink and Langley, 1997). It is essential to recognise the purpose of the relationship and what each party is willing to sacrifice as it can play an important role in affecting the costs and operational efficiency (Prajogo and Olhager, 2012). There are certain parameters, such as trust, which are initially difficult to establish, and often generate

costs for both the supplier and client (Brusset, 2009). This leads to the first research question, which is presented below.

1. What parameters need to be considered when initiating a relationship towards a logistics provider?

Along with relationships comes a level of uncertainty. This becomes an important challenge to consider when striving for a successful distribution network. Uncertainty contributes to a phenomenon known as the bullwhip effect, a distribution channel phenomenon in which forecasts yield supply chain inefficiencies, that can occur in distribution channelling as a result of supplier delaying activity (Coyle et al., 2010). Thus, the forecasting of future sales becomes inaccurate due to sudden customer trends that are difficult to foresee or large changes in behaviour from either side of the relationship between carrier and client. Other sources of uncertainties can be identified within services that must be encountered when calculating time intervals, safety stock and other fluctuations regarding time or demand. It is known that the more uncertainty associated with a process, the more waste there will be in the system (Persson, 1995). There will always be a factor of uncertainty when dealing with forecasts. However, when aware of its impact, it is possible to include it in the calculations to gain a more accurate prediction of the future outcomes. The second research question is aimed at identifying parameters that will reduce the amount of uncertainty and risk.

2. How does a global firm dependent upon logistical operations encounter risk and uncertainty when entering a global contract with outsourced transportation solutions?

Transportation is about adapting services according to the needs of the client. (Persson, 1995) mention the following three aspects regarding services creating competitive advantages as crucial:

- Time-to-market
- Time-to-customer
- Flexibility

Time-to-market is important since customers' value being the first with goods and services and time-to-customer is about the time it takes for a customer to be supplied with said goods and services. Flexibility is the ability to tailor products and services better to the customer than competitors can.

Services can create great opportunities for a firm as it can reduce costs and give access to up-to-date technology, along with other benefits such as precision, durability, flexibility, safety levels, and stock service levels (Sink and Langley, 1997). An evaluation of the needs of the firm is required to ensure that the services provided will create value exceeding the cost for the services. To reach the benefits of services, it is important to have an efficient system for communication, both internally and towards any external party (Prajogo and Olhager, 2012). For larger implementations such as the case of Elanders, communication will be the key challenge to overcome in order to reduce the time of instability during the procurement process.

A lack of internal communication can lead to inefficient work methods. When implementing a global contract, internal communication will be essential for companies to reduce the level of risk, and to maximise efficiency (Sahay and Mohan, 2006). Elanders is currently unaware of the specific processes and methods used by their subsidiaries regarding transportation as stated by their Director of Global Supply Chain Business Solutions, later referred to as Elanders' SCD. Communication is the link that ties the supply chain together, thus it becomes an essential factor to the distribution network since without a communication system, the carrier cannot implement their service solutions effectively (Coyle et al., 2010). The third research question will therefore be:

3. How can communication be utilised to maximise efficiency both internally and externally in the procurement process when implementing a global contract?

This last question is aimed at analysing the effect communication has on the overall organisation and the possible benefits that can be gained when restructuring the communication methods to achieve better control.

The study will also bring attention on the impacts logistical systems has on sustainability and how this changes the perspective on transportation methods and other logistical decisions. Globalisation has created an awareness of the negative effects of excessive use of certain scarce resources, making it a growing challenge for distribution networks to keep costs down (Sohal and Rahman, 2013).

1.3 Limitations

Due to the circumstances there will be certain limitations to this study. Firstly, there is a time constraint of four months which will impact the depth of the areas of study. These areas intend to support investigation of the Elanders case, mainly focusing on coordinating logistic activities. This will imply that the conclusions might not be applicable to firms outside of these restrictions as the factors may vary greatly depending on the situation.

The study regarding Elanders case will only focus on its global logistic network and not any domestic activities. Due to the time constraint, any potential implementation of solutions from new 3PLs will not be analysed. This will impact the conclusions drawn as there will be no qualitative or quantitative data available to compare operational effectiveness of a future solution with today's situation. Therefore it will not be possible to discuss the effects of a potential implementation in this report.

The study is also limited to the amount of information provided. The main information used to compare carriers and their services is provided through statistical data, mainly focusing on transportation prices. Information about the 3PLs has only been gathered through unstructured interviews. The statistical data provided by each country from their carriers will also vary in accuracy. Due to secrecy of the data, the current situation with regards to Elanders' specific shipments and costs cannot be presented in this report.

Information about similar cases is restricted to information found on previous studies published online. Interviews with similar firms to Elanders will not be conducted due to the strict

timeframe. This will limit the analysis of problems that similar firms are faced with and methods they use to tackle these problems.

2. Method

This chapter introduces the process used to conduct the study including an introduction to the problem and the case study, literature study, and interviews. The methods used throughout the process will be defined and motivated, ending with a discussion regarding source critique.

2.1 Study design

A general aim was developed and further broken into three research questions targeting the main areas concerning global logistics. A case study was conducted to gain a deeper knowledge of the difficulties a logistics firm experiences when implementing a global contract, which was used to answer the research questions and aim.

Strengths of case studies is that different types of data as well as combinations of research methods are used to get an over comprehensive view (Denscombe, 2014). A case study is therefore useful when investigating e.g. a company, to answer specific research questions about a general issue. The usage of a case can be a more effective way of collecting data than almost any other form of research report (Gillham et al., 2000). It provides a more detailed view of a specific situation as it enables the possibility to present data from multiple methods such as surveys, interviews, document review, and observations (Woodside and Ebrary, 2010).

2.2 Process

The figure below illustrates the process of the project as a whole. The six boxes represents the process with its respective sub activities. The following sub sections will present each sub activity more in detail, and motivate why and how they are approached in order to reach the aim.



Figure 2.1 – Steps showing the structure of this report

2.2.1 Problem introduction

At this stage, the problem was defined and evaluated regarding the focus of the study. A discussion was held with Elanders to define the core issue that they were facing when planning for a transition into centralising the control of their logistics network. Additionally, studies were conducted to analyse case studies experiencing similar situations regarding global logistical network and the difficulties that comes with it.

From this initial study it was evident that Elanders was only one of many companies who are facing problems regarding their transport solutions. Many companies find it difficult to control their transportations as their core competence lies within other areas. The problem definition was adjusted accordingly and resulted in several areas of study that were all common between the articles studied during the pre-phase.

2.2.2 Problem approach

The problem was approached by dividing the relevant areas into several research questions. The purpose of the questions was to break down the overarching aim and investigate the areas that were considered relevant from the pre study and find answers to guide firms in similar situations as Elanders. The questions became a solid base for this study, giving a broad view of the logistics network and the difficulties that firms with outsourced and global transports are faced with. These research questions were at a later stage adjusted once a more specific approach was found to the problem. The research questions were narrowed down from six to three, covering the main areas relevant to the problem, however information and knowledge collected from the previous areas, such as environmental aspects, were included to provide a deeper understanding and more comprehensive discussion.

2.2.3 Current situation analysis of Elanders

At this stage, a thorough investigation of Elanders' situation was conducted. This investigation can be used in combination with theory studied to analyse Elanders' situation. Information about their current outsourced transportations were requested from their different international subsidiaries. Once all essential data was gathered it was further compiled in order to more easily obtain an overview of all occurring transports. Since Elanders use different kinds of transportation services within air, road, and sea, a sectioning was made to easier compare and negotiate contracts according to the correct requirements. The different sections were chosen to be parcel, pallet by road, and pallet by air as 3PLs often specialise within one of these areas.

2.2.4 Literature studies and 3PLs' contribution

After issues of the case were discovered, the focus of the literature study could be narrowed to certain areas. Literature was analysed in order to obtain deeper knowledge. Further, key success factors, KSFs, of an efficient supply chain was identified in order to determine essential parameters to consider, when in a situation similar to Elanders'.

Meetings were held with 3PLs chosen by Elanders, to gain further information about services that could be provided. The 3PLs presented information about their business but also how a collaboration could contribute to a more efficient supply chain in terms of cost, sustainability, and service quality. The 3PL companies had different core competences in the different freight categories air, road and sea, thus a 3PL firm was to be considered for each of the categories mentioned above in order to cover all Elanders requirements. Further, the 3PLs were sent the statistical transportation data which they were requested to analyse and return a contract proposal on. This provided a basis for comparison at a later stage in the study.

2.2.5 Final analysis and discussion

The theory and information collected from earlier activities were combined through models in order to apply it to the case of Elanders. The recommendations of transitioning to a certain solution were presented and discussed together with the research questions. Further, the discussion emphasise possible benefits, but also risks and uncertainties with implementing a new transportation structure.

2.2.6 Conclusion

Finally, a conclusion summarises the project with thoughts about the findings from the case study.

2.3 Approach

In this report an abductive approach was used. According to Dubois and Gadde (2002) a deductive approach is concerned with developing propositions from current theory and make them applicable in the real world. An inductive approach on the other hand, rely on grounded theory where theory is systematically generated from actual data. An abductive approach can be seen as a mixture of deductive and inductive approach, which means that theory and empirical data are studied simultaneously. It is beneficial to use an abductive approach when the researcher's objective is to discover new information to develop new concepts and theoretical models (Dubois and Gadde, 2002). One main aspect differentiating abductive approach from the two other approaches is that the original framework is successfully modified, partly because of unexpected empirical findings but also as a result of theoretical insights gained during the process.

Neither inductive or deductive approach excludes one or the other, hence an abductive approach methodology was advantageous since both grounded theory could be generated and logical models could be invented while pursuing the case.

Figure 2.2 illustrates how the abductive methodology has contributed to the process of the project. The activities classified as deductive are located above the process timeline while the inductive activities are located below.

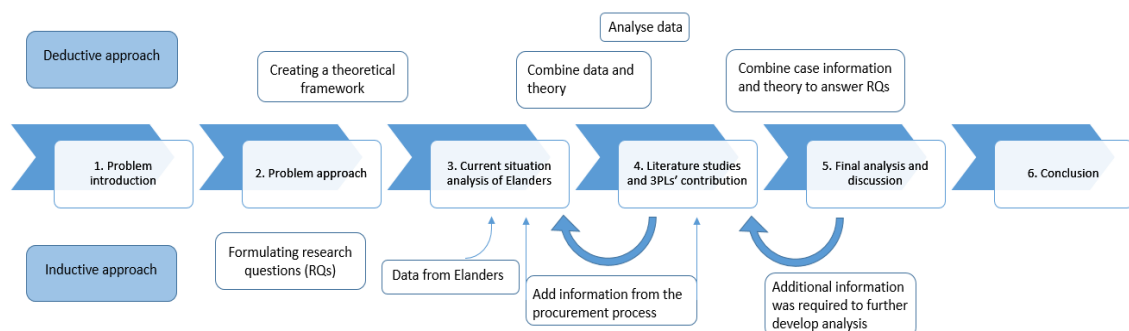


Figure 2.2 – Illustration of the process with the different activities separated into deductive and inductive approaches

The sub activities with a deductive approach demanded logical conclusions in order to contribute to the study. The first sub activity with a deductive approach was the creation of a theoretical framework, which was used to address the project within specific frames (Dubois and Gadde, 2002). This approach was dominating in the end of the timeline, hence experience was needed to draw logical conclusions.

On the inductive side, logical information was gathered to support where grounded theory was needed. This information was vital due to lack of previous experience in certain areas. The gathering of information distinguished as an inductive approach includes the case study about Elanders' situation, data from the procurement process, and what they wanted to achieve with the project. The procurement process consisted of different sub activities, presented more in detail in chapter 4. When experience was obtained, deductive approach was applied to draw logical conclusions in order to map the project. In some cases it was necessary to take a step back in the process and add additional information if it was required, in order to develop and complete the analysis. This is illustrated with the thick curved arrows in figure 2.2.

2.4 Data collection

The type of data collected for a study is the main factor determining the content in the analysis according to Bryman and Bell (2003). Therefore, research regarding the different ways of collecting data is required before starting the enquiries. For this thesis, numerical and qualitative data was used to assist reaching the aim.

Collecting data for this study primarily includes the two methods of qualitative and quantitative information. A semi structured qualitative interview was held separately with the SCD of Elanders. A semi structured qualitative interview means that there is a set of questions that are well structured, but allows new ideas to be brought up during the interview as long as it is within the topic that is being explored during the interview (Edwards et al., 2013). Holding separate interviews are beneficial according to Trost (2010) because the candidates have no chance of interfering or influencing each other. In addition, if there are any questions that are unclear, supplementary questions can be asked directly.

Meetings were held with invited sales representatives from each of the 3PLs. At the meetings, they had an opportunity to present their business with the purpose to obtain an overview of their operations. The information sharing followed an unstructured interview standard, implying that the interviewee was not restricted to any specific question framework (Lantz, 2007). This kind of information collection was deemed suitable since the time was limited and the interviewers did not had any previous experience about the area, which follows Lantz (2007) proposal regarding unstructured interviews.

The qualitative data was used to get an insight into Elanders current difficulties, expectations from the 3PLs, and general facts about global transportation networks. This became a good supplement to help answer the research questions.

The numerical data includes the transportation data from Elanders subsidiaries such as distances, weight, costs, way of transportation and type of goods. Both the method of the data

collection and the data itself was analysed. Numerical data is useful when quantifying specific topics. Data from the current transportations was collected, making it possible to compare services and prices of the proposed solutions. A comparison was made between the current situation and the proposed solutions in order to predict the future impact of an implementation.

2.5 Criticism regarding information and methodology

The quantity of information sources has contributed to a solid and trustworthy knowledge base. The information has been collected through different data sources, which benefits different dimensions of information. For instance, empirical data from interviews and involvement in the procurement process allowed further questions if something was unclear. Information from the theoretical study contributed with information to the theory that Elanders could not contribute with.

The purpose of being critical regarding the collection of information is to find trustworthy sources. Four criteria have been established on how to be critical regarding sources according to Leth and Thurén (2000). The four criteria are authenticity, time, dependency, and tendency. The sources used have throughout the process of this study been evaluated with regards to these criteria. Regarding time, some of the sources might seem a bit outdated and therefore these sources been evaluated and considered thoroughly. This is especially true concerning sustainability since this topic has gained more attention in the present situation compared to before. Nevertheless, the analysis made is still valid since sustainability, as a topic of growing importance, will only draw more attention in the near future. The sources used are not very dependent since multiple sources, and always the primary source when possible, have been used. This goes hand in hand with authenticity and tendency, since the three criteria have similar characteristics and thus sources are valid with regards to these criteria too.

In some fields of research, case studies are seen as less accurate than other methods due to its specific nature and have been criticised because of the difficulties to generalize the findings. This is primarily because a case study focuses more on qualitative data than quantitative, which is seen as a more scientific and trustworthy way of collecting data (Bryman and Bell, 2003).

However, conclusions from a case study can be used to develop existing theory as Denscombe (2014) points out, and the findings must be seen as a part of the process. Figure 2.3 illustrates different strategies for conducting a study, relating them to the purpose of the research. It can be seen that when approaching a study like this one, a case is the best way to conduct the study since it provides a holistic approach and a proper way to observe and analyse the phenomena existing in a firm. An alternative to a case study could be through surveys, but surveys often lose focus on detail and depth of the data collected (Denscombe, 2014). This would be problematic for this study, since in order to fulfil the aim the information gathered and the analysis made have to be detailed.

Strategy	Purpose of the research
Surveys	Measure some aspects of social phenomena and trends. Gather data to examine a theory.
Case studies	Understand the complex relationship between the factors when they are operating in a particular social setting.
Experiment	Identifying the cause of something. Observe specific factors influence.
Ethnography	Describe cultural practices and cultural traditions. Interpret social interaction within a culture.
Phenomenology	Describe the fundamentals of certain types of personal experiences. Understand something through someone else's eyes.
Grounded theory	Clarify concepts or produce new theories. Explore a new topic and provide new insights.
Action research	Get an overview of the evidence in a particular area.
Systematic observation	Evaluate the effectiveness of projects or interventions.
Method combination	Evaluate a new principle of action and evaluate its impact. Comparing alternative perspective on a phenomenon. Combining perspectives from other strategies.

Figure 2.3 - Research strategies used and the purposes behind these (Denscombe, 2014)

Empirical data has been limited to the exemplifying company, Elanders. This implies that major parts have been written from its point of view. It might be vague to say that companies in the same situation as Elanders can take advantage of recommendations, since Elanders has a major impact on the information contribution hence it is quite specific.

3. Theoretical Framework

This chapter presents the areas studied, deemed necessary to reach the aim and assist Elanders in their procurement process. From these areas, necessary theories and models have been collected to construct a basis for the analysis in chapter 5.

Figure 3.1 illustrates the structure of the theoretical framework, including the main topics and how they are linked together. The selected topics are the result of theoretical studies revolving around the area of transportation services. The areas to the right are parameters that can be used when comparing services from transport providers. Costs and quality levels are topics frequently occurring in theory dealing with the subject of transportation services. Boyson et al. (1999) state that logistics relationships primarily influence the costs and customer service levels of services. Similarly, Jharkharia and Shankar (2007) as well as Qureshi et al. (2008) conclude that service quality and costs are two crucial factors when dealing with transportation services. Costs are highly relevant as firms aim to reduce overall spending while customer service levels affect the quality of services. Environmental aspects is an additional factor, growing in importance, contributing to the value of transportation services. The environmental impact caused by logistics services became a concern for clients and providers 10-15 years ago and the interest on the market is steadily growing (McKinnon et al., 2012). Since the environmental impact is a recently acknowledged area, the theory studied does not put a lot of emphasis on the environmental aspects of logistics, which limits the connection with the other main topics in this chapter.

