The Value of Information Sharing in a 3PL-relationship

Master’s thesis within Business Administration

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Acknowledgements by author Danny Brännhult

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Abstract

Since the business environment of today is characterized to be dynamic and service-driven, corporations are looking for solutions how to cut costs and still keep their competitive advantage in the market, and also how to decrease lead-time and flexibility. In this environment are 3PL-providers operating with an incentive to always please the customer. This study will investigate a 3PL-provider’s information sharing with its customer and how value can be extracted from this type of sharing.

The purpose of this thesis is to understand and investigate the value of information sharing between the 3PL-provider and its customer. Two research questions have been dictated; R1: How do the respondents at the 3PL-provider perceive the relationship with their customer? R2: How are information requirements met?

For the frame of reference have theories in the area of third-party logistics, information, relation, and value been studied. The carrying out of the study has been performed with a bounded ethnography approach since this study has essences from both the scientific and ethnographic approaches. The research reasoning is mainly inductive but with deductive elements. The research strategy is of qualitative character, where the data collection has been carried out through interviews/discussions within multiple case studies. There were several interviews launched within the target 3PL-relationships. The analysis of the empirical findings has been done through the existing theories in the frame of reference.

The investigation showed that improvements of the information requirements and utilization of the communication methods improves the quality of the information sharing, and the conclusion drawn is that the information requirements and communication methods are big contributors for the information sharing as a whole. Since the information sharing is considered a big contributor to the customer value one can use the customer value as reference for how to value the information sharing. A main conclusion is therefore that the value of information sharing is dependent on its contribution for the customer value.
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List of abbreviations

3PL – Third Party Logistics
EDI – Electronic Data Interchange
ERP – Enterprise Resource Planning
FTP – File Transfer Protocol
ICT – Information & Communication Technology
IT – Information Technology
KPI – Key Performance Index
1 Introduction

The following introducing chapter will guide the reader through background, problem definition, purpose, research questions, and finally limitations. This chapter will give the reader an understanding of the growing trend of outsourcing and usage of third party logistic solutions. This growing trend entails several factors for the success of outsourcing where the authors have recognized the sharing of information to be the keyword for the problem definition. The problem definition further explains why the authors believe that information sharing being crucial. Lastly the thesis purpose is presented supported by two research questions.

1.1 Background

The business environment of today is characterized to be dynamic and service-driven, corporations are looking for solutions how to cut costs and still keep their competitive advantage in the market, and also how to decrease lead-time and increase flexibility (Carr & Kaynak, 2007). Quinn, Doorley and Paquette (1990, p. 60) suggests that “a maintainable advantage usually derives from outstanding depth in selected human skills, logistics capabilities, knowledge bases, or other service strengths that competitors cannot reproduce and that lead to greater demonstrable value for the customer.” Normann and Ramirez (1993, p. 69) argues that “the only true source of competitive advantage is the ability to conceive the entire value-creating system and make it work.”

For a firm to keep its competitiveness they identify their core competence to maintain their position in the market and at the same time outsourcing the activities that are not closely connected with their core business (Bolumole, 2001; Persson & Virum, 2001). Core competences can be seen as intangible processes that are “bundles of skills and technologies” (Hamel & Prahalad 1994, p. 202) and are often actions, operations or routines that are causally ambiguous, tacit, and individual (Nelson & Winter, 1982; Polanyi, 1966). Prahalad and Hamel (1990, p.6) argues that core competence are; balancing streams of technology, the delivery of value and the organization of work, and further they argue, “core competence is communication, involvement, and deep commitment to working across organizational boundaries.”

The main purpose of supply chain management (SCM) is according to Mortenson & Lemoine (2008) that companies should integrate business processes both within their own company and with partners and as a result establish competitive supply chains. One set of activities that are often outsourced are the logistic services, this type of outsourcing can take many forms depending on to what extent the activity will be outsourced (Skjoett-Larsen, 2000).

Both in practice and literature has SCM received a growing interest, and the literature of practical areas for SCM has been growing (Simchi-Levi, Kaminsky & Simchi-Levi, 2003; Lambert, 2006). In the forthcoming of this development, outsourcing companies´ logistics activities to a third-party logistics (3PL) provider has increased (Berglund, Laarhoven, Sharman & Wandel, 1999; Hertz & Alfredsson, 2003). A 3PL-provider is
an external actor that performs all or part of a company’s logistic function (Bolumole, 2001; Stefansson, 2006). Figures show that nearly 74 percent of companies outsource some of their logistics activities (Langley, Coyle, Gibson, Novack & Bardi, 2009). This phenomenon is according to Simchi-Levi et al. (2003) expected to continue.

With more corporations searching for cost reductions and to increase business efficiency, 3PL-providers have become more attractive (Persson & Virum, 2001; Stefansson, 2006). In the middle of the 2000s the average use of 3PL services by firms located in Western Europe were between 76 percent and 79 percent (Langley et al., 2009). A 3PL solution can take many forms and includes a wide spectrum of activities that goes beyond pure transporting services. One usually account for five major fields of 3PL-providers; transport-based, warehousing/distribution-based, forwarded-based, financial-based, and information-based (Langley et al., 2009).

The trend in growing number of 3PL-providers has also changed the implication and motive for a company to outsource their logistic activities over the years. Initially this was a simple make or buy decision where an arm’s length relationship was exercised and where the motive was to cut costs and free capital. In pace with the increasing growth of 3PL-providers the relationships have developed to become more collaborative and motives for outsourcing are rather strategic moves with long-term aims than cutting cost in the short-term (Skjoett-Larsen, 2000). Still, for a firm’s choice of outsourcing to be defensible the solution has to entail better logistics functions and be more efficient than without the solution. When introducing a 3PL-provider in the supply chain the relevance of a good and collaborative relationship is of high importance.

Planning and decision making in a business relationship are differentiated into three time-horizons namely; strategic, tactical and operational (Cheong, 2003). Operational decisions considers daily or weekly logistic activities, the tactical level considers decisions made for monthly activities, and strategic decision level are considered long termed and planned on a yearly basis (Cheong, 2003).

For an outsourcing solution like a 3PL to be successful and to function in an acceptable manner for all parties involved, a lot of weight is directed towards the level of information and communication, more specifically the sharing of information (Yu, Yan, Cheng, 2001; Langley, 2005; Power, Sharafali & Bhakoo, 2007).

1.2 Problem Definition

When a 3PL-provider is hired by a company to perform all or some logistic services on the behalf of its customer one can assume that the entire supply chain becomes modified. The flow of material, information, finance and knowledge will take a different path which entails a risk of issues that can have an impact on the relationship between the actors in the supply chain.