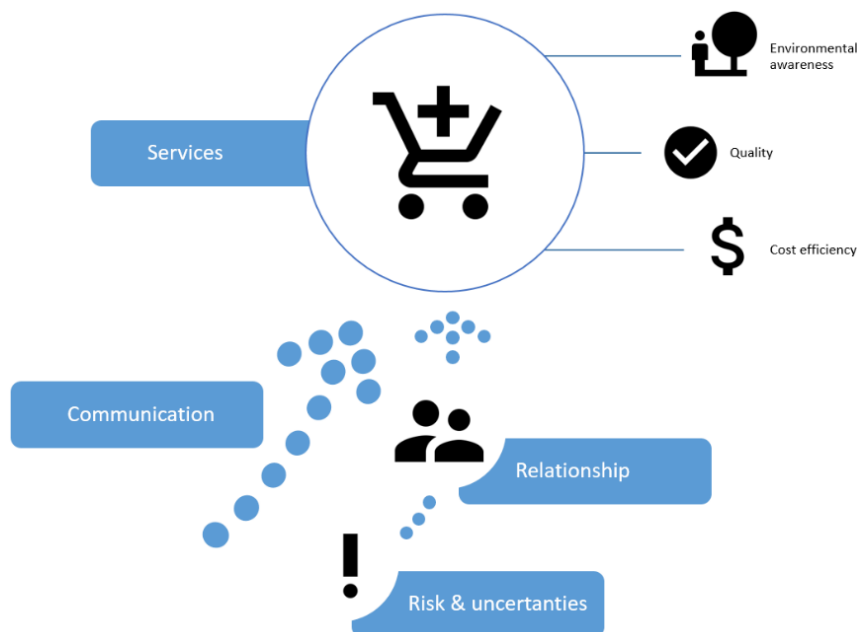


Figure 3.1 - Overview of areas studied in the project and the connections between them

When purchases of services between businesses occurs, some type of relationship will be established between the involved parties. These may vary widely in structure and in terms of impact, regarding the factors underlying services mentioned. Relationships between firms comes with dependencies, which in turn results in risks and uncertainties. Therefore

communication plays an essential part when doing business between firms, and affect all aspects of the purchasing process between firms. Relationships, communication, as well as risks and uncertainties are the three main areas regarding services from transport providers brought up in this chapter.

3.1 Services

Services is a broad concept which can be defined differently depending on the situation. In this study, services will be defined as "any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product"(Kotler, 2003). Within transportation, services act as problem solving tools giving firms a strategic edge on the logistics market (Atkacuna and Furlan, 2009). Transportation providers' main services includes transportation, warehousing, inventory, value added services, information services and design, and reengineering of the chain (Hertz and Alfredsson, 2003). Most of these services are intangible, making it difficult to measure and compare the effectiveness of the provided service. The broadness of services makes it a natural complement within all areas illustrated in figure 3.1.

According to Ballou (2006) managers see logistic services as cost generators which makes this area an initial target focused on when cutting costs. As a result, firms tend to only accept services at the lowest possible cost which often limits to only provide for the most basic needs (Ballou, 2006). However, some studies has shown that a high level of customer service leads to higher market share and customer loyalty resulting in increased revenues (Son et al., 2013). Lambert and Burduroglu (2000) recommend firms to use customer satisfaction surveys to determine the contribution of the provided services. However according to Hayes (2008), it is challenging to analyse a customer satisfaction survey due to the general lack of respondents and the quality of their feedback. The feedback will also be difficult to measure and interpret as factors used for comparison often lacks validity (Atkacuna and Furlan, 2009). The lack of evidence to support services positive contribution leads to firms minimising service costs, rather than maximise sales that derive from these logistic services (Ballou, 2006).

The focus on cost reduction within services in transportation solutions can lead to loss of a firm's competitive advantages, such as efficient operations, bargaining power regarding services within 3PL, or knowledge from networking partners, which all affects sales in a negative way (Hertz and Alfredsson, 2003). Services offered by 3PLs are constantly developing, both in knowledge and in technology, to be able to keep a competitive edge towards other logistics providers. Unfortunately, 3PL firms use different definitions for their services making it difficult to compare the companies against each other (Kotler, 2003).

3.1.1 Service within business relationships

The type of relationship defines the extent of the services that are provided. A relationship is usually initiated between two parties as one party is in need of a solution to a problem and wish to utilise the services and resources of the other party (Cahill, 2007). Within logistics, relationships with 3PL is essential for a firm's development, customer coordination, and

adaptation (Hertz and Alfredsson, 2003). The main services that are required to reach the level of profit that a firm aims for varies from case to case. However a few main aspects that customers' demands includes smaller and more regular express deliveries on a time constraint basis (Coyle et al., 2012). These requirements puts a high strain on the transportation companies who are required to optimise their services to suit the special requirements of the customer at a competitive price. A strategy used by both customer and provider is developing a strategic collaboration between the two parties (Cahill, 2007). A strategic collaboration is when one party can take an action that is not always the best for itself but for the relationship (Yew Wong and Karia, 2010). This requires each party to be able to adapt to change and make sacrifices in order to reach a common conclusion that will benefit both parties in the long run.

Being adaptable to change will make the negotiation process easier and strengthen the ability of finding alternative solutions by utilising each other's resources services. The matrix below, developed by Hertz and Alfredsson (2003), illustrates the division that can be made of 3PLs depending on the demands on the customer coordination, adaptation and problem solution ability.

		Ability of customer adaption	
		Low	High
General ability of problem solving	High	Service developers (integrators)	Customer developer
	Low	Standard transportation firms	Traditional warehousing firms

Figure 3.2 – Matrix describing the problem solving abilities of the 3PLs (Hertz and Alfredsson, 2003)

Standard transport firms will provide the basic services for a customer and will be able to provide these alongside their other business. Moving from low to high on the problem solving axis refers to 3PLs that are *service developers*. These 3PLs have the potential to provide extra value that specifically fulfils the customers' needs by integrating different standard services (Hertz and Alfredsson, 2003). At the top right of the matrix is the *customer developer* which is the most advanced type of provided service where the 3PL gradually takes over the customers logistics network and operations (Hertz and Alfredsson, 2003). Traditional warehousing firms refer to 3PLs with a variety of service offerings, targeting a large customer base. However these will have a low problem solving ability and will not be able to adapt to specific requirements (Hertz and Alfredsson, 2003). Transitioning from the standard transport firms such as service

developers or customer developers will naturally come at a higher cost. However, a high level of collaboration within a relationship will create customer loyalty leading to an increase of a customer's willingness to pay (Wessely and Hofmann, 2014). If there is a working system with little disruption and uncertainty, a firm will be more reluctant to choose a cheaper method of operating their logistics network (Christopher and Holweg, 2011).

3.2 Business Relationships with 3PLs

According to Hofenk et al. (2011) successful partnerships contributes with several benefits that has significant impact on business efficiency. Internal effects such as inventory reduction and better quality can be directly linked to the extent of collaboration within a relationship. Looking at external effects, well-functioning relationships with 3PLs may result in improved deliveries, shorter lead times, and higher flexibility (Jonsson and Mattsson, 2011). An additional factor to consider is the size of the network as it is costly and becomes increasingly complex to coordinate several relationships compared to only one (Jonsson and Mattsson, 2011).

If seen in a wider perspective, including both the internal and external effects, connections to cost reductions and improved service levels can be seen (Hofenk et al., 2011). In addition to these, other factors has also been determined important when considering outsourcing. Core competences, production improvements and technology upgrades are just a few factors that should be considered when dealing with outsourcing of logistic solutions. Since different 3PLs operate under various conditions, their core service offers may differ as well.

3.2.1 Relationship models

When assessing the kind of relationship model that should be applied in a situation where services are outsourced Dyer et al. (1998) asserted that there is no best practice suitable in all cases. Gadde and Snehota (2000) argue that low-involvement relationship are more likely to be cost effective compared to high-involvement relationships, which supports the theory about outsourcing activities as mentioned by (Dyer et al., 1998). Although low-involvement relationships are more likely to be cost effective they might result in higher procurement- and transaction costs compared to high-involvement relationships according to Dyer et al. (1998). A traditional model used by General Motors known as "the arm's length model" emphasises that dependencies between involved parties should be minimised and that bargaining should be maximised (Cr  mer, 1995). This model fits the low-involvement category regarding relationships and has been traditionally popular, especially due to its focus on cost control. Another well known relationship model is the so called "partnership model" developed by Toyota (Langfield-Smith and Greenwood, 1998). In contrast to "the arm's length model" it advocates high involvement when it comes to information sharing, in order to be more efficient regarding coordination of activities between involved parties, which agrees with the role of communication in relationships as illustrated in figure 3.1 (Langfield-Smith and Greenwood, 1998).

Manuj and Mentzer (2008) point to global supply chains, which consists of several interconnected relationships between businesses, as a source of competitive advantage. By

combining resources, performance can be improved for both parties in a relationship while risks and rewards are shared (Hofenk et al., 2011). Halldórsson and Skjøtt-Larsen (2004) states that firms can benefit from advantages within a relationship, through shared resources and joint-learning. Halldórsson and Skjøtt-Larsen (2004) also emphasise that collaboration in a relationship is key if any of the accompanying perks are to be achieved. Looking at agreements between 3PLs and users, both contractual and relational factors influence the resulting performance (Hofenk et al., 2011). Contractual factors refer to formal agreements, which entails obligations, while relational factors aim at trust and confidence between involved parties.

Hofenk et al. (2011) emphasise that a contract has three main benefits. Firstly, it is used to explicitly show what is agreed upon, so that if a conflict occurs it can more easily be solved as physical evidence exists. Contracts can also be used as a guideline for individuals to clarify roles and expectations on a daily basis. A final benefit includes clarifying information and agreements, to make sure involved parties act accordingly within each situation. Formal contracts tend to generate additional costs and may be seen as a sign of distrust from the other exchange partner, and while trust might be seen as a cheaper and more effective way to encourage cooperation, the lack of a formal agreement often comes with a greater level of uncertainty (Hofenk et al., 2011). Poppo and Zenger (2002) propose that trust and complex contracts can be seen as complements when it comes to relational exchange arrangements and that optimising the relation between these two is key in order to generate improvements in exchange performance. With benefits such as reduced costs, increased knowledge, and better performance, it is important to always keep in mind that a profitable relational exchange setup varies with each unique situation (Dyer et al., 1998).

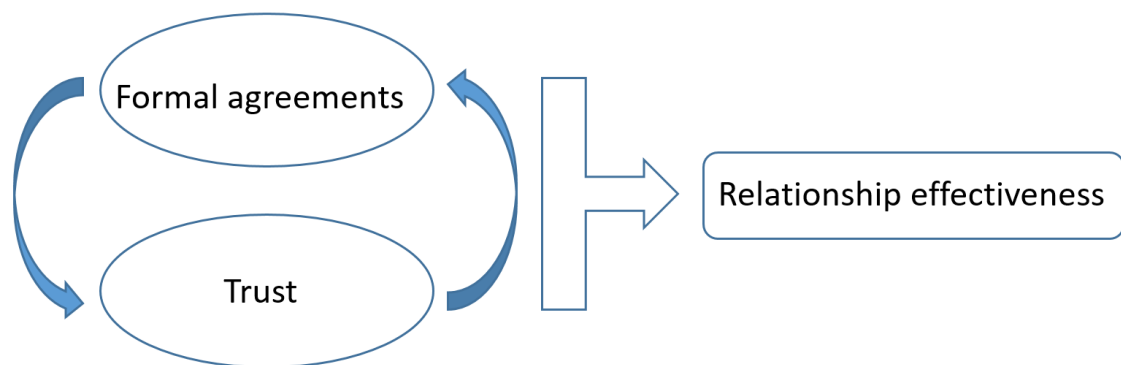


Figure 3.3 – Illustration showing how optimisation between formal agreements and trust contributes to relationship effectiveness

Not only benefits follow with relationship involvement. Since firms has economic interests there has to be a balance between the efforts spent on strengthening the relationship in relation to other value adding activities. Gadde and Snehota (2000) emphasise that relationships requiring a lot of attention may not always be beneficial from an economical perspective. High costs is a direct consequence of high relationship involvement, therefore the relation between involvement and business output has to be optimised (Gadde and Snehota, 2000). Costs related to maintaining a relationship are often hard to trace and tend grow in long term relationships.

According to Gadde and Snehota (2000) assessing investments regarding relationship becomes even more complicated because of the difficult task of tracing costs related to maintaining a relationship. The reason is that output of relationship investments might not emerge as clear as the effort invested. The impact of the implementation may vary from time to time as well, which affects the return on investment, also known as ROI.

3.2.2 3PL Relationship Management

Buying decisions have major impact on a firm's performance with purchases of goods and services often representing a majority of the sales revenue (Fließ et al., 2015). Therefore it is of utmost importance that major buying decisions are based on rationality and accurate information. Buying centres is a well known concept when it comes to managing relationships with providers that goods or services are purchased from. A buying centre refers to the group of people involved in the buying process of a specific product or service (Johnston and Bonoma, 1981). In many cases the group of people influencing a certain buying process is not obvious. This often comes as a consequence of personal relationships and vague areas of responsibility (Fließ et al., 2015). A well structured buying centre, where influencing parties are clearly defined, can help providers understand their clients' needs and as a result facilitate the buying process (Herbst et al., 2008).

Through formal structuring and role allocations, management can organise the buying centre and thereby bring clarity to the buying process, although the process of structuring a buying centre is often complicated (Lau et al., 1999). In a global firm the buying centre needs to be seen from an organisational perspective since cultural differences brings varying interpretations and approaches (Qureshi et al., 2008). When dealing with strategic purchases, management needs to be proactive providing needed expertise and structure in good time. In such cases management should avoid being too bureaucratic and instead through flexibility and support assist involved parties in finding a good common solution (Qureshi et al., 2008). It is important to remember that buying centres do differ between different purchases and firms. Each purchase process needs to be considered on its own, with structuring and resources only customised when necessary and profitable (Johnston and Bonoma, 1981).

A well known relationship management model that can be used to evaluate the purpose of the relationship is the Kraljic's Purchasing Portfolio Matrix. It is a tool used to diversify suppliers in order to help give directives of relationship involvement, with respect to supply risk and profit (Padhi et al., 2012). The model was first developed by Kraljic (1983) as an aid assisting top management dealing with supply management strategies. With efficient internal relations, good systems support, and skilled staff in place the model aims at strengthening the organisation as a whole (Kraljic, 1983). Gelderman and Van Weele (2003) states that by utilizing the matrix differentiation between supplier relations can be achieved, and appropriate strategies for each of them determined.

A regularly occurring interpretation of the matrix consists of four classifications regarding purchasing relationships, as seen in figure 3.5. In case of buyer dominance purchasing power should be exploited, which falls under the leverage classification. This situation may occur

when there are several suppliers offering a similar product or service on the market, and establishing a partnership with one of them may reduce the buyers bargaining power (Jonsson and Mattsson, 2011). If the accessibility on a product or service of less importance to a firm is high, they should be put in the non-critical quadrant. For these focus regarding procurement should be on standardised and effective routines (Jonsson and Mattsson, 2011). Those quadrants where partnerships should be considered are the ones to the right in the matrix, where there is a low amount of suitable suppliers (Padhi et al., 2012).



Figure 3.4 - The Kraljic's Purchasing Portfolio Matrix (Kraljic, 1983)

Often movement of purchasing relationships within the matrix is desirable. Firms might want to reduce the supply risk involved by moving left in the matrix. By simplifying the product or service, movement from the bottleneck quadrant to the non-critical is possible (Gelderman and Van Weele, 2003). Another way to move left in the matrix is by reducing the dependency on a certain supplier, that way risk can be reduced and leverage strategies adopted rather than strategic ones. Movement can also occur as a consequence of changing business structures. New markets or business strategies can affect a firm's dependency on a certain service or product (Jacobs, 1974). With greater risk linked to a certain product or service movement to the right in the matrix might occur. Gelderman and Van Weele (2003) emphasise that since each situation is unique there is no blueprint regarding the application of the purchasing portfolio analysis.

3.2.3 Procurement process

Most organisations spend more time with their suppliers than they do with their own staff, and many of the services critical to their end customers are outsourced (Booth et al., 2010). Therefore, managing third party spend and relationships should be seen as key business levers and decisive factors in a company's success. In recent years there have been a so called consolidation of the logistics market, where many mergers and acquisitions has resulted in a few so called mega-carriers with worldwide reach and a wide range of services in their offer.

This phenomena leads to better resource utilisation of transportation vehicles (Jonsson and Mattsson, 2011). Andersson et al. (2002) suggest that purchasing situations involving logistics services are moving towards deep strategic alliances with few providers.

Andersson et al. (2002) presents a framework for purchasing of logistics services, seen in figure 3.5. This framework describes ingoing steps in a procurement process. With the process of purchasing identified by many authors (e.g. (Sink and Langley, 1997, Menon et al., 1998, Lambert and Stock, 1993)) to contain similar basic phases such as identifying requirements, negotiation and selection of provider, and monitoring of provider performance, such a framework is deemed fitting in most situations involving procurement of logistics services.



Figure 3.5 - Framework describing ingoing steps in the procurement process, where RfI means request for information and RfP request for proposal (Andersson et al., 2002)

3.3 Communication and Information sharing

The effects of information sharing and the conditions needed to achieve these are important to identify, in order to understand the effect information sharing has on companies' businesses.

3.3.1 The Importance of good communication

According to Grabara et al. (2014), managing transports is one of the most important logistics functions, and costs associated with transports often cover more than a quarter of a firm's overall logistics costs. Frohlich and Westbrook (2001) argues that the only way to achieve well coordinated transportation is through well integrated information sharing between all actors in the supply chain network. Further, Prajogo and Olhager (2012) states that the correlation between integration and performance is positive, where the potential benefits include cost reductions, risk reductions, improved service levels and distribution, amongst others.

Communication and information sharing play vital roles in the collaborative effectiveness between clients and 3PLs. Firms outsource their transportation needs in order to improve the activity outsourced in some way, through the use of suppliers specialised in the area (Aggarwal, 2006). Choice of transportation depends on the demand of the client, factors such as the physical parameters of the load, demands on traceability, and urgency of the shipment often play vital parts in the decision (Grabara et al., 2014). But without sufficient information, such as shipment weights and volumes, dates of dispatches and receipts, addresses of senders and recipients, 3PLs cannot meet the requirements of the client (Grabara et al., 2014). In order to effectively organise a firm's transportation needs, 3PLs require comprehensive, up to date, information. Through standardised ways of collecting and sharing information, visibility between companies can be improved and communication made more efficient (Liu et al., 2015). In the case of many involved actors, Liu et al. (2015) argue that standardisation can help

by reducing the amount of conflicts and misunderstandings, increasing integration possibilities. A challenging aspect of standardisation is to still maintain some degree of flexibility, with specific operational requirements existing (Manrodt and Vitasek, 2004). Standardised processes does not always benefit everyone involved since every unit tend to operate according to their best interests. Therefore a common goal between the provider and user needs to exist, which can only be identified through well defined expectations from both parties (Trunick, 2001). According to Kerr (2005) knowledge sharing is so pivotal to success that it should begin well before a 3PL contract is signed.