The authors of this thesis have real life experience in 3PL environment where they have recognized relationship issues caused mainly by the lack of information, specifically the lack of information shared with and provided to the 3PL-provider. This recognition has
been observed at an operational level, which is also the level that this thesis is going to carry out its study in.

Due to the growing trend in the 3PL-industry is the topic to investigate the value of information-sharing for a supply chain with a 3PL-constellation considered contemporary. Even though former theory on information-sharing, 3PL, and supply chain relationships are proliferated, no former study, as the authors of this thesis know of, has been done to investigate the value of information sharing from the perspective of the 3PL-provider.

1.3 Purpose

The purpose of this thesis is to understand and investigate the value of information sharing between the 3PL-provider and its customer.

1.4 Research Questions

In order to better fulfill the purpose are the following research questions formulated.

\( R1 \): How do the respondents at the 3PL-provider perceive the relationship with their customer?

\( R2 \): How are information requirements met?

1.5 Limitations

The study will be conducted in the Swedish market, thus not take into consideration the different actor’s global affairs. The 3PL-provider in focus are providing warehouse services, other logistics firms such as freight forwarders etc. are not taken into consideration within this study.
2 Frame of Reference

This chapter is based on relevant literature reviews for the empirical research and is divided into four main sections; third party logistics, information, relationship and customer value. The first section will present the concept of third party logistics by first providing a general explanation of it followed by up to date statistics and relating challenges. The path of inter-organizational relationships will be crossed and the aim of the first section is to give the reader an understanding that problems regarding third party logistics can be derived to problem areas related to information. Thus is the second section devoted to information where the aim is to highlight the importance of the sharing, the requirements, the communication methods, and the technological capabilities. As a third section the two categories will be combined and concluded. Value is the last keyword that will be explained where the authors are providing a definition of it. As a last section is the framework of the thesis presented with the incentive to conclude the different sections and give the reader a better understanding of this thesis purpose.

2.1 Third party logistics

During the 1980s and 1990s the direction towards a global and a more competitive market became a hallmark. The growing awareness of costs made companies take decisions whether to make a particular activity in-house or buy it from the market. The concept of focusing solely on the company’s core competence and to outsource everything beyond that came to live. Since that outsourcing became one of the most intense growing trends in logistics management of today. Companies devote more dedication to focus on their core competencies and buy other services from the market rather than making them internally. Logistics are for many companies not considered to be a core competence and since the services could be found in the open market, logistic services are subject of outsourcing (Jonsson & Mattsson, 2005).

Outsourcing of transportation and warehouse services has been done for a long period of time; however the founding concept of logistic outsourcing has developed from a simple “make or buy” decision to become an actual strategic move for many companies (Skjoett-Larsen, 2000). The overall logistic function has developed “from a passive, cost-absorbing function to that of a strategic factor which provides a unique competitive advantage” (Chapman & Soosay, 2003 p.639). The pursuit to reach a better strategic fit with goals and objectives have made companies to take the decision to outsource their logistic activities (Langley, 2005).

The above mentioned developments have rendered in something referred to as third party logistics, 3PL, where new areas of interest that goes beyond pure cost cutting have caught companies’ attention. Due to today’s globalization and the highly dynamic business environment, outsourcing has become a strategy for the company to stay competitive and sustain its position in the market (Skjoett-Larsen, 2000).

Defining the concept of 3PL can be done in several ways. Some definitions are:
“As activities carried out by a logistics service provider on behalf of a shipper and consisting of at least management and execution of transportation and warehousing. In addition, other activities can be included. Also, we require the contract to contain some management, analytical or design activities, and the length of the cooperation between shipper and provider to be at least one year, to distinguish third-party logistics from traditional “arm’s length” sourcing of transportation and/or warehousing.” (Berglund et al., 1999).

“TPL involves the use of external companies to perform logistics functions that have traditionally been performed within an organization. The functions performed by the third party can encompass the entire logistics process or selected activities within that process.” (Lieb, 1992).

“A logistics alliance indicates a close and long-term relationship between a customer and a provider encompassing the delivery of a wide array of logistics needs. In a logistics alliance, the parties ideally consider each other as partners. They collaborate in understanding and defining the customers’ logistics need. Both partners participate in designing and developing logistics solutions and measuring performance. The goal of the relationship is to develop a win-win arrangement.” (Skjoett-Larsen, 2000).

In short it can be defined as an external supplier that performs all or part of a company’s logistic functions (Langley et al., 2009). In a typical 3PL-constellation, the 3PL-provider is positioned in the middle between its client’s and the client’s customer (Cheong, 2003). This is shown in figure 2-1 where the arrows indicate the physical material flow.

![Figure 2-1 3PL-constellation.](image)

There are several different types of 3PL-providers represented in the market today all of which provides a wide spectrum of logistic services. One usually categorize the providers into five types; transportation based, warehouse/distribution based, forwarder based, financial based, and information based (Langley et al. 2009). Which service provided is dependent on to what extent and degree the customer have chosen to outsource their logistics, this can range from simple transportation services to complete integrated logistics solutions. The warehouse function is associated with activities such as: assembling, picking, packing, labelling, storing, freezing, quality control, and delivering (Stefansson, 2006). Just the warehouse function is according to Stefansson (2006) of greatest importance since this is where the value added activities take place. The description of the associated activities by Stefansson (2006) performed in a warehouse-based provider.
is connected to Levy and Weitz’s (2009) description of the main activities for an inbound department;

- Coordinating inbound transportation; decide delivery slot for shipment.
- Receiving; record the receipt of goods arriving.
- Checking; going through the goods for damages, and right quantity and goods.
- Storing; putting the good in the warehousing facility, recording its location.
- Cross docking; the good is routed from an incoming truck into a loading truck dock.
- Getting merchandise “floor-ready”; marking and ticketing the good with the specific identification labels and pricing for the specific customer store.

The authors of this thesis are acknowledging these two descriptions above to be applicable for a 3PL setting as this thesis is surrounding, therefore will these activities be recognized as inbound activities as well as warehouse activities.