3.3.2 Trust or formality

A frequently occurring dilemma with outsourcing is the fact that it results in a loss of control for the 3PL clients. Therefore, they tend to become controlling, often turning to contracts or other formal solutions specifying the provider's obligations (Gadde and Hulthén, 2009). With altering demands and capabilities, as well as developments in technology, changing the conditions over time, makes the process of formulating all possible risks in a contract a difficult task. Instead the 3PL client should focus on the potential benefits with outsourcing since it is a way for firms to gain access to resources, skills and personnel outside of their organisations (Gadde and Hulthén, 2009).

If the providers are held back by formal obligations it might prevent them from utilising their assets optimally, diminishing the point of outsourcing in the first place (Hawkins, 2006). Information sharing between the actors is necessary to enable improvements to their organisations. Through good connections, with well established information flows, a better understanding of the industry and competitors can be gained (Mu et al., 2008). Instead of focusing on what could go wrong, Deepen et al. (2008) points out that strengthening the relationships with the providers should be the main focus when outsourcing. Further, Cai et al. (2013) suggests that the key aspect behind user-provider relationships lie in the knowledge sharing between the two and that maintaining this is a balancing act between trust and power.

3.3.3 The Role of Information Technology

Information technology enables sharing of information between actors in a supply chain network efficiently. According to Prajogo and Olhager (2012) benefits such as lead time reductions and more frequent deliveries can be achieved through integration of IT-systems. Although better IT capabilities improves the conditions for information sharing between actors in a supply chain network, it does not guarantee it. Fawcett et al. (2007) states that there are two sides to a successful supply chain information integration, the technical and the social side. Firms need the technology enabling collection and sorting of data, but they also need to embrace the social side which involves good communication and trust. In their studies Prajogo and Olhager (2012) found that the correlation between IT and information sharing was low and that without managing both the social and technical aspects, integration between firms will not reap the expected benefits. With the technical aspects usually being easier to acquire and measure firms tend to focus on these, while the social aspects are where firms usually struggle (Arshinder et al., 2008).

3.4 Risk & Uncertainties

Global logistics solutions today have several barriers to overcome where parameters such as time and cost plays important roles in measuring the level of success within the supply chain. There are numerous studies that attempt to clarify guidelines or tools that can be used to determine the impact risk and uncertainty has on the business in a time of change (Manuj and Mentzer, 2008, Jüttner, 2005, Sanchez-Rodrigues et al., 2010a, Wu, 2012). A firm restructuring a global organisation into a centralised system will need to establish the possible barriers that can interfere with the process and have a negative impact on the outcome. In this section the most important causes of uncertainty that affect the transport operations and the possible methods that can be used to reduce the level of risk and uncertainty will be presented.

3.4.1 Defining Risk & Uncertainty

There is a difference between risk and uncertainty as one can be seen as a cause of the other. According to Waters et al. (2007), risk is caused from the uncertainty of an outcome of a future event. A definition for risk, which will be used in this study, can be summarised as “the expected outcome of an uncertain event, i.e. uncertain events lead to the existence of risk” (Manuj and Mentzer, 2008). More formally, risk can be defined by the formula:

$$Risk = P(event) * BI$$

Here P is the probability of the event and BI is the business impact or severity of the event (Norrman and Jansson, 2004).

Sanchez-Rodrigues et al. (2010a) describe the concept of uncertainty as "Uncertainty increases the risk within supply chains, and risk is a consequence of the external and internal uncertainties that affect a supply chain". Unlike risk, uncertainty cannot be calculated and is genuinely unknown, thus more reason to be aware and prepared for the consequences if such an event would occur. Relating to a logistical network there will be an extensive amount of uncertain events that will create a high level of risk. This study focuses the process of implementing a global contract for outsourced transportation solutions, which includes coordination between several parties. The level of complexity will increase as there are more parties involved which increases the number of events with risk (Crainic et al., 2013).

3.4.2 Taking Risks during Uncertain Events

Risk has its roots in probability and the function of outcome can therefore be calculated. Asbjørnslett (2009) mentions a quote to exemplify the relation between risk and reward where one needs to take risk in order to achieve reward: "If you don't take risk, you will not drink champagne". The quote highlights the degree of risk where a firm will need to enter a period of uncertainty. This unsure period enables strategic decision making, which potentially will benefit the firm in the long term. Growing into a more centralised structure by implementing a global contract is an uncertain event as the outcome cannot be predicted beforehand. A strategic decision of this scale will put the firm in a vulnerable state as the decisions made when proceeding with the implementation are tied with a high level of risk (Asbjørnslett, 2009).

Once a firm has entered a vulnerable state, it can be useful to create categories of methods and techniques that can be used as measuring tools to predict the effect of an outcome when decisions are made. Once the probability of an outcome is measured it will be possible to create an action plan to reduce the uncertainty. Wu (2012) conducted a study with the purpose to establish a systematic response system for third-party logistics to maximise efficiency due to short shipment notice time and uncertainties. The main categories to measure efficiency was found in the level of flexibility, agility, and reliability within each function of the logistics network (Wu, 2012). Flexibility measures the amount of change that can be managed regarding both product and delivery flexibility. This encompass changes in product size, weight or formation which can cause disruption for the chosen transport service as well as managing changing delivery times in a cost effective manner. Agility measures how fast goods can be moved to meet customer requests and the time of responsiveness to meet special requests from the customer. Lastly reliability measures to what extent a delivery is met under uncertain conditions (Wu, 2012). These three categories are qualities that a firm can encompass to be more tolerant to unexpected outcomes that can incur times of uncertainty.

3.4.3 Uncertainty in a Logistic Network

Sanchez-Rodrigues et al. (2010a) introduces the logistics triad consisting of the shipper, the customer and the provider who all have a large impact on the cause of uncertainty. Uncertainty can be identified within each end of the logistics triad, thus a logistics network with multiple parties can lead to higher exposure to risk (Christopher and Lee, 2004). The shipper is a cause of any uncertainty that originates within the delivery process which can be a cause of vehicle failure or any disturbance directly related to the transportation of the goods (Sanchez-Rodrigues et al., 2010b). The customer is responsible for the uncertainty related to forecasting of products and delivery restrictions that can restrict flexibility within the chain. Lastly the provider is the cause of any uncertainty that impacts transport performance as they are responsible for the precision and timing of the delivery (Sanchez-Rodrigues et al., 2010b). Additional exogenous factors such as politics, nature or social factors can also disrupt the system (Jüttner, 2005). The exogenous factors are more difficult to predict than the uncertainties within the logistics triad as they come without any warning and are therefore unpredictable. The importance of a good working relationship between the shipper, customer and provider will prevent unnecessary disturbance to the system (Christopher and Lee, 2004). Each disturbance and uncertainty within the logistics chain will impact the outcome of events. Appropriate methods need to be developed between the parties in order to manage the unexpected events that affects the new outcome from the initially predicted result.

Three common causes of uncertainties that can be identified within a relationship between 3PLs and their clients include delays, disruptions and control systems (Chopra and Sodhi, 2004). Delays are caused by numerous factors both external and internally. Some can be controlled if predicted accurately while others are a part of the exogenous factors which can be difficult to forecast. Delays cause disruptions within the logistics chain which can create both short and long term effects, causing transport reliability to fail (Chopra and Sodhi, 2004). These

disruptions can include road network congestion, supply disruptions, and operational problems in unloading and loading (Sanchez-Rodrigues et al., 2010a).

The challenge for transport planners is to foresee the disruptions in order to find alternative solutions in time so it will not affect the efficiency of the operations (Sanchez-Rodrigues et al., 2010a). Having a successful transportation network is vital to have a broad perspective and recognise that a single firm cannot operate alone but is bound together by the services provided by other units. Disruptions can be avoided if the decision makers in the network is well informed and aware of the objectives and is able to accurately predict the impact of the possible control actions (van der Vorst and Beulens, 2002).

Good control systems is a way of avoiding unnecessary events of risk as it is a method of controlling the transports and the predicted future outcomes. The key objective is to reduce cost through increased control. The more variation in the input parameters, the less effective the control model becomes (Christopher and Holweg, 2011). Stochastic programming has become increasingly popular within supply chain management as a method to reduce the uncertainty (Wu, 2012). Algorithms are used to predict uncertainty in cases with several parameters that affects the logistical network. This can include traffic information for several countries, predicting future demand for several products (Wu, 2012). Goh et al. (2007) developed a stochastic model that incorporates global supply chain network problems including a level of risk such as supply, demand, exchange, and disruption. Stochastic programming enables an effective flow of information that reduce the uncertainty in an expected risk as it can calculate an exact value of the possible outcome. This allows for appropriate measures to be taken if the unexpected outcome happens.

3.4.4 Vulnerability and Risk in a Complex System

According to Perrow et al. (1999), a systems interacts either in a linear or complex manner. Here linear implies to a system that "interacts in an expected sequence" where a complex system "interacts in an unexpected sequence" which is considered as a more vulnerable state (Asbjørnslett, 2009). It is important to have both a linear and complex system as the complex system will explore the possibilities of making the system more efficient. This will improve the development of the system where one will try and find ways to turn the complex system into a linear while maintaining the level of effectiveness Asbjørnslett (2009).

To analyse risk, there are three main questions that need to be considered according to Kaplan (1997):

1. What can go wrong?
2. How likely is it to happen?
3. What are the consequences?

Even with answers to these questions, the problem of risk and uncertainty will not be solved. Peck (2006) mentions the concept of resilience as a complement to risk and vulnerability. It implies that not all hazards or threats can be managed, instead a company should focus on the process of returning to a stable state.

Figure 3.6 illustrates how the company experience a sudden disruption and later reaches a new stable situation (Asbjørnslett, 2009). The disruption time is what needs to be optimised, which reflects how well the company can handle the situation. The saying "We can't manage what we can't measure" correlates with the concept of resilience as the efficiency of a company before and after a disturbance can only be compared if it is measured (Gaudenzi, 2009). Project success is only maximised when the project performance is measured systematically (Gaudenzi, 2009).

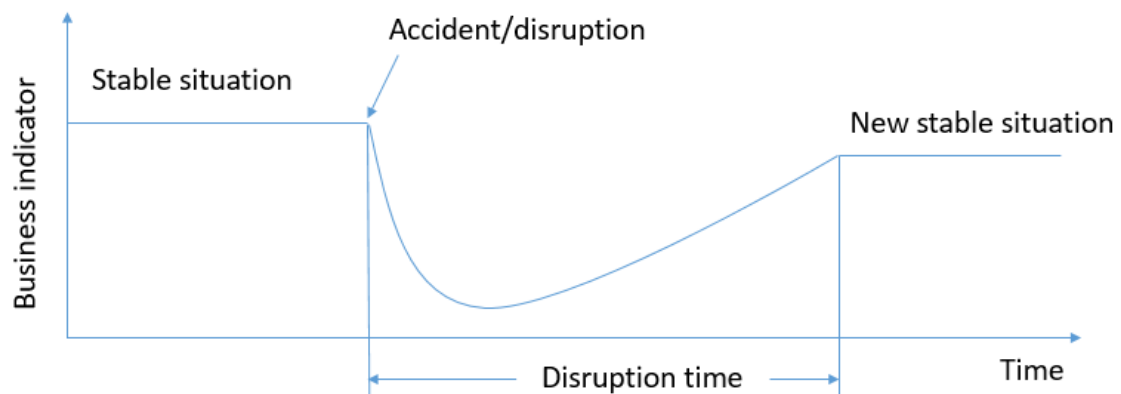


Figure 3.6 - Business measurement during times of disruption (Asbjørnslett, 2009)

3.5 Sustainable Development within the transport sector

A classic definition of sustainable development made in the Bruntland report by WCED (1987) is: "meeting the needs of present without compromising the ability of future generations to meet their needs". Sustainable development is often divided into three aspects; environmental, economic, and social (Giddings et al., 2002). These aspects, seen in figure 3.7, are necessary to take into consideration when making decisions within a company or organisation.

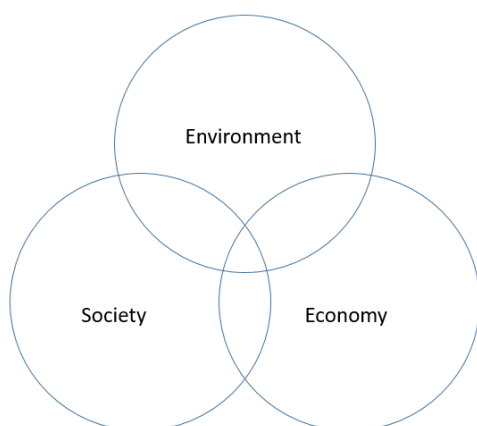


Figure 3.7 - The three aspects of sustainable development according to (Giddings et al., 2002)

The following section will therefore cover the environmental aspect, and include sections about the social and economic aspect of sustainability.

3.5.1 Environmental aspect

The emissions from the transport sector stands for about 25 percent of the world's emissions and is increasing in the fastest rate compared to all other sectors (IEA, 2009). It is therefore quite obvious that every transportation system plays a major role in the sustainability of the planet (Richardson, 2005). A majority of the large global 3PLs have, according to Lieb and Lieb (2010), made important commitments to environmental sustainability in recent times. This as a direct consequence of the growing awareness from customers as well as a general consideration for the planet.

One way to work with questions regarding environmental sustainability is through corporate social responsibility, CSR (Hohnen and Potts, 2007). CSR emerged as a reaction to the critic given to companies about only focusing on economic performance and short-term profitability (Björklund and Forslund, 2013). The most used definition about CSR follows as “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis” (Communities, 2001). Porter and Van der Linde (1995) claims that the cost of adaption to environmental regulations can be minimised or even eliminated through innovation generating other competitive advantages. The quest for constant improvements result in new technologies giving value-adding features to existing products in point of social and environmental causes. This also makes the businesses better prepared to follow when radical market changes occur, as stakeholders are set to discover new trends quickly (Hohnen and Potts, 2007).

Many 3PLs have formal sustainability programs that are established together with other organisations, often government agencies (Lieb and Lieb, 2010). This is because regulations have been sharpened and companies naturally want to be ahead of the future regulations. Customers of 3PLs often raise questions regarding how the 3PL can help the customer reach their goals with regard to sustainability (Lieb and Lieb, 2010). This implies that choosing 3PL with a clear way of working with sustainability is not only a good thing for sales and profit, it can also help reach and develop sustainability goals.

3.5.2 Social and economic aspect

CSR is also an important part of the social and economic aspect of sustainability since it covers the responsibilities corporations has towards the society (Uddin et al., 2008). CSR from the economic aspect should acknowledge what direct and indirect consequences a company's decision causes (Uddin et al., 2008). An example of this is investments in the development and well-being of the company's employees, if the employees get a good income they will purchase goods and services and also pay more taxes. Therefore, both the society and the company can gain a lot on these types of investments (Uddin et al., 2008). By working with CSR from an internal perspective, a company can achieve increased employees' loyalty and motivation, which leads to a more productive environment (Piecyk and Björklund, 2015).

The social aspect is a lot more about responsibility towards customers, suppliers, employees and the community (Uddin et al., 2008). As customers' awareness is rising, it increases their wish for positive associations regarding sustainable development with the products they buy (Hohnen and Potts, 2007). This is true for both end customers and business-to-business customers. One way to treat customers with respect is to provide good value for money and to treat the community with respect, by getting involved in community causes such as recruiting socially excluded people or supporting communities (Uddin et al., 2008).

3.5.3 Combining sustainability with profit

By working with feedback from a company's different stakeholders from a sustainability point of view a lot of new ideas and products can be achieved (Hohnen and Potts, 2007). This can lead to advantages against competitors which can generate higher profits.

According to Konar and Cohen (2001), it is not possible to connect a company's environmental performance to the market value of the company over a longer period of time. A connection is only possible to combine bad environmental incidents with lower market value (Konar and Cohen, 2001). Konar and Cohen (2001) claim that it is not yet fully understood if highly reputable companies are environmentally friendly because they can afford it or if they are highly reputable since they are environmentally friendly. But a company focusing on reducing pollution and improving the environment might see an increase in sales and customers' loyalty according to Ambec and Lanoie (2008). This signifies that a company might experience a loss in market value if associated with bad environmental behaviour, whether it is as a fault of their own behaviour or a supplier's.

Some companies, such as IBM and Body Shop, have strict evaluation systems and score boards for their supplier's green performance and that might be the case with other companies as well (Ambec and Lanoie, 2008). To reach new customers, it is sometimes important to have a good green performance and clear goals on how to work with sustainability. Preston (2001) asserts that customers become increasingly aware of global environmental conditions and therefore it could be beneficial to collaborate with suppliers that are transparent in the way they work towards sustainability.

Questions to ask when choosing a supplier could be if the supplier has an environmental management system and if the supplier can offer environmentally friendly products and services (Blinge and Svensson, 2005). Requirements regarding sustainability will lead to a more sustainable society and products with an elaborate sustainable profile (Blinge and Svensson, 2005). There have been a lot of research made on supplier selection (e.g. (Ware et al., 2014, Xia and Wu, 2005, Ng, 2008)) but not a lot of studies regarding sustainability in supplier selection (Molamohamadi et al., 2013). It might therefore be hard to determine how much a company gain because of their supplier's environmental performance.

4. Case study of Elanders

In this section the conducted case study involving Elanders is presented. This case study was performed in order to exemplify the process of outsourcing the transportation needs of a firm. Helping Elanders with the process of analysing, and potentially reorganising their transportation agreements, gives an insight to potential factors and challenges that needs to be considered.

The chapter starts with a background presenting Elanders' current situation and the struggles they experience when organising their transportations. Further detailed information about the procurement process and Elanders' specific approach is described. Lastly, 3PLs roles in Elanders' global network is brought up together with an insight to the various 3PLs involved in the process. All of these parts provide useful knowledge which along with the theory creates a basis for the analysis and discussion.

4.1 Background

Elanders is a global supplier of solutions within the areas supply-chain, print and packaging and e-commerce. Elanders was founded in Sweden 1908 and have operations in over 15 countries. Starting out as a company offering printing products and solutions, Elanders has grown into mainly being a global supply chain service provider. Throughout the years Elanders has followed their customers' operations through new establishments and acquisitions. As digitalization has rendered many of the printing products and services obsolete, Elanders has in recent years mainly focused on expanding their supply chain businesses. This fact has made distribution a strategically more important part of Elanders. Acquiring new businesses has been Elanders' primary source of growth, and the acquisition of supply chain provider Mentor Media in 2014 increased Elanders' sales from around 2.2 to 3.5 billion SEK.