2.1.1 3PL for the past ten years

As mentioned in the beginning of this chapter, outsourcing has become a growing trend. The use and importance of 3PL-providers are steadily growing around the world and one can interpret the 3PL-market today, at least to some extent and with cautiousness be referred to as perfect competition, characterized by low profit margins. Since new areas of interest are arising for companies on why they will outsource, for a 3PL-offering solely low price is not a winning strategy (Cheong, 2003). In the middle of 2000s the average usage of 3PL services by companies in Western Europe was between 76 percent and 79 percent (Langley et al. 2009). The growth has shown itself in two main ways, increase in number of buyers of logistic services and through the increase in the extent of usage of logistic services (Cheong, 2003). The value adding 3PL-providers of today initially emerged from companies involved in transportation and warehousing services in the early 1990s (Selviaridis & Spring, 2007). These two services are still today the most common ones being performed by 3PL-providers (Langley et al., 2009). However is the viewpoint changing when going from the perspective of viewing the goods as the primary part, where tangible output and transactional discretion was centrally, to consider the service as the primary, where instead exchange processes, intangibility and relationships are in the central focus. Vargo and Lusch (2004) are defining services as the function of dedicated competences (skills and knowledge) through processes, performances and deeds for the benefit of the own entity or of another entity.
2.1.2 Challenges

Despite the fact that outsourcing and 3PL-solutions is rooted way back it is in some essence still in its infancy. According to Langley´s (2005) study the majority of companies in use of a 3PL-provider consider their relationship to be successful, nonetheless are the majority also eager to express and suggest areas of improvement to the relationship. Some of the concerns presented by Langley (2005) are:

Service level commitments not realized
- Cost “creep” and price increases once relationships begins
- Lack of continuous, ongoing improvements
- Cost reductions not realized
- Time and effort spent on logistics not decreased
- Lack of strategic management skills
- Unsatisfactory transition during implementation stage
- Not keeping up with IT advances
- Inability to form meaningful, trusting relationships
- Lack of consultative knowledge-based skills
- Lack of global capabilities

A relationship problem that is located in the implementation phase has often been concerned about the failure for outsourcing firms to properly manage providers and the mismatch with understanding their counterpart. These circumstances are rooted in inadequate information sharing between the parties and subsequent problems with using the right context for their cooperation (Razzaque & Sheng, 1998; Bagchi & Virum, 1998; Knemeyer & Murphy, 2005; Panayides, 2007).

The suggestions for improvement are comprehensive and many, this support the statement that this industry in some essence still is in its infancy. When observing challenges for 3PL-providers it is inevitable to cross the path related to relationship-issues.

This since several scholars are reconnecting and highlighting the relationship to be the most crucial and essential area of discussion when elaborating on 3PL challenges (Cheong, 2003; Langley et al. 2009; Stefansson, 2006; Skjoett-Larsen, 2000). In “Third party logistics – from an inter-organizational point of view” from 2000 Skjoett-Larsen presents a mapping on relationship derived from Bowersox, Daugherty, Dröge, Rogers & Wardlow (1989). See figure 2-2.
The figure presents the relationships between a buyer and a seller i.e. a logistic service provider, where the variables are the degree of integration and the degree of commitment.

Skjoett-Larsen (2000) states that pure outsourcing of transportation and outsourcing in a 3PL-arrangement are two different things that are dependent on the type of relationship. Figure 2-2 shows that a single transaction of transportation services facilitates a low degree of both integration and commitment whereas a 3PL-agreement requires a greater level of relationship where integration and commitment are high (Skjoett-Larsen, 2000).

Langley et al. (2009) presents another mapping related to the perspective of a relationship in supply chain management, see figure 2-3.

The relationship types are referred to as vendor, partner, and strategic alliance where the type vendor is considered to facilitate the lowest level of integration for the actors, hence transactional, and where strategic alliance is considered to facilitate the highest
level of integration, hence relational. When the lowest level of integration is the situation for a relationship one usually refer that relationship to be at an arm’s length, in the same way to be strategic when the case is reverse and the highest level of integration is exercised (Langley et al., 2009). This explanation is also supported in figure 2-2 where Skjoett-Larsen (2000) places a buyer/seller-single transaction relationship at an arm’s length position and a 3PL-arrangement at a strategic position.

The degree of integration and commitment together with what type of relationship being exercised one can look at information to be one determent factor for how to classify a relationship.

### 2.2 Information

One usually account for four type of flows in the supply chain, together with the physical material flow and the monetary flow, the information and knowledge flows creates the four type of flows related to supply chain management and logistics (Langley et al., 2009; Jonsson & Mattsson, 2005).

The material flow is with no doubt the most important flow in terms of tangibility, but this will not function without an effective flow of information. For an effective flow of goods, an effective flow of information is a requirement. Specific areas where an effective information flow is a crucial requirement for an effective material flow is when information regarding customers’ demand, customers’ needs, to calculate and estimate available capacity, suppliers’ ability to deliver, etc. Retrieving this type of information makes it possible for a firm in the supply chain to add value to the actual good. Put simply, the information flow can be defined as the flow of information throughout the entire supply chain (Cheong, 2003). This type of information flow is directly associated with orders processing, information sharing, IT-systems integration, internet, and visibility (Jonsson & Mattsson, 2005).

For companies to stay competitive in the business environment today, besides cutting costs, it is crucial to develop and enhance factors like product quality, flexibility, shorten lead times and customer satisfaction (Delfmann, Albers & Gehring; 2000). These factors can also be referred to as ones perceived benefits which in turn are high contributors for customer value-creation. Perceived benefits will be further discussed and explained in section 2.4.

To continue the mentioned factors can be improved with the impact of an effective information flow which has to be synchronized with the material flow (Carr & Kaynak, 2007). Put in context for a 3PL-relationship, the information flow is considered to be one of the biggest contributors for either the success or the failure of the relationship and it has to be shared (Skjoett-Larsen, 2000; Cheong, 2003; Langley, 2005).
2.2.1 Information Sharing and Requirements

For the information to flow and be of value in the supply chain it is a requirement that it is being shared. To be able to make a successful supply chain Langley et al. (2009) argues that knowledge is vital and to be able to execute, plan and evaluate key functions in the supply chain a steady flow of information is needed, beside the material and monetary ones. For a supply chain to be able to carry out its activities as expected, an extensive variety of information is needed (Langley et al., 2009).

The quality of the information gained within a supply chain is a vital feature of the knowledge flow, to make sure that right information is streaming through the chain; following five characteristics of the information should apply according to Langley et al. (2009); accessible, relevant, accurate, timely, and transferable.

Accessible
Information needs to be available to those actors within the chain that have a legitimate need for it, regardless of employer or location. To be able to get hold of this type of information can be proven hard since supply chain data are often dispersed between several locations, and with information systems owned by external organizations (Langley et al., 2009).

Relevant
Supply chain managers’ needs, in their decision making, applicable information for the specific situation they are finding themselves in. The possibility to extract relevant information is of major importance, for decision maker’s to avoid wasting time with unimportant data (Langley et al., 2009).

Accurate
To be able to make appropriate decisions, the information needs to be exact and truthful. If there is any inconsistency with the information extracted against the current situation then several drawbacks can occur, such as dissatisfied customers and inventory shortages (Langley et al., 2009).

Timely
The information needs to be available and updated in a reasonable timeframe. Supply chain managers should be able to consider real-time data when they are attempting to synchronize activities and address problems before crisis is upon their businesses (Langley et al., 2009).

Transferable
According to Langley et al. (2009) has the final characteristic of information several meanings, as people in average need translators for different languages, as much does supply chain managers need the ability to convert information from one format to another and in the process make the information understandable and useful. Information also needs to be able to be transferred from one location to another in a quick manner to be able to maintain timeliness and accessibility. A paper-based supply chain cannot support a demand-driven chain or these information requirements, therefore information
must be in an electronic format that can be converted and transmitted via supply chain information technology (Langley et al., 2009).

2.2.2 Communication methods & ICT

As much as how the character of the information being shared is important is also the communication method used to share the information a very important factor in effective relationship development. There are many ways and methods to share information, referred to as communication methods, in the supply chain. Communication methods can be put into two categories namely traditional and advanced. Traditional communication methods are referred to the usage of telephone, fax, E-mail, and face-to-face contact. Advanced communication methods are referred to the usage of computer-to-computer links, electronic data interchange (EDI), and enterprise resource planning (ERP) (Carr & Kaynak, 2007).

Wognum, Fisscher, and Weenink (2002) states that the advanced methods can never replace the traditional face-to-face communication; it can only support the information sharing. Any type of collaboration and exchange of information from one partner to another is referred to as an information system (Beynon-Davies, 2009).

Communication methods like ERP, and EDI, are both examples of ICT systems. ICT system can be defined as "a collection of hardware, software, data, and communication technology designed to support the information system" (Beynon-Davies, 2009). To put it simple, an ICT system such as ERP helps facilitate and support the information system i.e. the exchange of information. Van Donk (2008) explains the impact of ICT to increase the speed for the information flow in the supply chain which is supportive for the management.

Further, Langley et al. (2009, p.189) states; "The changing nature of supply chains underlies the need for information and the investment in technology”. Information technologies ought to evolve since supply chains are becoming more demand driven, global and complex. To be able to share cost-efficient and timely information between suppliers, manufacturers, logistic service providers and customers, the usage of information technology is of great importance.

2.2.3 Information technology capabilities

The importance and value of supply chain information technology is not only for supply chain leaders, in a study by Capgemini, Georgia Southern University and University of Tennessee are six drivers of supply chain excellence identified within adaptive enterprises (Langley et al., 2009). Langley et al. (p.192, 2009) argues that they have recognized the link between excellence and information technology, stating “firms that have real-time (or near real-time) information about products, customers, and order fulfillment across the supply chain are more effective and deliver customer service that surpasses their competition”.
The six drivers of supply chain excellence will be presented in the following sections (Langley et al., 2009).

**Connectivity**

The focus of this driver is information technology, with geographically dispersed facilities and supply chain partners are linked electronically via extranets, the Internet or by other means. These connections make it possible to information sharing through supply chain processes and solutions that are synchronized and integrated (Langley et al., 2009).

**Visibility**

To be able to monitor what is going on across the supply chain is of vital importance and will be easiest achieved via technology. Vast amounts of data regarding inventory flows, orders and demand can be collected and interpreted by supply chain tools to filter information and present it in a useful setting. By using these sophisticated technological tools, the user can keep track of its products throughout the supply chain (Langley et al., 2009).

**Collaboration**

When providing visibility and connectivity, technology has the possibility to facilitate real-time data sharing with its supply chain members. With this information gained, coordinating decisions regarding strategy development and processes standardization is possible (Langley et al., 2009).

**Optimization**

To be able to make the most of organizations performance in supply chain activities there is a variety of software that helps these companies. An optimization tool analyze the different options for a supply chain problem and thereafter presents the best solution, such as finding maximization solutions for warehouse inventory levels within a set of product measurements (Langley et al., 2009).

**Execution**

To be able to achieve operational excellence on a daily or even hourly basis, supply chain technology must be used for efficient integration and execution of key activities. These technological tools help firms to manage inventory and other key supply chain functions more efficiently than could be done manually. To reap operational success in terms of cost control and customer service goals, should these be monitored through software that measures the supply chain’s performance (Langley et al., 2009).

**Speed**

According to Langley et al. (2009) are properly implemented technologies help for firms to respond in a more time-saving manner when their customers require a more consistent flow of information and material. Supply chain managers need tools to be able to solve issues and adapt to quick changes. This lets the supply chain continue to be dynamic without any frictions. New categories of software are coming into the market, which can make the capability to automatically resolve some problems, manage events dynamically, and provide recommendations (Langley et al., 2009).
These six drivers are, when properly executed, valuable weapons when it comes to the combat for competitive advantage.

2.3 The impact of information on a 3PL-relationship

Since the 3PL-industry is moving towards becoming a strategic choice rather than a choice based on pure cost reduction for companies, the relationship between the 3PL-provider and its customer is of high importance. For such a relationship to be successful it has to be characterized by effective communications (Langley, 2005). Skjoett-Larsen (2000) continues to state, with figure 2-2 as support, that a 3PL-agreement is dependent on free information exchange. Many of the problems faced by a 3PL-provider are connected with the material flow, this could be problem related to inventory, scheduling of fleet, consolidation, and warehousing (Cheong, 2003).

To overcome problems directly affecting the material flow the use of coordination is the key. Inbound-related problems can be solved by coordination with the manufacturer or the supplier. This coordination should then be concentrated with scheduling the inbound transportation. Coordination is however dependent on the information flow and the sharing of information. The lack of inter-organizational information sharing is one of the biggest barriers to overcome in a 3PL-arrangement (Cheong, 2003). For this reason is a 3PL-provider’s success highly dependent on the information shared with them from their customers.

A relationship problem that is located in the implementation phase has often been concerned with the failure for outsourcing firms to properly manage providers and the mismatch with understanding their counterpart. These circumstances are rooted in inadequate information sharing between the parties and subsequent problems with using the right context for their cooperation. Specialization within outsourcing needs synchronization since the specialized activities needs to be coordinated to form a total logistics solution for the buyer of the service. The more customized solution, the more coordination is needed between the involved parties (Razzaque & Sheng, 1998; Bagchi & Virum, 1998; Knemeyer & Murphy, 2005; Panayides, 2007).