Today Elanders' offerings range from production of photo products, marketing material, user manuals and packages to taking overall responsibility for complex and global deliveries encompassing procurement, configuration, picking, printing, packaging, distribution, sales services and payment solutions. Elanders' main target is B2B customers, but they also sell photo products to end customers. Elanders has the ISO-certificates ISO9001 and ISO14001, and is also certified through the Nordic Ecolabel. In addition to this they systematically work to reduce their environmental impacts.

Growing through new establishments and acquisitions has resulted in Elanders having subsidiaries all over the world. All of these subsidiaries arrange their own transportation contracts and solutions with no form of communication between them. As a result, prices and available transportation services differ between the subsidiaries resulting in a complex transportation network difficult to obtain an overview of. Further, the subsidiaries do not have a common IT system which makes it even more difficult to get an overview of the logistics system.

Last year Elanders carried out a similar restructuring regarding their domestic transportation structure in Sweden. Since it turned out successfully, Elanders wanted to do a similar implementation on a global level. With the procurement regarding their domestic contracts mainly focusing on cost reductions, Elanders also aim to centralise their communication and logistics management through a global implementation. Thereby the corporate group gets more integrated, according to the SCD. Elanders has taken steps towards centralising their businesses by establishing a new position in the form of a supply chain coordinator encompassing the whole organisation. The coordinator's main responsibility is to integrate all logistics activities occurring within the organisation. However, it is not sure that this procurement might benefit all Elanders' subsidiaries. Elanders express a risk that, for some particular subsidiaries, the procurement might imply in increased logistics cost. Though, the primary aim is to achieve global cost savings and a global overview of the shipments, which will benefit the organisation as a whole.

As a group Elanders strive to achieve global success, the goal is to be a leader in global solutions in supply chain, print and packaging, and e-commerce with a world class integrated offer. In line with this goal of global success, Elanders aim to take steps towards integration in-between their many subsidiaries. Centralising their transportation contract solutions, which is the main focus of this case-study, follows the aim of achieving integration within the group and deals with the problems experienced in the decentralised transportation structure Elanders have today.

4.2 Procurement process

As mentioned, Elanders' subsidiaries have organised and negotiated contracts with third-party suppliers individually in the past. In this section, the procurement process performed when trying to negotiate a centralised transportation contract in Elanders' case is presented. The process involves mapping and analysing Elanders' current situation, identifying potential providers and perform screening between them, requesting proposals and comparing them, as well as negotiating a finalised deal. By performing all these steps a good understanding of the current situation will be achieved, and an idea obtained about alternative solutions and their impacts. The procurement process is based on the framework Andersson et al. (2002) present in their work which is illustrated in figure 4.1.



Figure 4.1 - Procurement process with its different sub activities (Andersson et al., 2002)

Below, each step in the process is defined as well as how it was carried out in Elanders' case.

Step 1. Define the service

The first step towards buying a service is to specify it. In many cases the specific needs of a company has developed over time and are unique for that company. In Elanders case their

transportation service needs have developed along with their restructuring of business, from originally offering print and packaging solutions to now focusing on complete supply chain solutions for their customers. To get an overview of what transportation services Elanders are in need of, the customer offerings were examined across all subsidiaries. Elanders also offer their customers warehousing, packaging, and assemblage amongst other services, but in this case study the focus was put solely on transportation.

Step 2. Understand currently bought volume

The next step is to determine the volume needed. Before looking for a supplier the company needs to have an idea about their actual needs. This can be a hard task with fluctuating demand and services being hard to quantify. In the case study shipment data was requested from all subsidiaries. All subsidiaries had to be contacted separately since they organise their outsourcing of transportation individually. A standardised form requiring the subsidiaries to share information such as dates, costs, arrival and departure destinations, types, and physical parameters of shipments was sent to each of them. The content of the form was constructed in consultation with large 3PLs in order to give them all the information needed to provide accurate contract proposals later on. An extract of the form is illustrated in figure 4.2. It shows all input information that was considered. The comment section was helpful if it existed shipments with missing information. These shipments were only presented as missing to show the 3PL companies that the freight quantities actually were larger.

Comments: This is estimated to be XX % of all shipments						
Ship date	Ship year/month	Ship day	Ship country	Ship city	Ship ZIP	Destination country
Destination city	Destination ZIP	Gross weight	Volumetric weight	Volume	Number of packages	Package type

Figure 4.2 - Information acquired from the subsidiaries

The response rate was fairly good with most of the subsidiaries filling in the form with information about all occurring shipments in 2015. Some only shared partial shipment statistics which had to be roughly estimated to reflect a year of shipments. Varying transportation solutions between the subsidiaries also lead to available shipment data varying greatly, in some cases the 3PLs carrying out the shipments had to be contacted in order to obtain necessary data.

Step 3. Simplify/standardise

In the process of procuring more advanced logistics services the buyer wants to buy a function, developed and optimised by the provider (Andersson et al., 2002). Elanders is looking for a centralised agreement with one or a few suppliers covering their global transportation needs, an extensive solution for the entire transportation needs is therefore pursued. As most 3PLs specialise in one of the three areas pallet shipments by road, pallet shipments by air, or parcel shipments, the shipment statistics obtained was categorised accordingly. By structuring the data this way a better understanding of Elanders' specific needs was obtained and also ensured that 3PLs only received data relevant for their operations of business.

Step 4. Market survey

Through a market survey, knowledge about what potential providers that are available can be obtained. As the logistics services market is moving towards fewer and bigger suppliers there are several potential providers with the ability to offer world-wide transportation services. Since Elanders had been in contact and made business with several 3PLs before, they had an idea of which 3PLs that could meet their needs and could therefore be seen as potential candidates.

Step 5. Request for information, (RfI)

To make sure that providers can fulfil the buyer's needs, information about their offers and available resources had to be requested. By obtaining this information an accurate understanding of the providers' capabilities can be obtained and the non-suitable providers can be excluded. During the procurement process all major 3PLs deemed capable of handling Elanders' transportations were invited to present their service offers. Individual meetings were held with each of the 3PLs where information was exchanged both ways. Elanders presented the ongoing process as well as a rough estimation of their global transportation needs while the 3PLs shared their available services.

Step 6. Request for proposal, (RfP)

After identifying the potential providers, a comparison between them has to take place. By providing the potential candidates with shipment data a request for pricing and available services enables comparison. From the compiled data, consisting of all Elanders' subsidiaries shipments taking place in 2015, the 50 most frequently occurring shipments from each subsidiary were chosen for the 3PLs to give pricing proposals on. Detailed information about these shipments were then sent to each of the 3PLs, with a request for the 3PLs to reply with a general proposal.

Step 7. Negotiations and contracting

The last step before finalising the process is to negotiate the final deal. This is normally an ongoing dynamic process taking place between the buyer and the providers' deemed fit after the comparison of proposals have taken place (Martínez-de-Albéniz and Simchi-Levi, 2013). After Elanders received the pricing proposals from the 3PLs, these were analysed in comparison with each other and existing transportation contracts.

4.2.1 Further process of procurement

Even though contracts with all necessary information are obtained, the procurement is not finished yet. The three sub activities below are topics that will not be considered in the project due to the limited time frames.

Contracts has a possibility to be cheaper and should therefore be renegotiated. As earlier explained, price is a major parameter to consider, but other dimensions should be taken into account when pursuing the iterative process in order to achieve the most beneficial contract. The second instance is to document the procurement process and its information. By doing this,

another procurement can be held in the future, without inventing new templates and models. The information will contribute to the third and last step, process evaluation. It is hard to tell if the procurement process was successful immediately since unexpected costs might occur. Therefore, pricing information is vital to evaluate if the procurement process was successful from an economical perspective.

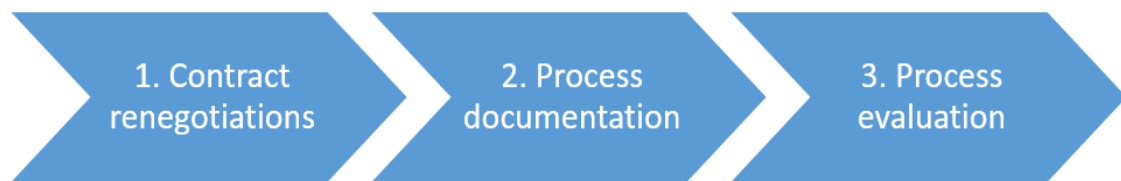


Figure 4.3 - The image illustrates sub activities of further investigations of the procurement work

4.3 Third-party logistics providers' role for Elanders

Elanders' business is dependent on efficient 3PLs who carries the responsibility of delivering the goods to specific customers at a certain time and in good condition. The role of the 3PLs who can provide these services and increase customer value plays a vital role in Elanders supply chain offers. By going through the process of selecting one or a few reliable 3PLs, Elanders aim to gain a better understanding and control of their overall transportations and thereby decrease costs and uncertainties.

The types of logistic solutions required by Elanders includes pallet freight by road and air, and parcel freight. With the amount of knowledge and resources required for each specific solution, there are only a few global 3PLs who can operate efficiently in more than one of these areas. Therefore, Elanders will need to consider choosing multiple 3PLs, different providers for each way of freight, who is dominant in their area and can provide the services required by Elanders. Elanders hopes to develop a strong relationship with the chosen 3PLs over time and would prefer to have a partner that can contribute with enhancements and innovative solutions. Since Elanders' requests will change over time due to expansions and targeting new areas, this would be beneficial. A stable relationship with the chosen 3PLs is prioritised as this will create possibilities of being flexible and open for change. Additionally, an important factor is the distribution of the 3PL's customer service networks. It is prioritised for Elanders to be able to receive customer service in each country they operate in, in the current language. Since Elanders' subsidiaries are responsible for their own transports, getting customer service in the current language when troubles and problems occur regarding the transports would facilitate greatly and is a requirement.

In order for Elanders to gain an understanding of what solutions are available from each 3PL, meetings were conducted with several of the largest global 3PLs. During the initial process of choosing between the transport-providers, Elanders will need to prioritise the services that are essential for them. The meetings will be of high importance for Elanders to map the different provider's logistical networks, their offers and what is the major differences between them. In

the end, costs will still be the focus aspect on choosing a provider, but still the required services need to be satisfied.

Elanders takes lot of environmental awareness. When customers buy services and products of Elanders, they have the opportunity to make them climate neutral through climate compensation. The environmental awareness is internally and towards the customers important for Elanders. Despite this, when purchasing transport services from a 3PL, Elanders is not willing to pay an extra fee or climate compensate the transports in a way which would directly increase the costs. They are, however, willing to see their transport provider have a strict climate program to be able to follow up and get a resume on the environmental effects of the transports, such as carbon footprints.

The interviews held with the 3PLs were more of a presentation meeting nature and therefore unstructured. This gave both parties the opportunity to present their respective situation and organisations, and discuss the possibilities and train of thoughts regarding the upcoming process. Because the interviews were unstructured the information in the sections below, concerning the different 3PLs, will vary a lot. The purpose of the interviews was to show what kind of companies that participated and what kind of services they offer. Information gathered from these interviews can be found in appendix 3.

Before finalising the procurement process and signing a contract more detailed information, regarding 3PLs of interest, needs to be acquired. Unfortunately this step in the process lies outside of this study's time frame and is therefore not included.

5. Case Analysis

In this section the empirical data obtained from the case involving Elanders will be analysed using the theory presented in the theoretical framework in chapter 3. The case will be deeper investigated in order to identify key areas, important to consider when implementing a global solution regarding transportation services. To do so, the research questions will be examined within the areas relationships, communication, risks and uncertainties, as well as sustainability.

5.1 Relationships

The following section will consist of an analysis of the relationships between Elanders and 3PLs, and how these affect Elanders and their subsidiaries. This section will also analyse how relationships adjust when transitioning from a decentralised to a centralised structure.

5.1.1 Initiating a relationship

According to Elanders' SCD, their needs regarding the transportation network is to obtain a clear overview and to build a long term relationship where they can achieve cost benefits for their large shipment volumes.

Elanders operates in 15 countries where each subsidiary controls their own transport services and handle the relationships towards their respective 3PLs. The subsidiaries have different business areas and therefore the types of shipments, parcels, pallets by air, and pallets by road, differ a lot. For instance, Elanders printing plant in Hungary mainly has pallets by road as shipment type, while Mentor Media in Czechia mainly has parcels as shipment type. This implies that the needs of each subsidiary differs. This has led to each subsidiary focusing on building relationships towards the 3PLs that benefits their individual operations the most. However, since the different transportation categories, are consistent through the whole organisation, Elanders is given the opportunity to implement a global contract for each of the shipment types.

A relationship model Elanders would benefit from follows a business-to-business formality. This implies that the outcome of the relationship varies depending on the need from each party. In that case, Elanders has to make the final decision about a relationship transitioning. However, each party has to adapt in order to make an implementation of a global contract possible. Elanders requires a relationship that is long term which can develop over time since it is a time and cost consuming process to restructure a global network of this scale. Elanders would take advantage from an integrative relationship as each party can benefit from adapting to each other's needs in order to maximise value. Such a relationship, close to the partnership model, explained by Langfield-Smith and Greenwood (1998), was used by Toyota to involve their providers in their business. This kind of relationship was expressed by all sales representatives, who participated in the interviews from the 3PLs, to be interesting having with Elanders. The implementation of a new relationship structure will imply costs and risks, both during the transition and when the new structure is implemented since the future outcome is unknown.

5.1.2 Risks and costs regarding different types of relationships

Establishing new relationships with 3PLs carries a high level of risk for Elanders as it is costly and the benefits from a new solution is difficult to foresee at an initial stage. High costs can be a direct consequence of high relationship involvement as expressed in the study by Gadde and Snehota (2000). Therefore, the relation between involvement and business output has to be balanced in order to optimise their return on investment. Establishing a close relationship often results in high initial costs, but the advantage of having a reliable partner can be advantageously to have when the need for it arise.

With Elanders' global expansion in mind, it aspires the ability to be adaptable. With the current decentralised solution regarding 3PLs, communication and cooperation between the subsidiaries has proven to be difficult. Therefore, well-established relationships with one or multiple 3PLs, having flexible and adaptable operations is to be achieved according to Elanders SCD. A flexible partner can help bring clarity to the organisational purchasing process regarding transportations, with a common solution between all parties as the desired solution, as Qureshi et al. (2008) suggests.

During the transitioning phase, there is a risk that some subsidiaries refuse to shift from their current 3PLs, since their transportation costs will increase. With reliable internal relationships and trust between each of the subsidiaries, the risk of this happening decreases. In Elanders' case, where several of their subsidiaries are operating fully individually, this is a problem. Elanders does not have a robust integration throughout the entire organisation and therefore, the problem can occur. When the new structure is implemented, there is a risk that each subsidiary does not obtain the smooth and trustworthy relationship to the new 3PL(s) desired. The subsidiaries might not achieve the service needed in hard and urgent situation, which will directly affect their performance. Both these concerns will most likely lead to conflicts within the organisation.

Looking at the portfolio matrix illustrated in figure 5.1, with Elanders' case in mind, transportation services fit in the leverage quadrant. The reason for this is that transportation being a factor that has major impact on the profit. Also, with agreements between Elanders subsidiaries and several different 3PLs in place, each relationship separately is not associated with any particular risk. It exists various potential providers and currently Elanders' relationships towards 3PLs are of low-involvement nature. With the swapping costs and available options in mind, it should not cause any vital impact on Elanders' business in the event of 3PL agreement break up.

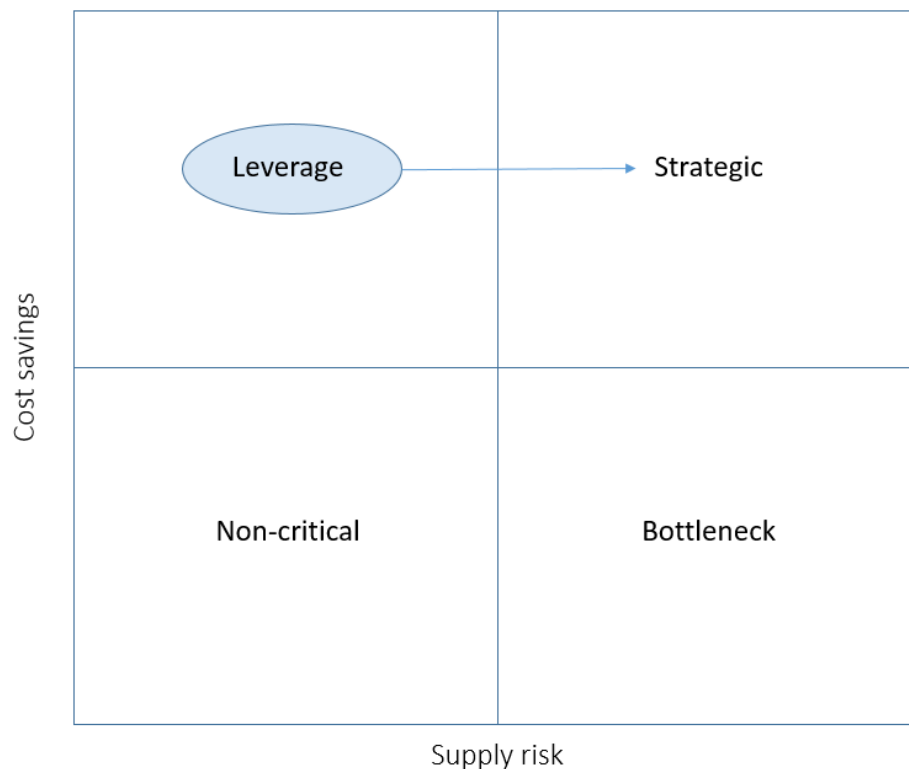


Figure 5.1 - Elanders need of transport activities adapting as their business changes, illustrated with the Kraljic's Portfolio Matrix

If Elanders chooses to proceed with the process of implementing a global transportation solution, each relationship towards their 3PL(s) will be linked to higher risk according to figure 5.1. Utilising solutions from only a few 3PLs enables integration within the group to a higher extent, but also increases the dependency on their providers. There are fewer 3PLs that can provide a global solution which reduces the amount of alternatives in case of disruptions. The cost of switching provider is also higher with a global solution in place, as it becomes a very extensive process. In order to reduce uncertainties within the supply chain a higher degree of internal involvement with the subsidiaries, as well as external involvement with the 3PLs is necessary. As the relationship between Elanders and the 3PLs develops, it will be easier to negotiate contracts regarding services and special requirements. On the other hand, the strategic choice implies a greater change which involves more risk and uncertainty. Even if a good working relationship between Elanders and its 3PLs is established, there is no guarantee that the more centralised structure is beneficial.