When coordinating interdependent activities does the sharing of information play a vital role. Vargo and Lusch (2004) argue even further that information is the primary flow and that service is the provision of a consumer’s desire of information. Information can be retrieved, disregarding associated appliance. Evans and Wurster (1997, p. 72) states the following regarding this idea: “The value chain also includes all the information that flows within a company and between a company and its suppliers, its distributors, and its existing or potential customers. Supplier relationships, brand identity, process coordination, customer loyalty, employee loyalty, and switching costs all depend on various kinds of information.” It is through these different members of the chain that the differential use of knowledge and information sharing makes it possible for the organization to make value propositions to its customers, and in the making is competitive advantage gained (Evans & Wurster, 1997). Normann and Ramirez (1993) argue that value creation should be created through collaboration with the organization’s customers, network partners, suppliers and allies. The inter-organizational coordination requires ex-
tensive exchange of information between the firms involved. Issues will occur if those actors are relying on information systems that are missing proper integration.

When it comes to logistic outsourcing buyers often take the standpoint from only their own situation and tries to enforce the provider through contractual clauses and specifications to operate after the buyer’s interests (Hawkins, 2006). Gadde and Hulthén (2009) agrees with Kerr (2005, p.32) who claimed that “knowledge sharing is so pivotal to success that it should begin well before a 3PL contract is signed”. For the actors to gain more knowledge about each other they should make relationship interactions where both opportunities and constraints are made understandable for the cooperation. In these efforts to develop the relationship, information exchange is a vital dimension of interaction, both in short-term efficiency and long-term maturity. To be able to reap short-term benefits the efficiency of the logistics solution is dependent on synchronized information flow (Gadde & Hulthén, 2009).

To be able to be a successful logistics service provider does Piplani, Pokharel and Tan (2004 p.40) claim that “it would become imperative that they integrate [their information systems] with the IT-systems of their partners and customers in order to increase the effectiveness of the systems and to get the real value out of them”. Marasco (2008) have found another opportunity, where some companies are just looking for information technology that can cut costs, while other more value generating areas has been less contemplated.

For a fruitful long-term relationship with improved performance, it is necessary for the firms to secure continuous sharing of knowledge; particularly the importance of transfer technology to give the provider access to skills and knowledge can’t be stressed enough. When companies have ignored the need for transfer of skills and knowledge exchange has severe issues aroused. The logistics provider needs to engage the buyer of the services to be able to secure the performance of the outsourcing arrangements. “In the same way a service provider should not only learn from the buyer, but also ‘teach’ what consequences various requirements from the buyer side will have on the operations of the provider” (Gadde & Hulthén, 2009 p.638).

What the organizations need to think about is that the setting for the relationship and the logistic service might change, for instance, buyer demand will change or the resources and capabilities of the provider changes. Another area to consider is the possibility for development of new technology that can arise new logistics opportunities, which makes the actors within the relationship to adapt to new conditions and the need to continuously assess the customer-provider relationship (Gadde & Hulthén, 2009).
2.4 Customer Value

To be able to answer the purpose of this thesis the authors use the theory on customer value since this can be used as a reference to further investigate the value of information sharing.

One reason for why the 3PL-industry has grown significantly the past decades derives from the fact that such an outsourcing pays and creates value for whoever chooses to outsource. Power, Sharafali & Bhakoo (2007) explains that the success of a 3PL-provider depends on how their customers perceive the provider to be adding value to their enterprise.

The word “value” is broad and represents a vast number of different meanings depending in which context it is being used. A recognized definition of value is explained as the value being the outcome of the perceived benefits by a customer on a certain good or service divided by its price (Value = Perceived Benefits / Price) (Levy & Weitz, 2009).

This definition entails that a customer can recognize value either by measuring the perceived benefits to exceed the price to such an extent that they are willing to purchase. However, a customer can still recognize value even if the perceived benefit is not great. If the price is low enough, the dividend will still be at such a level where the customer performs the purchase. This definition of value is usually applicable in price setting matters to investigate a “customer’s maximum willingness to pay”. Since this thesis is surrounding the topic of the 3PL-industry the concept of “value” is somehow looked at from a different angle, however the definition presented by Levy & Weitz (2009) is still in this thesis very useful and is considered fundamental to how the authors of this thesis derive and define value. This thesis is not considering the monetary aspect which only leaves one variable term left to determine how a 3PL’s customers recognize value, perceived benefits.

Power, Sharafali & Bhakoo (2007) recognizes several areas at a customer that can be referred to as perceived benefits or “dependent variables” as presented in their study. Some of these are Customer Satisfaction, Inventory Control, Productivity, Flexibility, Net profit, Cycle times, Cash flow, General cost management, and Transportation cost management (Power, Sharafali & Bhakoo 2007).

This means, from a 3PL’s customer point of view, that if any of these perceived benefits or dependent variables will increase, value has been recognized. As been mentioned earlier in the frame of reference the 3PL-industry has grown to become a highly competitive industry characterized by small profit margins. This development has led 3PL-providers to differentiate themselves by focus on their services which also can be referred to as their value-adding activities. By achieving a success with a 3PL’s value added activities, an increase of the customers “perceived benefits” will be the result where finally the customer can exhaust value (Delfmann, Albers & Gehring, 2002).

The term value added services is well represented in the logistic literature. Delfmann et al. (2002) explains value added services to be associated with the logistic provider’s, core processes or functions. In the article “The Impact of electronic commerce on logistics service providers” by Delfmann et al. (2002) the presentation of value added services is derived from Engelsleben. Engelsleben in Delfmann et al. (2002) present value
added activities to be activities associated with a 3PL’s functions. Engelsleben’s classification is further described in figure 2-4 below.

<table>
<thead>
<tr>
<th>Activities which are directly related to the physical goods flow</th>
<th>Activities which are not directly related to the physical goods flow</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Logistical core processes</strong></td>
<td><strong>Management support and tools</strong></td>
</tr>
<tr>
<td>Transportation: shipping, forwarding, brokering, (de)consolidation, contract delivery</td>
<td>Logistics project controlling, anticipative logistics consulting, location analysis, layout design, MRF, DRP, LIS, XPS development</td>
</tr>
<tr>
<td>Warehousing: storage, handling, commissioning, packaging, paletting, etc.</td>
<td>Financial services</td>
</tr>
<tr>
<td>Assembly, quality control, merchandising, receiving/order entry, fulfilment, return goods, handling, kitting, marking/labelling, project-related consulting/forecasting, tracking and tracing, routing, scheduling, etc.</td>
<td>Factoring, invoicing/freight bill payment/audit, insurance services, etc.</td>
</tr>
</tbody>
</table>

Figure 2-4 Value added activities (Engelsleben in Delfmann et al., 2002).

Figure 2-4 makes a clear connection between a 3PL’s core processes and associated value adding activities. When it comes to the process or the logistic function of transportation some of the associated value adding activities are assembly, quality control, marking, and labeling. This means that if a 3PL-provider provides “extra” activities such as these, the customers perceived benefits will increase. Through the above knowledge one can see a process on how value is being created and how it can be derived from a 3PL-providers core functions. In short the figure explains that a 3PL-provider does not create any value for the customer if the value-added activities are absent. It is first when a 3PL-provider associate their core functions with value-adding activities such as assembly, quality control etc that the customer can recognize and see an increase in their dependent variables known as their perceived benefits. When the perceived benefits have increased has value been recognized. The framework in figure 2-5 is simplified and shows a straightforward line of customer value creation in a 3PL-relationship, there is however more to the creation of value than that.

Gronroos (2000, p. 24) states that; “value for customers is created throughout the relationship by the customer, partly in interactions between the customer and the supplier or service provider. The focus is not on products but on the customers’ value creating processes where value emerges for customers and is perceived by them.” It is as quoted, in the customer’s interest to determine what value is and to participate in the cooperation process. The tangible good is only a part of the offering since knowledge with potential value is embedded. Gronroos (2000) statement explains that the creation of value is a matter of relational character where the creation of value is twofold and not solely created by the service provider but also by the actual customer. For a 3PL-provider who is providing logistic services one can view integration, customization, interactivity, and
collaboration as cornerstones when it comes to a service-centered view and that these cornerstones are the natural focus on the relationship and the customer. This entails that one should not only present solutions for a customer, but also cooperate and together come up with matching solutions (Vargo & Lusch, 2004). This applies in a 3PL-relationship where the 3PL-provider and its customer have to integrate themselves to be able to achieve the maximum level of customer value.

2.4.1 Framework of the thesis

The purpose of this thesis is to understand and investigate the value of information sharing. Due to this is it of high importance to understand that value is not viewed as being created solely by the 3PL-provider but it is co-created by integration of the 3PL-provider and its customer. As Vargo & Lusch (2004) puts it, it is a service-centered view participatory and dynamic, which renders in that maximization of service provision is in both the customer and the providing organization’s interest. The theory on value and the co-creation of value entails, as described by Vargo & Lusch (2004), a high level of integration.

For this integration to be solid it is considered fundamental with a steady flow of information between the actors. As mentioned under the paragraph 2.2.1 is an extensive variety of information needed for a supply chain to be able to carry out its activities as expected (Langley et al., 2009). This further explains that for a 3PL-provider to be successful in the performance of its value adding activities are the information requirements; accessible, relevant, accurate, timely, and transferable, and the usage of ICT (with the measures from the six drivers of supply chain excellence) of great importance and considered fundamental pillars to the sharing of information.

The conducted theory has made the authors linking all parts together as in the framework in figure 2-5. In short does this framework visually present the creation of the customer’s value from the origin of a 3PL-providers “core functions”. The information sharing is looked upon as the glue which connects the two actors. The information sharing is further build upon how the information requirements are met together with the usage and utilization of communication methods.

The level of information sharing is what makes out the quality of the relationship as a whole and to be able to grasp a first understanding of the value of information sharing; one has to investigate how the customer value is being affected by the information sharing.
It is believed that this framework will help the researchers to answer the purpose followed by its research questions. To determine and map out the character of the “information sharing” for a relationship, like figure 2-5 reveals, one will get an understanding of how customer value is created or can be created dependent on the flow of information.
3 Methodology

The following chapter focuses on the research methods and discusses the methodological choices that the authors of this thesis have made to be able to answer the thesis purpose. In addition to the introduction is this chapter based on six major categories, all of which will help the reader to get a deeper understanding of the authors’ research process. These categories are research approach, research reasoning, research strategy, literature study, case study, and using the empirical findings.

3.1 Introduction

According to Weick (1992) is a good research often started with an issue that interests the authors of the research project, either from research (theoretical problems) or from real-world business and management settings (practical problems), there could also be derived from own personal experiences.

In the case of this thesis, the phenomenon was awakened by both authors. One of the authors have personal experience by working in a 3PL setting, this together with the fact that the two authors have deeper academic experience of the topic creates a solid foundation for the research.

According to Maylor and Blackmon (2005) is a research topic a general area of management and business, which leads to either a theoretical or practical dilemma that can be addressed in the research. Thereafter is it vital to identify in what research setting one will carrying out the project, such as what sample of people, organizations or other social units where the study’s data collection can take place.

Further, Maylor and Blackmon (2005) argue that to be able to define the area of research one should use research questions that will guide the future decisions of the study.

When the research topic had been settled, to understand and investigate the value of information sharing from a 3PL-provider’s point of view, did the authors of this thesis come up with research questions to be able to proceed in the structuring of the study. These research questions were the authors guide for decisions that were made during the reminder of the study and the writing of the thesis. To be able to get hold of a sample to carrying out the research on was one of the author’s former co-workers contacted and asked if he could be helping the authors with possible ways to conduct the research.
3.2 Research approach

“A research design includes the general approach you will take to answering your research questions, as well as the specific techniques you will use to gather, analyze and interpret data.” (Maylor & Blackmon, 2005, p.136). There are two dominant research approaches according to Maylor and Blackmon (2005) when reflecting on the worldview of doing a research design, the scientific approach or the ethnographic approach.

By attempting to define the approach taken in this thesis it will be required to explain the two approaches more thorough.

3.2.1 Scientific approach

The scientific view has influenced the development on the body of knowledge; the approach is originated in natural science and is mostly apprehensive towards natural matters and phenomena (Maylor & Blackmon, 2005). Scientists are seeing their research as being possible to study objectively, regardless of what they are finding and what background the researchers have. This approach has however been adapted to the social science where researchers try to find generalizing activities at firms, social units and persons. Areas that are connected to the scientific approach can be found in operations management, decision sciences and information systems, according to Maylor and Blackmon (2005) does that not represent that the researchers take on the whole scientific approach, rather it is some characteristics of the project. In a scientific approach there is quite often a wide-ranging literature review that sets the ground for the whole aim of the research. The findings in previous scholars research such as; relationships, models and concepts could be used as a base for the project, known as a conceptual framework that the researchers will try out to find the connections between the key issues in the study. The scientific way of doing study is relevant if a relatively short period of time is available to complete the research (Maylor & Blackmon, 2005).