A risk regarding centralising the logistical contracts is that the implementing unit has limited experience about the challenges for each subsidiary. Due to lack of experience about local the challenges, the implementation can go wrong from the very beginning. Since implementing new strategies at a global level might not be applicable for every business, each case has to be investigated individual and carefully. The impact on the economic situation and the consequences of the desired depth of the new relationships should be thoughtfully considered for a successful transition.

5.1.3 Depth of relationship

When entering a partnership, relationship dimensions has to be considered (Fawcett et al., 2007). The SCD of Elanders especially emphasise the time perspective as an important dimension. The reshaping of the relationship structure will be time and resource consuming. Therefore, one of the motivations for a transitioning is to avoid repeating costly processes through focusing on building long term relationships.

When investing relationship depth, it is important to understand that potential benefits and be aware of the challenges that might occur. When the involved parties are unfamiliar with each other's processes, there is a possibility that unknown conflicts arise. This could be avoided by sharing information between the subsidiaries at an initial phase. In this type of situation, Hofenk et al. (2011) point to the fact that implementing formal agreements through contracts can prevent conflicts that occur due to misunderstandings or previous history, and also provide a guideline to the agreed procedure of dealing with the conflicts. Thus, both Elanders and the 3PLs would benefit from improvements in terms of cost reduction, increased knowledge and better overall performance. This would be what Halldórsson and Skjøtt-Larsen (2004) would call a joint-learning where both the contractual and relational factors will influence the resulting performance.

According to Elanders' SCD, Elanders demand high involvement in their processes. Poppo and Zenger (2002) also states that, to have the business relationship smoothly running, high involvement of trust has to be mutual from both parties. As Elanders is in a phase of restructuring their organisation, moving towards primarily becoming a supply chain company, they see a great opportunity to establish a long term relationship for future business opportunities. An integration of the suppliers could imply a contribution to the development of the organisation as whole. The SCD of Elanders states this clearly when expressing the idea of bringing new innovative ideas to Elanders business. If Elanders choose to focus on structuring their organisational buying centre by defining and standardising the purchasing process, the possibilities to establish long term relationships can be enhanced. Additionally, the centralisation will contribute to a better overview of the organisation, the activities, and operations. This is demanded by the 3PLs if a partnership model is established (Langfield-Smith and Greenwood, 1998).

5.1.4 Relationship impacts when moving towards a centralised structure

The structure of the transportation network at Elanders is to be considered as decentralised. This structure brings difficulties in obtaining a clear overview of how the transport network is designed and organised. This was confirmed in the data collection stage of the procurement process. The data collection, which should have been smooth and easy-going activity, was now a struggling one where the different sites encountered problems when compiling their shipments for the previous year. The collection required more resources than expected and the received data was not standardised, even though the template was. This implied the process of analysing Elanders current transportation situation more challenging. A reason for this are the varying types of relationships that exist between the subsidiaries and their 3PLs. Some of them

are arm-length relationships, where cost is the driving factor, and some are to be considered as partnership relationships where high involvement and collaboration is significant (Langfield-Smith and Greenwood, 1998).

Lau et al. (1999) mention the purchasing process can be clarified through formal structuring and role allocations. Thus a centralised solution, where standardisation and integration is made possible between subsidiaries, could help enhance the purchasing process on a global scale at Elanders. Assembling information from all subsidiaries through standardised and integrated processes, it became easier to understand the overall situation and structure of Elanders' transportations. To achieve such a centralised solution, Elanders look to establish a comprehensive agreement with one or a few 3PLs. The 3PLs that have been taken into consideration are large scale companies, operating worldwide. Elanders is transitioning from printing to supply chain solutions which requires an extensive global network for future development. Manuj and Mentzer (2008) emphasise the importance of having a global supply chain with interconnected relationships as this is a source of competitive advantage which is something that Elanders is striving for.

After analysing the received proposals from the different 3PLs along with information received during the meetings, it was clear that the different 3PLs have their specific areas of expertise. These are freight of parcels, pallets by road and pallets by air, the same areas as the transportation data was divided into. This implies that the specific 3PLs has well-developed logistical network within certain areas, meaning that they can offer the best existing service when it comes to their specific area of expertise, relative to the other 3PLs. Additionally, the empirical evidence shows that the 3PL that is the leading company within an area of expertise, also provides the most competitive price offers, which Elanders concerns as a major factor.

The two above observations, area of expertise and best price offer, are two solid arguments that motivates a transition to establish one 3PL for each area of expertise. This will be beneficial due to the scattered risk and taking advantage of 3PLs different core expertise. Thus, a transition to a centralised solution will in this case consider global contracts, with the 3PLs that is considered to have an expertise in a specific area. The purpose of this would be to build long term, partnerships with a few chosen 3PLs, and taking advantage of their offers.

Each of Elanders' subsidiaries might be in direct contact with the 3PL whenever there is an issue or a sudden change of underlying factors. This requires the 3PL to have the resources to deal with a sudden change of events. Thereby, the chosen providers have to be present in all of the countries where the subsidiaries are placed, with contact persons available at all times of the day when issues arise. This service can be crucial essential as each country is responsible for their own shipments. It implies that the 3PL relationships at the different sites will most likely adapt into a partnership design. The exchange of information and coordination of activities in this relationship is going to be a constantly ongoing process through close communication.

5.2 Communication

Elanders wants to achieve reduced complexity and variations in their transportation solutions through implementing a centralised outsourcing arrangement. To achieve a successful cooperation within the organisation efficient communication has determined to be vital. In the paragraphs below the information flow and its effect on Elanders and the planned restructuring is discussed. Here, communication is examined and evaluated regarding the potential effects it has on the process of implementing a global contract. First, Elanders current situation regarding communication is analysed, along with the underlying cause and implications. Further, its aim for a centralised solution is presented, together with potential benefits and disadvantages. Lastly, the potential transition phase is analysed with regards to all actors involved in the process.

5.2.1 Elanders' global network

Elanders' current situation with low involvement relationships towards a high number of 3PLs impacts their communication and information sharing. This decentralised structure affects both the internal communication within the corporate group, as well as the external communication towards 3PLs. With each subsidiary governing their own operations, development of specific approaches regarding communication has emerged. Amongst the subsidiaries, the result is variations in utilised services, communication approaches, and operational objectives.

Similar to many cases where firms' main source of growth has been acquisitions, Elanders has not focused on integrating their new acquisitions fully into the rest of the organisation. Potential benefits are often hard to determine. With a lack of incentives amongst the subsidiaries to work towards a common solution, a rather isolated view regarding their activities is probably achieved as Gadde and Snehota (2000) states.

As the number of countries Elanders operate in continues to increase, their global network continues to expand. As mentioned in the study by Gadde and Hulthén (2009) new acquisitions and establishments add higher complexity to the network of transports in the form of additional customer requirements, new shipping locations, specialised transportation services and methods, as well as additional coordination. Continuing with the decentralised solution present today, with all subsidiaries arranging their own transportation agreements with 3PLs of their choosing, adds to the already existing complex network of transportations.

It is Elanders' responsibility to ensure that information is available and communication possible, in order to enable coordination and cooperation between their subsidiaries towards the 3PLs. According to the SCD at Elanders, this current decentralised structure between the subsidiaries leads to an extensive amount of resources and time being put into planning and coordinating all occurring transports. The variations regarding transportation contracts and agreements within the organisation leads to transportations handled by several different 3PLs needing coordination in-between them. And the low involvement between subsidiaries further complicates this coordination process.

Elanders' SCD emphasised the conflict of not having regular contact with the subsidiaries and thus not being actively involved in their business. During the process of mapping Elanders' current situation regarding transportations, it became evident how the decentralised structure existing today affects their internal communication in a negative manner. Comprehensive information about the global situation could not be obtained as the lack of a common approach towards communication and information sharing was not found within the corporate group.

The widespread negative impact resulting from Elanders lack of integrated communication is the problem to coordinate transportations, which is in line with Frohlich and Westbrook (2001) argument that without integration between all actors in place coordination becomes challenging.

5.2.2 Implications of communication with a more centralised solution

As mentioned before, Elanders aim to achieve a more integrated organisation through centralising their transportation agreements with 3PLs. By utilising fewer providers over their transportation network Elanders hope that better communication and coordination will result in improved operational performance. Also, with one or a few assigned 3PLs handling all transports, Elanders aims to achieve lower overall costs through economies of scale.

With fewer actors involved, variations in communication processes can be reduced as it becomes easier to achieve a common approach. A common set of 3PLs amongst the subsidiaries brings with it less variety of methods and processes regarding information sharing and collection. The lower level of complexity improves visibility between the actors, facilitating communication in the network according to Liu et al. (2015). A lowered number of 3PLs involved in organising Elanders' transports also allows for more time and resources to be put into the relationships towards them. And through deeper commitments with fewer providers, common activities and processes can advantageously be standardised, further aiding integration between all involved parties.

It is important that both social and technical aspects of communication are considered in a future relationship. With fewer intermediaries involved in the purchasing process the number of technical solutions dealing with information is reduced, making the process of linking them together more simple. The social aspects is more difficult to implement according to Arshinder et al. (2008), this requires for an existence of trust to be present between the subsidiaries. As the subsidiaries has been operating isolated from each other, it can take time to get each site to adjust and collaborate.

The SCD at Elanders express challenges regarding that each subsidiary is responsible for their own yearly costs and operational efficiency. Therefore, a transitioning to a situation only beneficial for the overall organisation and not for each individual subsidiary might be hard to accomplish since Elanders plan on keeping its current cost nature. Even if variations in processes often result in redundancy, there is an underlying reason why things are performed differently in the subsidiaries.

Moving towards a more centralised solution can open up for better communication and a clearer structure in the network of transports. By reducing variations in how information sharing and collection is performed amongst the subsidiaries, Elanders desire of a more integrated organisation that can become reality. Still, if Elanders are to benefit from the advantages a more centralised solution enables good communication between all involved actors is necessary, demanding relationships with higher involvement.

5.2.3 Impact of communication and information sharing during the transition phase

In order to successfully move towards a more centralised solution communication needs to take place on all levels. When assigning transportation to be carried out by 3PLs, the 3PLs become indirect value-creators to the customers. With little direct communication taking place between Elanders' customers and the 3PLs carrying out the transport services it is important that information is easily accessible, if transports are to flow as efficiently as possible. Kerr (2005) emphasises that communication is pivotal to success and needs to take place well before any agreement is reached.

A problem Elanders experience is the lack of communication taking place within the group. With their subsidiaries operating in isolation, Elanders SCD claims that information sharing and communication between them is lacking. If a successful transitioning towards a more centralised structure is to take place, a clear understanding of Elanders' current situation needs to be assessed. The different subsidiaries brings with them specific needs in the form of different customers, locations, and agreements. If these are not known the procurement process becomes complicated as Elanders complete requirements cannot be communicated towards the 3PLs. Without sufficient information about Elanders' requirements it will be difficult for the 3PLs to effectively organise the transportation needs. If a firm is uncertain about their overall needs, Grabara et al. (2014) states that it becomes very difficult to establish a well-functioning agreement towards a provider, flexible enough to facilitate integration between subsidiaries.

Cahill (2007) states that collaboration help build strategic solutions if involved parties work towards common goals in order to develop together. It is management's responsibility to provide incentives and make sure that everyone works towards a common goal. A common objective, as well as uncertainties regarding the subsidiaries individual benefits, has to be communicated clearly across the organisation. If the relational exchange is to be successful there needs to be a balance between trust and formal obligations. Even if contract solutions can help communicate an agreement between involved parties, they can also, if too extensive, prevent the provider from utilising their assets optimally. Trust towards the 3PLs is essential to reach necessary flexibility in order to facilitate integration within Elanders' group.

A more extensive analysis, compared to the one performed in the procurement phase, of the current global transportation situation at Elanders has to be performed before a transition towards a global 3PL solution takes place. To further deal with the level of uncertainty the process should be a phased one where each unit is given time to adapt to the new circumstances

in order to minimise disruptions. Uncertainties will always exist and if a transition towards a more centralised solution is to take place communication is necessary.

5.3 Risks and Uncertainties

An analysis of the risks and uncertainties that occur in the procurement process of implementing a global contract is presented together with strategies that Elanders can adopt to minimise the negative effects. This chapter will further develop the analysis of risk and uncertainties during the transition phase, which were previously mentioned in chapter 5.1 and 5.2, and make a deeper analysis of the impact on Elanders during the procurement process.

5.3.1 Risks and uncertainties in the procurement of a global contract

Implementing a global contract solution will change the structure of the organisation, causing a time of disruption. This is a state of vulnerability which is difficult to measure both in terms of length and in terms of how much it will affect business operations within the firm, as stated by Asbjørnslett (2009), the events of risk can be foreseen in certain cases but the level of uncertainty will only be a prediction based on previous experience within the firm. For Elanders, the transition phase results in leaving a steady state to enter a more unstable state, which will bring new challenges and events of risk they might not have encountered previously.

The common causes of uncertainties developed by Chopra and Sodhi (2004) regarding delays, disruptions, and control systems will be managed during the disruption time through better communication systems and an improved working relationship with the 3PLs. During the time of disruption, the organisation will be more vulnerable to these external threats which can damage the business more than when in a stable state. During the implementation process, the routines for handling these types of events will not be fully developed and therefore not work as effectively as at the end of the implementation. By transitioning into a more centralised control structure, the input parameters will vary less, making the organisation more resilient to threats. According to Christopher and Holweg (2011) a more centralised control structure will create a more stable and reliable system, better at controlling the possible uncertainties encountered. Here, a centralised control structure for Elanders refers to having a system that is common for all subsidiaries that allows for better control and easier access to the overall transportation system. The increased level of control will decrease the impact of unexpected catastrophes, as each site will be aware of the steps that are required to return to a stable state.

To make the transition as stable as possible, a good working relationship between the 3PLs and Elanders is vital. In the interview with Elanders' SCD, she mentioned the importance of having reliable contact people at the 3PLs, who can provide accurate information when requested. This will build trust between both parties making it easier to work together during the time of disruption as the responsibility can be shared. Trust will be especially important during the transition phase as each party will be working towards a common goal of reaching a new stable situation, better than the previous, as illustrated in the figure 5.3. The figure shows the outcome of a business when encountering a disruption or an unexpected event such as an accident. Through trust, the recovery phase can be shortened with the new situation potentially better

than the previous, as each party is utilising their resources and knowledge to get the business to recover. Thus, information and knowledge sharing can build and strengthen trust which can be useful during the transition phase, where more unexpected disruptions will occur.

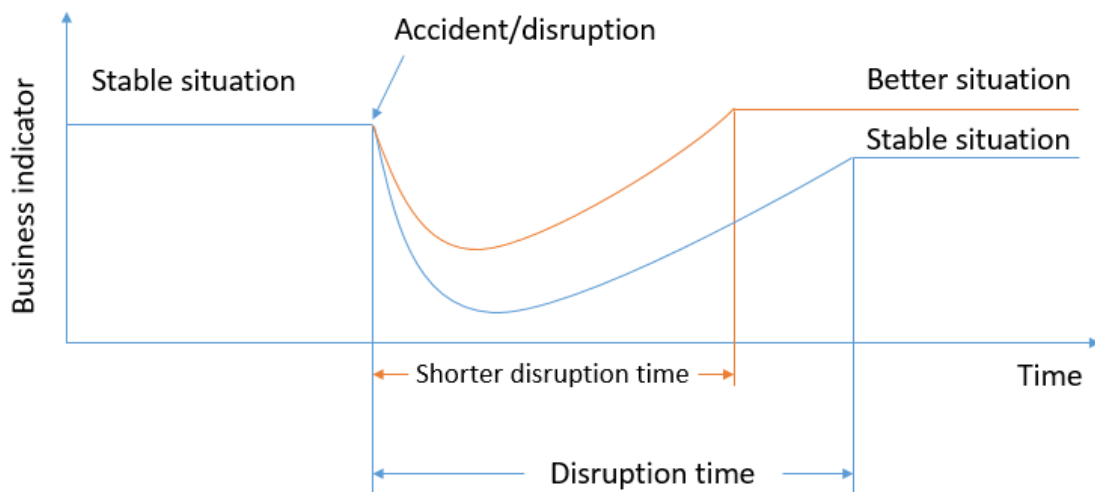


Figure 5.2 - A modified image of Asbjørnslett (2009) model of disruptions effect on business

Elanders will suffer from the transition short term as they will be facing high costs due to the restructuring of the system. As the implementation develops, the adjustments will refine the business and its systems, resulting in a more efficient logistics system. For Elanders, the transition implies high risk when initiating a collaboration with the 3PLs. It will be difficult to determine the level of knowledge that the chosen 3PLs has before the transition. The transition phase will turn into a trial and error process, to a certain extent, where Elanders will be testing the 3PLs knowledge base and their capabilities. A goal with the transition is that for every disruption, Elanders and the 3PLs will adjust their methods of tackling the problem together, and develop a good way of collaborating together. This requires reliability, agility and flexibility from each party as mentioned by Wu (2012), which makes it possible to tackle uncertainties regarding sudden changes of customer demands, disruptions during the transportation of goods, and building an effective network together that is reliable and able to tackle situations with risk.

Reconfiguration of a stable system results in unexpected interactions. The transition phase will put Elanders in a more vulnerable state as it affects the management of their supply chain. It can seem favourable to stay in a stable state, however as Asbjørnslett (2009) emphasises, it is through change that new possibilities can be detected and knowledge gained that can be used to improve the organisation. With no risks taken there are no rewards to reap, and if Elanders avoid a more centralised solution due to fear of a potential disruption period, they will not achieve the potential benefits of such a solution, and miss out on valuable knowledge about their system. In the transition phase, it is important that comparisons are made to be able to assess the changes. Gaudenzi (2009) emphasises the importance of being able to measure the business performance systematically as this will simplify the management of the business. By

measuring the profits before hand it will be possible to compare the old structure with the new, and hopefully see an increased level of effectiveness.

5.3.2 Method used to encounter risk and uncertainty during the transition phase

For Elanders, the change will be seen as a long term investment, as according to Jüttner (2005) a more centralised structure comes with more benefits than what the current decentralised structure has to offer. Elanders has grown globally by acquisitions and new establishments in order to add additional links in their supply chain network. They have however neglected to integrate these companies in the global firm. As mentioned previously, each unit operates individually causing difficulties in implementing a solution of global scale. The global change will benefit Elanders as a whole as they will increase their use of shared resources and knowledge, but might come at a cost of increased prices in some individual countries.

During the time of disruption, Elanders will face both internal and external threats. In many cases these cannot be foreseen nor avoided. The theory developed by Peck (2006) regarding resilience can be used to deal with the uncertainties of both external and internal threats. Having an effective communication system is a method that help decrease the level of uncertainty. Being able to inform and spread information quickly is effective when establishing resilience. Elanders' SCD mentions that there is currently a general lack of communication between the subsidiaries due to the decentralised structure. The transition will create an incentive for integration and communication to be utilised between the sites, as this will help them maximise the efficiency of their own transports. An external threat may end up causing a transport delay in the network of actors which can be avoided if appropriate methods are acquired to inform the involved parties of the situation. If information is spread early and effectively, an alternative solution can be arranged quickly, avoiding the delay. This will reduce unnecessary disruption further along the chain and minimise the uncertainty regarding when the goods are to be delivered. For firms like Elanders the network relies on several parties to collaborate in order to complete requests, which makes information sharing an essential tool in order to achieve agility and flexibility.

Flexibility is a method that can be used to create resilience and be able to deal with uncertainty effectively. Having the ability to adapt to sudden changes will make it easier to find solutions when faced with unexpected events. Decisions involving a high level of risk can result in an outcome that was not initially expected. Wu (2012) underlines that being flexible regarding the decisions made in an unexpected outcome can decrease the damage done to the overall network. Flexibility can be developed from having a good working relationship both internally and externally. For Elanders, internal relationship includes how well the subsidiaries work together to increase efficiency of the transports that are interlinked between the sites. This can be fully utilised by maximising communication and technology to spread awareness and increase agility. Their external relationship includes the coordination with the 3PLs, which can be explained by applying (Sanchez-Rodrigues et al., 2010a) model of the logistics triad. The model displays the business relationships between the shipper, customer, and provider, along with each of their roles and responsibilities.

The type of working relationship within the logistics triad can have a major impact on the level of uncertainty that is present. If a close partnership is developed within the triad a higher level of flexibility can be achieved, providing better quality of the services and efficient methods for controlling times of uncertainty. This can also reduce the level of risk when implementing a global contract as there are fewer parties to negotiate with, which correlates with the studies in Crainic et al. (2013) stating that when less parties are involved the system will become less complex. Elanders' SCD states in the interview that their organisation would benefit from having fewer 3PLs, as it facilitates a natural integration of the subsidiaries if they are dealing with the same 3PLs. The negotiation from one site can have positive effects on another site faced with a similar situation or problem. Thus one aspect of the integration will reduce the level of risk during the implementation as the subsidiaries will be a part of the negotiation, in order to improve the circumstances for their site. Initiating close relationships between the parties in a logistics triad will benefit each party as the decisions will contribute in achieving a common goal set out in advance.

If the contrary is examined, where low involvement relationships are established within the triad, it can lead to a more complex system where price becomes the primary decision making factor. According to Perrow (1999) being in a complex system is considered as being in a more vulnerable state, thus being more exposed to risk and uncertainty. It can be difficult to build and develop the relationship as each party will act to serve their own best interest and make little effort to adjust to changes. Being in a state of transition, as Elanders, there will be sudden disruptions happening that are not accounted. If collaborating with a provider or shipper that will not fully utilise their resources to minimise the effects of the threats it can have severe impact on the business. The possible benefits Elanders can gain when having low involvement relationships involves the flexibility of changing the provider quickly, if a possible business relationship does not work out as initially agreed upon. If it turns out that a chosen 3PL cannot encounter uncertainty and disruptions in an appropriate manner, it will be easy to change provider and use a different 3PL providing similar services.

For Elanders, the step towards a more centralised structure will come with threats that cannot be accounted for. It is therefore important to consider the possible tools that should be implemented beforehand, to make the transition less disruptive. Recognising the 3PLs that have the resources to be flexible and responsive to change when initiating a relationship, can help create a barrier against uncertainties. Further, development of communication systems will reduce the events of risk, as each party involved will be aware of possible outcomes. Additionally, collaboration is a key quality that should be invested in as the involvement of everyone's efforts is the best method to utilise in times of uncertainty.

5.4 Environmental impact of a global solution

In this chapter, the environmental aspects are analysed with regards to an implementation of a global contract. Further, an analysis is made on the impact environmental regulations has on a centralised and decentralised structure. Aspects regarding the implementation process from sections 5.1-5.3 are analysed and combined with a sustainable approach.

5.4.1 Environmental requirements in the procurement process

The growing awareness of the environmental impact and the tight regulations that are set to reduce the overall global emission contribution, makes this an area of high relevance when restructuring an organisation. The salespeople from the meetings with 3PLs highlighted the importance of sustaining an overall green approach. Each provider offers an environmental service consisting of a variation of a transportation solutions that incorporates additional means to decrease the negative impact on the environment. Examples of these services includes combining transports, consolidation, from different clients to maximise capacity or invest in new transportation methods that are less harmful to the environment. Additional incentives such as FedEx Earth Smart solutions includes competitions that are held to encourage new innovative ideas that contributes to minimising the fuel consumption. These services are still seen as an 'extra service' which will come at a higher cost or longer lead times. As Giddings et al. (2002) claims, sustainable development is divided into the three aspects environmental, economic, and social. The extra services provided by the 3PLs will directly contribute to improvements within the environmental sector, however Elanders will have to take responsibility and choose these services. This becomes an economic issue as the cost for these services are higher than other related services. However, clients can contribute by reducing the strict time constraints on the transports, allowing for consolidation or more environmentally friendly transportation solutions such as trains, to be used. This will require some additional planning but will be a solution that results in positive effects within sustainability.

As Hohnen and Potts (2007) suggests, the increased environmental awareness in society makes end customers more willing to support firms that has a green footprint. This gives 3PLs an incentive to succeed in this area and use it as a strong selling argument for current and potential customers. Most of the interviewed 3PLs offered customised environmental reports and other environmental services. This gives the impression that the collaboration regarding sustainability is both important as well as something that both parties can benefit from. For Elanders, emission reports that records their total emission contribution is essential as they are a global supply chain firm required to take responsibility for their emissions. This report can also be used as a value adding factor for Elanders if it reflects a low impact on the environment. Elanders wish to maintain their environmental approach, however, this is difficult due to the considerable difference in costs. Elanders' SCD states in the interview that they will not purchase any additional services regarding sustainability if it results in additional costs being added. Instead, Elanders focuses on developing solutions that they are directly responsible for within their printing plants. Regardless, freights is a serious environmental threat and stands for big carbon dioxide emissions as stated by Richardson (2005). Therefore, it is vital to consider how the products are shipped as well as this is something that they can impact.

5.4.2 Sustainability in a Decentralised structure

Elanders, currently operating in a decentralised structure has spread the responsibility across the network, as each of the subsidiaries makes sure that they fulfil the requirements for their operations. As Elanders operate through their different sites, they do not have any overreaching regulations that applies to all sites. Each site is responsible for following the countries general

transportation restrictions and has chosen 3PLs that meets these requirements as well. This method works for Elanders current situation and is beneficial when operating in a decentralised structure. Opportunities to work with CSR as a part of social sustainability is also possible within a decentralised structure. Favourable relationships can be built with the community through partnerships as mentioned by Uddin et al. (2008). The different subsidiaries may have different views on how to work with sustainability due to the difference in requirements from each country. Thus each subsidiary can adopt and develop goals regarding sustainability that are customised to fit their needs.

Sustainability is a global concept, however there still exist differences between the countries. Countries in Asia will have a different approach compared to Europe, as some of the developing countries will not have access to transportation solutions that are environmentally effective. Utilising global 3PLs that adopt environmental strategies across their transportation services ensures a high standard of sustainability regardless of the country that they are operating in. Larger 3PLs has the potential of utilising only their own transportation methods, such as FedEx, giving them better control and insight of their emissions. The increased control gives these 3PLs potential to organise the network in an efficient way optimising each line of transport to benefit the environmental impact. This gives them a competitive edge toward other 3PLs as this can be the factor that determines if a firm such as Elanders will use them. For Elanders, operating in a decentralised structure limits them from having control over the 3PLs that are used by each subsidiary. Thus, the lack of control brings a certain level of uncertainty with regards to environmental impact as the costs derived from each transportation is unknown.

5.4.2 Sustainability in a Centralised structure

The aim for Elanders is to transition to a more centralised structure in the form of implementing a global contract, thus gaining better control of the network. The increased control contributes in becoming a more environmentally aware firm. Strong relationship with 3PLs in combination with efficient internal and external communication leads to increased consolidation possibilities between the subsidiaries transports. The environmental impact caused by transports can be reduced by taking advantage of maximum vehicle capacity. A centralised structure, with one carrier responsible for one type of transport goods, would achieve both cost and environmental benefits. When the coordination of transports is done by one single provider, the degree of consolidation can be increased and thereby decreasing the total number of transports. Thus, when initiating a contract that will be operating over larger parts of Elanders transportation network, it is important for Elanders to know the requirements from each country. This is because they need to know the standard level of emissions allowed, in order for it to be considered when negotiating the global contract. By having a centralised structure, it will be easier for Elanders to gather the total emissions that Elanders as an organisation is responsible for. By having good communication between Elanders, their 3PLs, and the subsidiaries, these reports could be customised to fit their needs.

A centralised structure would imply uniform sustainability goals across the firm. This can initiate certain resistance amongst the subsidiaries according to Elanders' SCD, since they will be reluctant to spend time and resources on work with sustainability if it does not directly

benefit them. A potential solution would be to give the responsibility to the 3PLs. This goes in line with what Lieb and Lieb (2010) asserted regarding clients using their 3PLs to help them reach their goal regarding sustainability. Moreover, the centralisation can enhance CSR performance. Through increased internal communication, new innovative ideas within CSR can be shared between the subsidiaries. Thereby knowledge can be shared to develop working towards CSR. As mentioned, Elanders has two ISO-standards as well as other certifications. These standards and production implementations require both time and experience. The social aspect could also be improved through a centralised structure as Elanders would be a part of a bigger community. This can make Elanders convey a stronger environmental and sustainable profile towards stakeholders.

6. Conclusions and discussion

In this chapter, a discussion with a more general approach about the analysis of the case study will be made concluding with an analysis of the key factors that a firm with outsourced transportation solutions can use when implementing a global contract. This section will also attempt to answer the purpose of this thesis.

6.1 Discussion of the RQs

Initially there were five main areas which has throughout the study narrowed down to three main focus areas including business relationships, communication, and uncertainties. The discussions regarding these overarching topics will also encompass information and knowledge gained from the two remaining areas environmental challenges and services. Further along the study the three overarching topics became compliments of each other and the models used in the theoretical framework, such as Kraljic's Portfolio Matrix and Asbjørnslett's model, which combined the theory across the three areas. Adjustments made in one area had a clear impact on the two others. When implementing a global contract, it is essential to consider the impact each decision has on all of the three areas.

6.1.1 What parameters need to be considered when initiating a relationship towards a logistics provider?

The parameters discussed in this section will be applicable to firms with similar background to the case investigated in this study. This includes firms with an existing global logistics network striving for a more centralised structure with global contracts with 3PLs.

An initial parameter that needs to be considered when initiating a business relationship is the degree of collaboration between the parties. When dealing with key business activities on a larger scale such as that of Elanders, a closer relationship between the client and their logistic providers is preferable in order to facilitate integration. Here, a close relationship implies being able to adapt to change and make sacrifices to complement each other's needs, enabling the possibility of working towards a common goal. This is illustrated in Hertz and Alfredsson (2003) matrix, figure 6.1, where both the client and the 3PL need to adopt the qualifications found in service developers and customer developers.

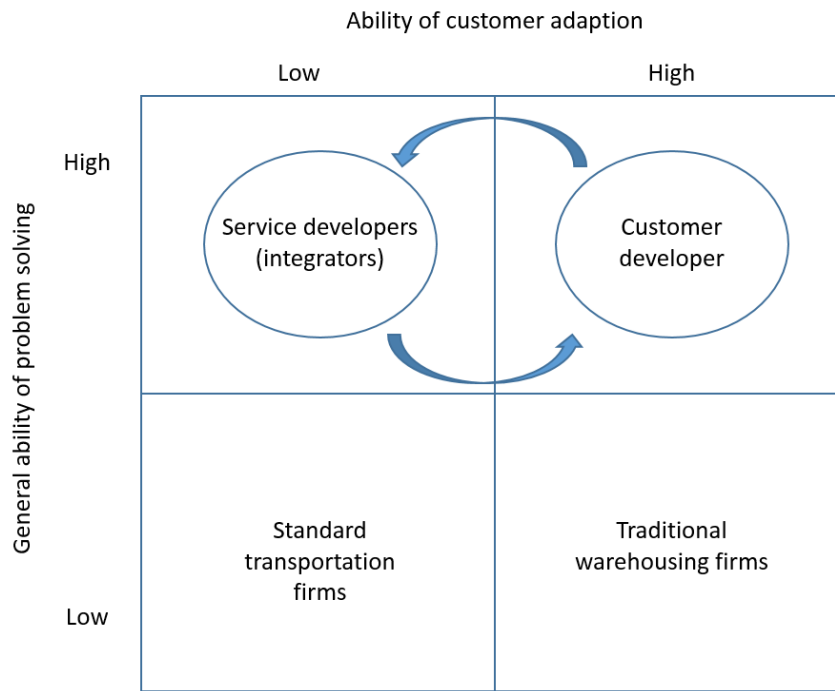


Figure 6.1 – A modified version of Hertz and Alfredsson (2003) matrix showing the problem solving abilities of 3PLs

This level of collaboration will benefit both the client and the 3PLs as the responsibilities and risks are shared. An underlying factor important to keep in mind when it comes to collaboration is trust. A close partnership requires both parties to trust one another to be able to build on each other's competencies to develop agility and flexibility in problem solving situations. Through trust, responsibility can be allocated to the 3PLs allowing them to operate without constraints, which enables them to utilise their competencies and resources in the best possible manner.

However, in cases where the client is not directly dependent on a single 3PLs services, a close relationship might not be the optimal choice as it is a costly and time consuming process to develop and maintain such a relationship. The degree of collaboration can vary between the 3PLs where there can exist a combination of both close and low involvement relationships. To evaluate the perfect match, the client's requirements should be evaluated beforehand to be certain that the chosen degree of collaboration with the 3PLs match their needs and will not create unnecessary costs. This can be done using tools such as Kraljic's portfolio matrix where the level of involvement can be determined depending on what quadrant within the matrix is strived for.

An additional parameter to consider when initiating a relationship includes communication. As processes and routines need to be coordinated between the parties during the implementation, it is important that information flows efficiently to ensure that implementation proceeds as quickly as possible to reduce the time of vulnerability. For global firms such as Elanders, where their transportations are regulated by each subsidiary, the information flow will be the critical link that ties together the network and enables a more standardised structure. A common goal between the client and the provider has to be recognised where they will both benefit from the success of the relationship. From the clients' perspective both the internal as well as the external

communication towards the provider has to be taken into consideration. If the relationship is to facilitate integration between the clients and the providers' activities, internal communication is essential. Without functioning internal communication, it becomes difficult to utilise the purchased logistics services in an effective manner across the organisation. A mean to enhance the communication between provider and client is through standardised processes. By minimising variations, misunderstandings and conflicts can be avoided to a greater extent, as pointed out by Liu et al. (2015). Setting up such processes requires commitment and should only be considered when dealing with closer relationships in a long term perspective. Thus, a standardised communication system that facilitates integration, both external and internal, will make it easier to collaborate and increase the level of adaptation and flexibility to suit the needs of the parties involved.

6.1.2. How can communication be utilised to maximise efficiency both internally and externally in the procurement process of implementing a global contract?

As mentioned previously, information accessibility is crucial during the procurement process as it will prevent misunderstandings and standardise the routines providing better control over the network. Before implementing a global contract, information regarding the current situation as well as the expected result must be gathered. As seen in the case study of Elanders, the internal communication can be improved for future use when comparing and analysing the existing solution. This allows for specifications of requirements to be more precisely communicated towards potential providers, eliminating uncertainties that otherwise complicates the process. Good external communication towards potential providers is required to obtain detailed information about their service offers. This information can then be advantageously used to screen through potential providers, eliminating those deemed unfit for the task.

With standardised methods regarding information sharing and collection in place, both internal and external communication can be enhanced. In such a situation variations regarding the internal communication can be kept at a minimum, reducing errors making it easier to gain an overview of the current situation. Through standardisation it is also easier to make sure limited, relevant information from external providers is collected. Similarly to the degree of collaboration between two parties, there will exist different levels of standardisation. For a firm like Elanders whose organisation is currently run by subsidiaries operating individually, aiming for complete standardisation will be unrealistic. There will be exceptions for each country or situation where adaptations will have to be made in order to develop the organisation and not be held back by regulations due to standardised methods. However, a certain degree of standardisation in terms of integrating IT systems to control the transportations, will help structure the overarching organisation. Information sharing helps spread awareness, keeping all parties up to date with the coordination of transports increasing agility if unexpected events occur. Good communication is necessary to make sure that all parties involved in the procurement process meet each other's expectations.

6.1.3 How does a global firm dependent upon logistical operations encounter risk and uncertainty when entering a global contract with outsourced transportation solutions?

Risk and uncertainty are factors that are difficult to control, as the outcome of an event with a high level of risk can vary significantly. For a firm that is entering a more centralised structure with global transportation contracts it is important to be resilient to uncertainties and adaptable to new solutions, in order to be prepared for unpredictable events and outcomes that differs from the initially predicted path. Resilience is built from having a solid working relationship and effective communication system, where the difficulties can be tackled between the client and provider. This enables for awareness to be spread and information shared to the affected parties so that they can prepare alternative solutions, and be flexible regarding problem solving situations.

A modification to Asbjørnslett's disruptive time theory has been developed to summarise key features that a firm can adopt to become more resilient to risk and uncertainty, presented in figure 6.2. This model is suitable for a firm such as Elanders, where the disruption can be seen as the implementation of the global contracts with the 3PLs. The process will be disruptive for both the logistics firm as well as the involved 3PLs. The level of collaboration between the 3PL and the client will affect the disturbance impact on the 3PL. With a close relationship, the 3PL shares the responsibility and thus need to deal with the effect from unexpected outcomes that can occur during the disruptive time. These unexpected outcomes can be due to exogenous factors, such as unpredictable events, which causes greater impact on the organisation during the temporarily vulnerable state.