The scientific approach are rooted in the scientific method, that has in the main researcher world an acceptance when it comes on how to carry out a study, through developing and testing theories (Maylor & Blackmon, 2005). With a scientific approach is the possibility to write almost the whole research report before collecting any data, at hand (Maylor & Blackmon, 2005).

The authors of this thesis are not completely satisfied with the scientific approach but cannot discard this approach too fully, since some of the areas within this thesis are clearly of scientific nature. In section 3.4.2 is a research profile showing the researchers choices how one derived at both the scientific and the ethnographic approach.
3.2.2 Ethnographic approach

An ethnographic approach towards a research design is according to Maylor and Blackmon (2005) about studying culture and human behavior. An ethnographic study is more open-ended; the course of the project is not as straightforward as in the case of the scientific one, here the researcher tries to blend in to its study and observing the cultural and human behavior rather than focusing on the quantity of questions. Ethnography is a better way to approach if the researchers want to find out meaning instead of measurement, and that could be fulfilled by investigating values, attitudes, motivations, and how organizations, groups and people cooperate with each other (Maylor & Blackmon, 2005). If combining the two approaches, scientific and ethnographic, the research studies could draw benefits from the unstructured techniques and tools of the ethnographic approach, such as interviews, to complement the more structured scientific approach. The ethnographic view of the world is more of a subjective matter that in the social world there is our prejudices that forms our way of doing management and business studies. In the areas of organizational science, human resource management and organizational behavior one will find ethnographic approach applicable (Maylor & Blackmon, 2005).

In this thesis the authors wanted to find out richer answers to their questions and the meaning behind the answers making the ethnographic approach applicable. The study was carried out to find answers within people’s cooperation with each other outside their corporate boundaries. The authors did combine the two approaches, since interviews give richer answers and the scientific approach is more structured.

The ethnographic method of conducting research is to get involved in the phenomenon through field work and thus study it in its natural environment. The ethnographic method points out that the researcher is often considered to be biased. When studying a phenomenon one get exposed for different elements that influence the personal view. It is for that reason according to Maylor and Blackmon (2005) needless to say that a study is completely objective.

Researchers within the ethnographic point of view start their studies with a completely blank page, making it possible to set aside their own biases and therefore let the data guide them in the forthcoming of the study. However, when it comes to student projects are Maylor and Blackmon (2005) stressing that because of the time constraint that is often the case together with organizations wanting the questions in beforehand to see if they want to answer them, making preparations of these types of study inevitable. Maylor and Blackmon (2005) argues that a student dissertation should be made within bounded ethnography, since one can only study the phenomenon in a limited time and have the report to write. This will result in only limited answers to the research questions, still one can reap the benefits of the ethnographic approach (Maylor & Blackmon, 2005).

The authors of this thesis did embrace the bounded ethnography since this thesis has essences from both the scientific and ethnographic approaches, which will be shown with the table 3-1 how the methodological choices were made. Further was the interview questions sent out in beforehand to the interviewees and therefore the interviews ran
smoothly, since any questions about the interview were touched upon before the actual interview.

### 3.3 Research reasoning

This research consists in its simplicity of a theoretical part which is followed up by an empirical case study. These two together will then form the base for the analysis of the research. In figure 3-1, one can view a mapping of this thesis process.

A first perception of how a research of this kind is performed is that the theory is the base that influences and guides the upcoming empirical part, these two together (theoretical and empirical) will then be the base for the analysis and finally the conclusion (Bryman & Bell, 2007).

One is at an early stage prompted to define and/or categorize ones research into what type of reasoning one will take. There are two main types of reasoning to deal with for this, namely deductive or inductive. In a simplified manner one can explain that these two, deductive and inductive, will present the research from the “start of departure” until the very end. The reasoning can be considered as guidelines of how the researchers will link their theory with the empirical study. Since this thesis process, figure 3-1, begins with actual real-case recognition of a problem one can refer this thesis as facilitating a mix of an inductive and a deductive approach.

Bryman and Bell (2007) defines a deductive approach to be “theory-testing” and an inductive approach to be “theory-generating” (Maylor & Blackmon, 2005). According to Maylor and Blackmon (2005) is it common to alternate between the two approaches for a research, and not to be fully deductive or fully inductive.

The reasoning in this thesis is no exception, to be able to understand the reasoning is a more thorough definition of the two types required.

#### 3.3.1 Deductive

A deductive approach or deductive reasoning are explained to be theory-testing, the researcher develops a hypothesis and form the theory based on that hypothesis (Bryman & Bell, 2007; Maylor & Blackmon, 2005). The hypothesis is then “subjected to empirical scrutiny” (Bryman & Bell 2007). Data collection is influenced by the theory and the re-
searchers’ hypothesis. The outcome of the data collection (empirical study) is then analyzed and used to either confirm or reject the stated hypothesis.

Deduction = Theory $\rightarrow$ observations and findings

### 3.3.2 Inductive

Despite the fact that a deductive research approach is the most common used when linking theory and the actual research together, some researchers decides to take other paths more suitable for them to link their theory and their empirical study together. These researchers use a non-linear reasoning and are as mentioned earlier referred to as being *inductive*. The theory becomes the very outcome of the research, for this is an inductive reasoning further characterized to be theory-generating (Bryman & Bell, 2007). Bryman & Bell (2007) summarizes an inductive reasoning as below.

Inductive = Data collection and findings $\rightarrow$ Theory

The research of this thesis started by recognizing an actual area of problem during real-case experience. This was followed by the reviewing of relevant literature. With the knowledge gained from the relevant literature was a framework conducted. Further was a case study executed with the incentive to later combine the relevant literature with the empirical findings. By applying this process a mix of pure academic research and practical findings were researched and evaluated. Due to the fact of the actual recognition of a real case problem one can consider this thesis to start off with an inductive reasoning which later becomes reasoning with deductive elements. Thus, this thesis is considered facilitating a mix of inductive and deductive since one cannot argue the thesis being purely the one nor the other.


3.4 Research strategy

Once a general approach, either deductive or inductive, is set one has to further define what type of research strategy to use. Bryman & Bell (2007) refers a research strategy to be a general orientation to conduct a business research. A research strategy consists of two major pillars, namely quantitative or qualitative. The strategy used in this thesis is highly qualitative; an explanation of why the strategy is considered qualitative is presented in the coming section.