In figure 6.2, alternative 1 shows the modified model compared to Asbjørnslett's method shown in alternative 2. This developed method can be applied to firms similar to Elanders, where the firm attempt to reduce the uncertainty of the outcomes during the procurement process. Alternative 1 will initially imply an uncertain period during the implementation phase, which creates the first drop after the stable situation. However, after enhancements are made, processes have a possibility to be dealt with even more efficiently, and disruptive time can be reduced, which is in line with theory by Peck (2006).

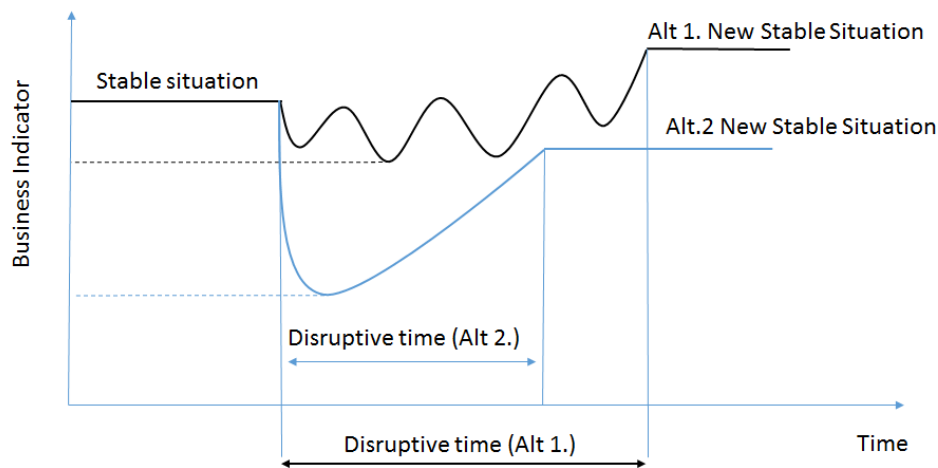


Figure 6.2 - Modified model of Asbjørnslett's disruptive time theory (Asbjørnslett, 2009)

The study focuses on choosing between several 3PLs and initiating a relationship that will develop into a partnership. This requires time and commitment from each party so that a level of trust can be established, and common goals set out throughout the transition phase. Preferably, the disruption time should be kept to a minimum, but by managing an implementation in an incremental manner, business can be kept at a stable level and uncertainties during the process can be minimised. The disruptive time will therefore be slightly longer than in alternative 2, since an implementation of this scale, involving a large set of subsidiaries cooperation over a longer time period regarding minor adjustments, are necessary to optimise the logistic network. Transitioning from a more decentralised structure, where subsidiaries act as individual firms, to a more collaborate network requires an effective communication system. This system will be used as a control system to spread awareness of uncertainties or changes that will happen frequently in the initial stages of the implementation. It is difficult to implement a system of this scale beforehand, the process will therefore be developed during the transition phase. Smaller changes will be made and adjusted accordingly to make sure that the business can be kept stable. This regenerative process is shown in the figure above where alternative 1 makes smaller adjustments for every change compared to alternative 2 where a large change is implemented directly. This method will reduce the amount of uncertainty and make a firm more resilient to the unexpected events that might occur.

6.2 Concluding statement

The aim of this study was to examine how and if companies with outsourced transportation solutions benefits from a more centralised structure regarding the logistics network, and how the transition would impact the overall business. With a case study in focus, the arguments are aligned to firms who are faced with a similar situation as Elanders. Many potential benefits with a centralised approach regarding purchasing of transportation services were found when analysing the Elanders case. No specific recommendation has been made as further studies required for each individual case. This report will pose as a basis for the decisions that should be analysed during a possible procurement process of a global transportation contract. The lack of a definite conclusion emphasize the difficulty in providing a general recommendation.

Nonetheless, the recommendations of the case are kept general and can possibly be applicable to other companies operating under similar conditions as Elanders.

The authors hope that Elanders and comparable companies will make use of this report when analysing their global transportation solutions.

References

- AGGARWAL, A. K. 2006. Some lessons in outsourcing. *International Journal of Electronic Marketing and Retailing*, 1, 183.
- AMBEC, S. & LANOIE, P. 2008. Does It Pay to Be Green? A Systematic Overview. *Academy of Management Perspective*, 22, 45-62.
- ANDERSSON, D., NORRMAN, A., LINKÖPINGS, U., TEKNISKA, H., LOGISTIK & INSTITUTIONEN FÖR EKONOMISK OCH INDUSTRIELL, U. 2002. Procurement of logistics services—a minutes work or a multi-year project? *European Journal of Purchasing and Supply Management*, 8, 3-14.
- ARSHINDER, KANDA, A. & DESHMUKH, S. G. 2008. Supply chain coordination: Perspectives, empirical studies and research directions. *International Journal of Production Economics*, 115, 316-335.
- ASBJØRNSLETT, B. E. 2009. Assessing the Vulnerability of Supply Chains. *Supply Chain Risk*. Boston, MA: Springer US.
- ATKACUNA, I. & FURLAN, K. 2009. *Value-Added Services in Third-Party Logistics*. Master, Jönköping International Business School.
- BALLOU, R. H. 2006. Revenue estimation for logistics customer service offerings. *The International Journal of Logistics Management*, 17, 21-37.
- BING, G. 2008. Due diligence; planning, questions, issues. *Reference and Research Book News*, 23.
- BJÖRKLUND, M. & FORSLUND, H. 2013. The inclusion of environmental performance in transport contracts. *Management of Environmental Quality*, 24, 214-227.
- BLINGE, M. & SVENSSON, Å. 2005. Miljöåtgärder för godstransporter: Sammanställning av praktiska och teoretiska exempel. Gothenburg: Centre for Environmental Assessment of Product and Material Systems.
- BOOTH, C., BOOKS24X, KNOVEL & BOOKS24X, I. 2010. *Strategic procurement: organizing suppliers and supply chains for competitive advantage*, London;Philadelphia,, Kogan Page.
- BOYSON, S., CORSI, T., DRESNER, M. & RABINOVICH, E. 1999. Managing effective third party logistics relationships: What does it take? *Journal of Business Logistics*, 20, 73.
- BRUSSET, X. 2009. Choosing a transport contract over multiple periods. *International Journal of Logistics Systems and Management*, 5, 273-322.
- BRYMAN, A. & BELL, E. 2003. *Business research methods*, Oxford;New York,, Oxford University Press.
- CAHILL, D. L. 2007. *Customer loyalty in third party logistics relationships: findings from studies in Germany and the USA*, Heidelberg, Physica-Verlag.
- CAI, S., GOH, M., SOUZA, R. D. & LI, G. 2013. Knowledge sharing in collaborative supply chains: twin effects of trust and power. *International Journal of Production Research*, 51, 2060.
- CHOPRA, S. & SODHI, M. S. 2004. Managing risk to avoid: Supply-chain breakdown. *MIT Sloan Management Review*, 46, 53-87.
- CHRISTOPHER, M. & HOLWEG, M. 2011. "Supply Chain 2.0": managing supply chains in the era of turbulence. *International Journal of Physical Distribution & Logistics Management*, 41, 63-82.
- CHRISTOPHER, M. & LEE, H. 2004. Mitigating supply chain risk through improved confidence. *International journal of physical distribution & logistics management*, 34, 388-396.
- COMMUNITIES, C. O. T. E. 2001. *Green paper: promoting a European framework for corporate social responsibility*, Commission of the European Communities.
- COYLE, J. J., LANGLEY, C. J., NOVACK, R. A. & GIBSON, B. 2012. *Supply Chain Management: A Logistics Perspective*, Cengage Learning.
- COYLE, J. J., NOVACK, R. A., GIBSON, B. & BARDI, E. J. 2010. *Transportation: A Supply Chain Perspective*, Cengage Learning.
- COYLE, J. J., NOVACK, R. A., GIBSON, B. & BARDI, E. J. 2015. *Transportation: A Global Supply Chain Perspective*, Cengage Learning.
- CRAINIC, T. G., MARCOTTE, S., REI, W. & TAKOUDA, P. M. 2013. *Proactive Order Consolidation in Global Sourcing*. New York, NY: Springer New York.

- CRÉMER, J. 1995. Arm's length relationships. *The Quarterly Journal of Economics*, 275-295.
- DEEPEN, J. M., GOLDSBY, T. J., KNEMEYER, A. M. & WALLENBURG, C. M. 2008. BEYOND EXPECTATIONS: AN EXAMINATION OF LOGISTICS OUTSOURCING GOAL ACHIEVEMENT AND GOAL EXCEEDANCE. *Journal of Business Logistics*, 29, 75.
- DENSCOMBE, M. 2014. *The Good Research Guide - for small-scale social research projects*, Maidenhead, UK, Open International Publishing.
- DORION, E., OLEA, P. M., LAZZARI, F., SEVERO, E. A., BAMPI, R. E. & VERRUCK, F. 2009. Implementing a Logistic Structure of Distribution Offices: A Brazilian Case. *Journal of Economic Development, Management, I T, Finance, and Marketing*, 1, 178.
- DUBOIS, A. & GADDE, L.-E. 2002. Systematic combining: an abductive approach to case research. *Journal of Business Research*, 55, 553-560.
- DYER, J. H., CHO, D. S. & CHU, W. 1998. Strategic Supplier Segmentation: The Next "Best Practice" in Supply Chain Management. *California Management Review*, 40, 57-77.
- EDWARDS, R., HOLLAND, J. & DIRECTORY OF OPEN ACCESS BOOKS, F. 2013. *What is Qualitative Interviewing?*, S.I., Bloomsbury Academic.
- ELANDERS. 2016. *Welcome to Elanders* [Online]. Available: <http://www.elanders.com/> [Accessed 5 Feb 2016].
- FAWCETT, S. E., OSTERHAUS, P., MAGNAN, G. M., BRAU, J. C. & MCCARTER, M. W. 2007. Information sharing and supply chain performance: the role of connectivity and willingness. *Supply Chain Management: An International Journal*, 12, 358-368.
- FLIEß, S., JOHNSTON, W. & SICHTMANN, C. 2015. Business Buying Behavior. In: KLEINALTENKAMP, M., PLINKE, W., WILKINSON, I. & GEIGER, I. (eds.) *Fundamentals of Business-to-Business Marketing: Mastering Business Markets*. Springer.
- FROHLICH, M. T. & WESTBROOK, R. 2001. Arcs of integration: an international study of supply chain strategies. *Journal of operations management*, 19, 185-200.
- GADDE, L.-E. & HULTHÉN, K. 2009. Improving logistics outsourcing through increasing buyer-provider interaction.
- GADDE, L.-E. & SNEHOTA, I. 2000. Making the Most of Supplier Relationships. *Industrial Marketing Management*, 29, 305-316.
- GAUDENZI, B. 2009. *Assessing Risks in Projects and Processes*. Boston, MA: Springer US.
- GELDERMAN, C. J. & VAN WEELE, A. J. 2003. Handling measurement issues and strategic directions in Kraljic's purchasing portfolio model. *Journal of Purchasing and Supply Management*, 9, 207-216.
- GIDDINGS, B., HOPWOOD, B. & O'BRIEN, G. 2002. Environment, economy and society: fitting them together into sustainable development. *Sustainable Development*, 10, 187-196.
- GILLHAM, B., EBRARY, I. & EBRARY 2000. *Case study research methods*, New York; London;, Continuum.
- GOH, M., LIM, J. Y. S. & MENG, F. 2007. A stochastic model for risk management in global supply chain networks. *European Journal of Operational Research*, 182, 164-173.
- GRABARA, J., KOLCUN, M. & KOT, S. 2014. The role of information systems in transport logistics. *International Journal of Education and Research*, 2, 1-8.
- HALLDÓRSSON, Á. & SKJØTT-LARSEN, T. 2004. Developing logistics competencies through third party logistics relationships. *International Journal of Operations & Production Management*, 24, 192-206.
- HAWKINS, D. 2006. Outsourcing debate continues. 11.
- HAYES, B. E. 2008. *Measuring customer satisfaction and loyalty: survey design, use, and statistical analysis methods*, Milwaukee, Wis, ASQ Quality Press.
- HERBST, U., BARISCH, S. & VOETH, M. 2008. International Buying Center Analysis—The Status Quo of Research. *Journal of business market management*, 2, 123-140.
- HERTZ, S. & ALFREDSSON, M. 2003. Strategic development of third party logistics providers. *Industrial Marketing Management*, 32, 139-149.

- HOFENK, D., SCHIPPER, R., SEMEIJN, J. & GELDERMAN, C. 2011. The influence of contractual and relational factors on the effectiveness of third party logistics relationships. *Journal of Purchasing and Supply Management*, 17, 167-175.
- HOHNEN, P. & POTTS, J. 2007. *Corporate social responsibility: An implementation guide for business*, International Institute for Sustainable Development= Institut international du développement durable.
- IEA 2009. Transport, Energy and CO₂ - Moving Towards Sustainability.
- JACOBS, D. 1974. Dependency and vulnerability: An exchange approach to the control of organizations. *Administrative science quarterly*, 45-59.
- JHARKHARIA, S. & SHANKAR, R. 2007. Selection of logistics service provider: An analytic network process (ANP) approach. *Omega*, 35, 274-289.
- JOHNSTON, W. J. & BONOMA, T. V. 1981. The buying center: structure and interaction patterns. *The Journal of Marketing*, 143-156.
- JONSSON, P. & MATTSSON, S.-A. 2011. *Logistik: läran om effektiva materialflöden*, Lund, Studentlitteratur.
- JÜTTNER, U. 2005. Supply chain risk management: Understanding the business requirements from a practitioner perspective. *The International Journal of Logistics Management*, 16, 120-141.
- KAKOURIS, A. P., POLYCHRONOPOULOS, G. & BINIORIS, S. 2006. Outsourcing decisions and the purchasing process: a systems-oriented approach. *Marketing Intelligence & Planning*, 24, 708-729.
- KAPLAN, S. 1997. The Words of Risk Analysis. *Risk Analysis*, 17, 407-417.
- KERR, J. 2005. How to Build a SOLID 3PL Relationship. Framington: Peerless Media.
- KONAR, S. & COHEN, M. A. 2001. Does the Market Value Environmental Performance? *The MIT Press*, 83, 281-289.
- KOTLER, P. 2003. *Marketing management*, Upper Saddle River, NJ, Prentice Hall.
- KRALJIC, P. 1983. Purchasing Must Become Supply Management. *Harvard Business Review*, p.Newspaper Article.
- LAI, K.-H., NGAI, E. W. T. & CHENG, T. C. E. 2004. An empirical study of supply chain performance in transport logistics. *International Journal of Production Economics*, 87, 321-331.
- LAMBERT, D. M. & BURDUROGLU, R. 2000. Measuring and Selling the Value of Logistics. *The International Journal of Logistics Management*, 11, 1-18.
- LAMBERT, D. M. & STOCK, J. R. 1993. *Strategic logistics management*, Homewood, Ill, Irwin.
- LANGFIELD-SMITH, K. & GREENWOOD, M. R. 1998. Developing Co-operative Buyer-Supplier Relationships: A Case Study of Toyota. *Journal of Management Studies*, 35, 331-353.
- LANGLEY, J. 2016. *2016 Third-party Logistics Study: The State of Logistics Outsourcing : Results and Findings of the 20th Annual Study*, Capgemini.
- LANTZ, A. 2007. *Intervjumetodik*, Lund, Studentlitteratur.
- LAU, G. T., GOH, M. & PHUA, S. L. 1999. Purchase-related factors and buying center structure - An empirical assessment. *INDUSTRIAL MARKETING MANAGEMENT*, 28, 573-587.
- LETH, G. & THURÉN, T. 2000. Källkritik för Internet. Stockholm: Styrelsen för psykologiskt försvar.
- LIEB, K. J. & LIEB, R. C. 2010. The North American Third-Party Logistics Industry in 2008: The Provider CEO Perspective. *Transportation Journal*, 49, 53-65.
- LIU, C., HUO, B., LIU, S. & ZHAO, X. 2015. Effect of information sharing and process coordination on logistics outsourcing. *Industrial Management & Data Systems*, 115, 41-63.
- MANRODT, K. B. & VITASEK, K. 2004. Global process standardization: a case study. *Journal of Business Logistics*, 25, 1-23.
- MANUJ, I. & MENTZER, J. T. 2008. Global supply chain risk management strategies. *International Journal of Physical Distribution & Logistics Management*, 38, 192-223.
- MARTÍNEZ-DE-ALBÉNIZ, V. & SIMCHI-LEVI, D. 2013. Supplier-Buyer Negotiation Games: Equilibrium Conditions and Supply Chain Efficiency. *Production and Operations Management*, 22, 397-409.

- MCKINNON, A. C., BROWNE, M., WHITEING, A. E., BOOKS24X, HANDELSHÖGSKOLAN, UNIVERSITY OF, G., FÖRETAGSEKONOMISKA INSTITUTIONEN, I. O. F. E., LOGISTIK, DEPARTMENT OF BUSINESS ADMINISTRATION, I., FINANCIAL, M., LOGISTICS, GÖTEBORGS, U., SCHOOL OF BUSINESS, E. & LAW 2012. *Green logistics: improving the environmental sustainability of logistics*, London;Philadelphia;, Kogan Page.
- MENON, M. K., MCGINNIS, M. A. & ACKERMAN, K. B. 1998. Selection criteria for providers of third-party logistics services: An exploratory study. *Journal of Business Logistics*, 19, 121.
- MOLAMOAMADI, Z., ISMAIL, N., LEMAN, Z. & ZULKIFLI, N. 2013. Supplier Selection in a Sustainable Supply Chain. *Journal of Advanced Management Science*, 1, 278-281.
- MU, J., PENG, G. & LOVE, E. 2008. Interfirm networks, social capital, and knowledge flow. *Journal of Knowledge Management*, 12, 86-100.
- NG, W. L. 2008. An efficient and simple model for multiple criteria supplier selection problem. *European Journal of Operational Research*, 186, 1059-1067.
- NORRMAN, A. & JANSSON, U. 2004. Ericsson's proactive supply chain risk management approach after a serious sub-supplier accident. *International Journal of Physical Distribution & Logistics Management*, 34, 434-456.
- PADHI, S. S., WAGNER, S. M. & AGGARWAL, V. 2012. Positioning of commodities using the Kraljic Portfolio Matrix. *Journal of Purchasing and Supply Management*, 18, 1-8.
- PECK, H. 2006. Reconciling supply chain vulnerability, risk and supply chain management. *International Journal of Logistics Research and Applications*, 9, 127-142.
- PERROW, C. 1999. Organizing to Reduce the Vulnerabilities of Complexity. *Journal of Contingencies and Crisis Management*, 7, 150-155.
- PERROW, C., NOT, M. & DAWSONERA 1999. *Normal accidents: living with high-risk technologies*, Chichester;Princeton, N.J;, Princeton University Press.
- PERSSON, G. 1995. Logistics Process Redesign: Some Useful Insights. *The International Journal of Logistics Management*, 6, 13-26.
- PIBERNIK, R. & SUCKY, E. 2006. Centralised and decentralised supply chain planning. *International Journal of Integrated Supply Management*, 2, 6.
- PIECYK, M. I. & BJÖRKLUND, M. 2015. Logistics service providers and corporate social responsibility: sustainability reporting in the logistics industry. *International Journal of Physical Distribution & Logistics Management*, 45, 459-485.
- POPPO, L. & ZENGER, T. 2002. Do Formal Contracts and Relational Governance Function as Substitutes or Complements? *Strategic Management Journal*, 23, 707-725.
- PORTER, M. E. & VAN DER LINDE, C. 1995. Toward a new conception of the environment-competitiveness relationship. *The journal of economic perspectives*, 9, 97-118.
- PRAJOGO, D. & OHLAGER, J. 2012. Supply chain integration and performance: The effects of long-term relationships, information technology and sharing, and logistics integration. *International Journal of Production Economics*, 135, 514-522.
- PRESTON, L. 2001. Sustainability at Hewlett-Packard: From Theory to Practice. *California Management Review*, 43, 26-37.
- QURESHI, M. N., KUMAR, D. & KUMAR, P. 2008. An integrated model to identify and classify the key criteria and their role in the assessment of 3PL services providers. *Asia Pacific Journal of Marketing and Logistics*, 20, 227-249.
- RICHARDSON, B. C. 2005. Sustainable transport: analysis frameworks. *Journal of Transport Geography*, 13, 29-39.
- SAHAY, B. S. & MOHAN, R. 2006. Managing 3PL relationships. *International Journal of Integrated Supply Management*, 2, 69.
- SANCHEZ-RODRIGUES, V., POTTER, A. & NAIM, M. M. 2010a. Evaluating the causes of uncertainty in logistics operations. *The International Journal of Logistics Management*, 21, 45-64.

- SANCHEZ-RODRIGUES, V., POTTER, A. & NAIM, M. M. 2010b. The impact of logistics uncertainty on sustainable transport operations. *International Journal of Physical Distribution & Logistics Management*, 40, 61-83.
- SINK, H. L. & LANGLEY, J. C. J. 1997. A managerial framework for the acquisition of third-party logistics services. *Journal of Business Logistics*, 18, 163.
- SOHAL, A. S. & RAHMAN, S. 2013. Use of Third Party Logistics Services: An Asia-Pacific Perspective. New York, NY: Springer New York.
- SON, D. H., PATWARI, K., WILHELM, W. E. & YU, P. 2013. On the Relationships Among Facility Location, Transportation Mode Selection and Material Flow Costs in Global Supply Chains. New York, NY: Springer New York.
- TROST, J. 2010. *Kvalitativa intervjuer*, Lund, Studentlitteratur.
- TRUNICK, P. A. 2001. Get 3PL right to get results: poor performance of 3PLs is often linked to hazy expectations and poor communications. Here are some trends in 3PL use and some suggestions from an experienced user. (logistics)(Cover Story). *Transportation & Distribution*, 42, 43.
- UDDIN, B. M., HASSAN, M. R. & TARIQUE, K. M. 2008. Three Dimensional Aspects of Corporate Social Responsibility. *Deffodil International University Journal of Business and Economics*, 3.
- VAN DER VORST, J. G. A. J. & BEULENS, A. J. M. 2002. Identifying sources of uncertainty to generate supply chain redesign strategies. *International Journal of Physical Distribution & Logistics Management*, 32, 409-430.
- WARE, N. R., SINGH, S. P. & BANWET, D. K. 2014. Modeling Flexible Supplier Selection Framework. *Global Journal of Flexible Systems Management*, 15, 261-274.
- WATERS, C. D. J., BOOKS24X, KNOVEL & BOOKS24X, I. 2007. *Supply chain risk management: vulnerability and resilience in logistics*, London;Philadelphia;, Kogan Page.
- WCED 1987. *Our common future*, The United Nations.
- WESSELY, P. & HOFMANN, E. 2014. Determining the revenue contribution of logistics customer service improvements: a multi criteria decision making approach. *Decision Analytics*, 1, 1-21.
- WOODSIDE, A. G. & EBRARY 2010. *Case Study Research: Theory, Methods and Practice*, Bingley;New Milford;, Emerald Group Publishing Limited.
- WU, Y. 2012. A dual-response strategy for global logistics under uncertainty: a case study of a third-party logistics company. *International Transactions in Operational Research*, 19, 397-419.
- XIA, W. & WU, Z. 2005. Supplier selection with multiple criteria in volume discount environments. *Omega*, 35, 494-504.
- YEW WONG, C. & KARIA, N. 2010. Explaining the competitive advantage of logistics service providers: A resource-based view approach. *International Journal of Production Economics*, 128, 51-67.

Appendices

Appendix 1 – List of figures

All figures included in the thesis are listed below

- | | |
|------------|--|
| Figure 1.1 | Illustration showing the areas studied in this report in order to fulfil the aim |
| Figure 2.1 | Steps showing the structure of this report |
| Figure 2.2 | Illustration of the process with the different activities separated into deductive and inductive approaches |
| Figure 2.3 | Research strategies used and the purposes behind these (Denscombe, 2014) |
| Figure 3.1 | Overview of the areas studied in the project and the connections between them |
| Figure 3.2 | Matrix describing the problem solving abilities of the 3PLs (Hertz and Alfredsson, 2013) |
| Figure 3.3 | Illustration showing how optimisation between formal agreements and trust contributes to relationship effectiveness |
| Figure 3.4 | The Kraljic Purchasing Portfolio Matrix (Kraljic, 1983) |
| Figure 3.5 | Framework describing ingoing steps in the procurement process, where RfI means request for information and RfP request for proposal (Andersson et al., 2002) |
| Figure 3.6 | Business measurement during times of disruption (Asbjørnslett, 2009) |
| Figure 3.7 | The three aspects of sustainable development according to Giddings et al. (2002) |
| Figure 4.1 | Procurement process with its different sub activities (Andersson et al., 2002) |
| Figure 4.2 | Information acquired from the subsidiaries |
| Figure 4.3 | The image illustrates sub activities of further investigations of the procurement work |
| Figure 5.1 | Elanders need of transport activities adapting as their business changes, illustrated with the Kraljic Portfolio Matrix |
| Figure 5.2 | A modified image of Asbjørnsletts (2009) model of disruptions effect on business |
| Figure 6.1 | A modified version of Hert and Alfredsson (2003) matrix showing the problem solving abilities of 3PLs |
| Figure 6.2 | Modified model of Asbjørnsletts disruptive time theory (Asbjørnslett, 2009) |

Appendix 2 – Interview template

In this appendix the semi structured interview held with Elanders' SCD along with the date and participants is presented. Below the interview template is presented

- *Date* – 5/6/2016
- *Interviewee* – Fanny Larsson, Director of Global Supply Chain Business Solutions of Elanders AB
- *Interviewer* – Artin Esmailzadeh, Anton Lööf and Josephine Risberg

Interview template

1.1 How has Elanders as a group developed over the last couple of years?

1.2 How do Elanders as a group work to integrate your different operations and why?

1.3 Why do you strive for a global solution regarding transportation outsourcing?

1.4 What type of relation do you want with your suppliers and why?

1.5 Where is the decisions regarding purchasing of transportation services made and how involved are you at Elanders AB in this process?

1.6 What involvement do your various subsidiaries have in the procurement process? In what way?

1.7 What difficulties do you experience regarding the communication with the other offices in the corporate group? In your regular operations as well as during the procurement process.

1.8 Has your strategic view regarding transportation services changed in any way following Elanders shift towards a more supply chain oriented business?

1.9 Rank the following factors regarding the choice of suppliers: price, delivery dependability, previous relation. Why?

1.10 To what extent are Elanders and the subsidiaries in need of different types of special deliveries?

1.11 How much more are you willing to pay for environmentally friendly transports? Why?

How much consideration are you taking regarding the suppliers environmentally friendly transports?

1.12 Do you have other factors you take into consideration when procuring transportation services?

1.13 What are the biggest insecurities and risk regarding a change in 3PL? What risks are there with the procurement process?

1.14 Do you have some kind of IT system to keep track of your shipments? Does all subsidiaries have the same standardised IT system?

1.14.1 If yes, what kind of data about the shipments is it possible to export from the system? (E.g. transport provider, type of transportation, distance, weight, and cost)

1.14.2 If no, how do you obtain this type of data about the shipments needed for the procurement process?

1.15 Do you have a standardised process to continuously be able to have the best transport contract possible?

1.16 Do you have a plan on integrating the subsidiaries IT systems?

Appendix 3 – 3PL interviews

Table showing dates when the interviews were held along with company names and participating representatives from the 3PLs

Date	3PL	3PL Representative
2016-02-26	DSV	Key Account Manager
2016-02-29	DHL GF	Regional Sales Manager
2016-02-29	DHL Freight	Regional Sales Manager
2016-02-29	Schenker	Sales representatives
2016-03-02	FedEx	Key Account Manager
2016-03-02	DHL Express	Key Account Manager and Sales Manager
2016-03-03	Ntex	Sales representatives
2016-04-05	UPS	Key Account Manager
2016-04-08	TNT	Key Account Manager and CEO of Sweden
2016-04-29	TNT	Key Account Manager

Below the information gathered from the meetings taking place at Elanders headquarters in Sweden is presented

DHL

DHL is a Germany-based logistics company offering their services on a global scale. They are divided into three separately operating companies each focusing on one of the following areas: express, freight and global forwarding. According to the representing salesman it is difficult for a single 3PL to be competitive in more than one area as it requires an extensive network with different requirements and regulations for each. Therefore, each of these divisions are run by an independent company controlling its own organisation.

DHL Express focuses on express deliveries of parcels worldwide with short lead times through flight and road transports between and within countries. DHL Freight works with transportations using road and train deliveries within Europe, providing lower prices but with longer lead times. The main goods of DHL Freight are pallets, but parcels are also available within their service. DHL GF, global forwarding, combines sea and air transportation globally, most commonly used for large goods carried by containers. If DHL is considered be the

provider of full transportation services, contracts need to be set up with each of these companies separately.

The fact that DHL is divided into three independent companies is a strength, according to their salesman, since it is possible to use the three of them together. The different companies each have expertise and resources necessary within their focus area. They also use the same logistic systems and has a well-developed cooperation between the companies.

Across all divisions within DHL, environmental impacts are a major topic according to the salesman. They emphasised their certification GOGREEN, which is an environmental friendly certification. According to DHL, customers want to have an environmental friendly approach towards the end customer but in the end it is the price that is the major factor. If a customer benefits in investing money with a beneficial return on investment, ROI, they see an evident relation to the sales of their environmental services.

DSV

DSV is a globally diverse company, they have physical offices in 80 countries and their head quarter is located in Denmark. DSV consists of three different companies, where each is focused on one particular area including air and sea, road, general solutions such as pick and package. For their road service, each trailer is equipped with a GPS making it easy to track where the client's goods are at all times.

Since global firms often want centralised control DSV provide personal customer service towards their customers. This includes a designated DSV employee in each of the countries where the customer has operations, who is well informed of their specific requirements and speaks their native language. According to the salesman, DSV are extremely result oriented and tries to maximise efficiency by providing up-to-date technology, enhancing the services offered towards clients. Their salesperson also stated flexibility is a key factor found in DSVs' services and that last minute changes regarding their transportation services is possible.

FedEx

FedEx is an American 3PL with a focus on parcel transports by air. They cover most areas of the world except for certain restrictions depending on the political situation the country is in, according to the salesman. This does not impact Elanders as they do not have any deliveries to the countries FedEx is currently restricted from.

As FedEx is a global company they can also provide customer service in each of the countries Elanders have offices. Their transportation by air includes parcels, pallets and documents with both an economy and express option. According to the salesman, FedEx will be able to provide exact time and date when the goods are to be delivered. For Elanders, it will be most beneficial to use FedEx express solutions when dealing with low quantities. This will be something that Elanders can particularly benefit from as each country and destination has particular times and days when the goods can be delivered.

With the fuel consumption responsible for a large part of FedEx environmental impact they constantly try to find new innovations, with the objective of improving their green footprint.

One example is the internal competition named Earth Smart that FedEx arranges, encouraging innovative ideas to be brought forward. According to their salesperson FedEx have also invested in new planes that are fuel efficient and able to load more than those hired by other flight providers. Through initiatives like these FedEx try to reduce their overall environmental impact, contributing to both their own as well as their customers' goodwill.

Kuehne + Nagel

The sales representative at Kuehne + Nagel stated that the firm is one of the largest logistics providers worldwide, with most of their shipments going by pallets through sea freight, air freight. Further they emphasise that by using them the visibility and governance of Elanders' transports would improve. As a part of their transport service offering both tracking as well as monitoring of shipments is available. All of KNs' vehicles use GPS-trackers, keeping their customers up to date with real time information about their shipments. This enables a proactive approach when dealing with delays and other disruptions.

With KN accustomed to working with global clients they offer specific solutions regarding governance. If a client wants central governance KN can arrange for it. On the other hand if a client wants a centralised contract solution that allows for their subsidiaries around the world to still govern their own processes, while still utilising a centralised contract solution that is possible as well according to their sales representative.

KN has a clear strategy regarding implementation of a new solution, with the goal being to eliminate failures in the implementation phase to zero. They also accentuate the fact that they are accustomed to work with continues improvements, both for their own and their clients' logistics processes.

Schenker

Much like DHL, Schenker is a German based world-wide actor in the 3PL industry. They offer transport services by air, sea, road and rail and are considered as one of the world's leading transport providers.

During the meeting with Schenkers' sales representatives, they pointed out that due to varying regional demands in logistics services price differences may occur. Thus there might be a difference in price when importing goods to hub A from hub B compared to when exporting it from hub B to hub A. This complicates the process of organising transports, since it is highly relevant to compare the import and export prices, and decide which the most economical choice is. When it comes to governance Schenker only offers their clients a centralized solution where everything is controlled from one place, preferably the headquarters. This may complicate things as a global centralised solution prevents subsidiaries to govern their own process.

UPS

According to the sales manager of UPS in southern Sweden, UPS has, in contrast to other global 3PL companies, complete ownership of all transportation units and hubs. UPS emphasise the benefit of having all employees gathered within one organisation. It allows them to gather and retain knowledge about their activities, giving them the ability to offer high

delivery precision with respect to time. Their sales manager also highlighted the importance of standardisation through the whole supply chain and that their unified organisation enables a high degree of standardisation in their processes.

The sales manager of UPS also emphasises their local routines as a benefit when negotiating global contracts. As 3PLs they want to make sure they obtain a certain amount of annual shipments. Since they have experience about previous global contracts procurements they know that with change comes challenges, especially when implementing new routines. Local firms often have their own routines and might not be open for change causing difficulties when implementing new transportation contracts as the global office will not be aware of the local challenges.

In contrast to other 3PL parties, UPS does not have a standardised service of emission report deliveries or compilations. According to the sales manager of UPS, they often use intermodal carrier solutions making it difficult to calculate exact values for the emissions. They can however offer emission report services as an extra service if required by the customer.

Appendix 4 – Elanders group

Information about Elanders group

Summary

Elanders is a global supplier of integrated solutions in the areas supply chain management, print & packaging and e-commerce. The Group operates in more than 15 countries on four continents. Elanders' most important markets are China, Germany, Singapore, Sweden, United Kingdom and the USA. The majority of the customers are automotive, consumer electronics or white goods manufacturers.

History and development

Elanders was founded in 1908 in Gothenburg with a long contract to print the Swedish National Directory. From here they developed their operation becoming a leading actor in printing. In 1978 they expanded and started up their first company in Great Britain, Elanders Ltd in Scotland. Two years later, in 1980, they reached a milestone, 100 MSEK in turnover.

In 1989 Elanders were listed on the Stockholm Stock Exchange and have been a listed since then. In 1997 Elanders achieved a turnover above 1.000 MSEK, worked intense with environment which resulted in a Swan eco-label and got certified towards the environment management system ISO 14001. In 2000 Elanders became the largest graphic group in the Nordics after acquiring eleven companies in Sweden over the last three years.

In 2004-2008 Elanders started to seriously expand globally by expanding to Hungary, China, Germany, Brazil, Italy and USA thru both acquisition and own start-ups.

In a present time where printed goods are becoming a less requested product, Elanders has made several strategical decisions and acquisitions towards becoming more than a printing and graphic company. 2010 they acquired the packaging printer Printpack in Germany to broaden their product range with packaging.

In 2012 and 2013 they expanded into e-commerce by acquisitioning three German companies; fotokasten, Deutche Online Medien and myphotobook.

The latest and also biggest acquisition was in 2014 by the acquisitions of Mentor Media Ltd. which is a Singapore based company offering Supply Chain services. The net sales increased from 2.2 billion SEK to about 3.5 and the total employees within Elanders expanded from about 1900 to 3600 caused by this acquisition. Thereby Elanders is since then also operating in the supply chain sector.

Elanders' customers

The majority of the customers are within automotive, consumer electronics or white goods manufacturers. Elanders helps their customer with everything ranging from printing and packing manuals to taking over their entire supply chain. Taking over a companies supply chain can include the handling of receiving orders, procurement, purchasing and inventory management to configuration, manufacture and delivery. Elanders also handles payment flows,

synchronizing purchasing and inventory with demand and after sales service for global logistics solutions, as well as handling returned or damaged goods.

Only a small amount of their customers are end customers. Elanders provide end customers with a broad selection of photo products such as photo books, calendars, presents, and interior design items.

Elanders have different ways to develop and create new relations. One of their current goals is to start handling the supply chain of their current print & packaging customers by discussing the benefits that comes with outsourcing their supply chain. Further, Elanders constantly tries to acquire new customers with the help of their large contact network.

CSR

Elanders has published information about their environmental activities on its homepage. It has clearly defined four aims which defines their work about environmental and social awareness. The goals include human rights, business for social and ethical manner, environment and safety of people and lastly learning, engaging and respect cultures and diversity. According to Elanders AB, the organisation strives to be a world leading within the subject of CSR. To reach this aim it puts a lot of resources to communicate and implement the information about CSR to the whole organisation and make it to a part of the daily basis work.

Figure mapping all the subsidiaries and showing their main area of operations