3.4.1 Quantitative and Qualitative

A quantitative strategy is characterized by that the collection of data relies on the quantitative range of it. A research with a quantitative strategy is in general further characterized to have a deductive reasoning when linking theory and the actual research together. Quite the opposite deals a qualitative strategy to emphasize a more thorough analyze of the collection of data rather than emphasize a quantitative size. This strategy, in general, has an inductive connection between the theory and the research with the incentive to generate a theory (Bryman & Bell, 2007). Maylor and Blackmon (2005) argue that if one has a qualitative research strategy and method as a part of an ethnographic approach, which have been described in section 3.2.2, one have a well-designed research to carry out a study on persons or organizations. The research questions that should fit into this approach should be of how and why characteristics rather than answering the question what and how much. A qualitative research strategy tend to lean towards answering richer questions and by that get a deeper understanding for the business and management issues that occurs in an organizational setting, through utilizing the peoples thoughts and feelings that flourishes within those boundaries (Maylor & Blackmon, 2005). When it comes to data-gathering is the qualitative approach useful to the researchers since they can use their own skills, such as; talking to people, reading, and asking questions. Maylor and Blackmon (2005) argues that when researchers have recognized that qualitative data can answer their study´s research questions, a decision regarding the data-gathering process should be made. There are four major processes that one can choose from, or combine, with an increasing level of personal involvement for the researchers into the study´s topic. Those different processes are, with lowest involvement first, then rising; indirect data collection, observation, interview/discussion, participating (Maylor & Blackmon, 2005).

This thesis facilitates a qualitative research where the authors have explored the phenomenon within several organizations; interactions with those organizations were done through interviews and discussions. The research questions were used as a background to those interviews and from them were the authors able to answer the how and why questions that this study directs. Since the authors used interviews/discussions to conduct the data-gathering in this thesis, were several decisions made through on how to advance in the study in the proper manner and those decisions are going to be addressed in the following chapters.
3.4.2 Applied research profile

Table 3-1 is derived from Maylor and Blackmon (2005) and can be considered a tool to establish a profile of the research. A research profile is useful both for the reader as well as for the authors. The research profile helps the authors to define and narrow down their research, which makes the future steps in the research easier. For the reader, a profile of this kind is helpful to understand the aspect of the research together with the understanding of the incentive with the research. The table distinguishes between the two research approaches, scientific and ethnographic.

Table 3-1 A research profile (Maylor & Blackmon, p. 160, 2005).

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Scientific</th>
<th>Ethnographic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>Measurement</td>
<td>V Meaning</td>
</tr>
<tr>
<td>Definition</td>
<td>Collecting and analyzing data</td>
<td>V Exploring instances and examples</td>
</tr>
<tr>
<td>Objective</td>
<td>Testing general Principles</td>
<td>V Examining individual Differences</td>
</tr>
<tr>
<td>Ideal model</td>
<td>Natural sciences</td>
<td>V Social sciences</td>
</tr>
<tr>
<td>Research questions</td>
<td>What, how much</td>
<td>V How, why</td>
</tr>
<tr>
<td>Theory</td>
<td>Theory testing</td>
<td>V Theory – generating</td>
</tr>
<tr>
<td>Reasoning</td>
<td>Deductive</td>
<td>V V Inductive</td>
</tr>
<tr>
<td>Researcher</td>
<td>Objective and independent</td>
<td>V Subjective and involved</td>
</tr>
<tr>
<td>Data</td>
<td>Quantitative – numbers and categories</td>
<td>V Qualitative – words and symbols</td>
</tr>
<tr>
<td>Data collection</td>
<td>Remote and brief</td>
<td>V Up close and extended</td>
</tr>
<tr>
<td>Typical methods</td>
<td>Surveys, experiments</td>
<td>V Observation, interviews</td>
</tr>
<tr>
<td>Data analysis</td>
<td>Statistics</td>
<td>V Thematic</td>
</tr>
<tr>
<td>Quality</td>
<td>Validity, reliability, generalisability</td>
<td>V Dependability, richness</td>
</tr>
</tbody>
</table>

The focus of this thesis research falls under the category of ethnographic and “meaning” in contrast to measurement. The research strategy was qualitative and tried to achieve a deeper understanding rather than attempt any type with measurements. This goes hand in hand with the fact that the research was exploring instances and examples rather than
pure collection of hard data. This will generate answers of “how and why” rather than “what and how much”. The above entails that the collection of data were done through up close and extended interviews and discussions, rather than remote and pure statistical. The objective of the research is considered to be intertwined between scientific and ethnographic. Since the case study is conducted on independent customer relationship, a 3PL-provider and its customer, entails the aspect to some extent to involve the examination of individual differences. This since every customer relationship is individual. Nonetheless is the research still highly scientific due to the fact that the empirical study is influenced and guided by earlier theory on the subject, theory that were tested. As has been described earlier in the methodology is there a distinction between a deductive and an inductive reasoning for any research. This deductive reasoning is considered to be theory-testing while an inductive reasoning is considered to be theory-generating. As already mentioned started the research with inductive reasoning, which further on had deductive elements attached to the research. When it comes to the researchers point of view regarding whether or not approaching the study objectively or subjectively, are this study to be considered to be from a subjective point of view. Subjective since the authors at an early stage choose to take the standpoint from the 3PL-providers perspective. The authors of this thesis are going to present their validity in section 3.9.

3.5 The literature study

“A research literature review is a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners.” (Fink, 2010, p. 3). Further Bryman and Bell (2007) argues that the literature review is a vital part of the thesis to be able to build the research design and provide the bases for justifying the research questions. According to Gill and Johnson in Maylor and Blackmon (2005, p. 96) is a “literature review” information that can be gained from business magazines, text books and web pages to support a decisive analysis of the project.

The literature review helped the authors of this thesis to be able to gain a shared view on the different theoretical areas, such as; third party logistics, information sharing, relationship and customer value creation. After generating this shared view, was the literature review becoming the foundation of this thesis, to from that framework contribute to decide what data that should be collected to be able to answer the purpose of this thesis.

Fink (2010) and Bryman (2002) states that in the initial stage of the literature study, are databases and online searches useful for finding information about earlier studies and references.

The authors of this thesis did a broad search for literature at the Jonkoping University’s library catalogue as well at Skovde University’s library to be able to find books within our studied areas. The authors extended the book search to LIBRIS, which has a common catalogue for all universities in Sweden. To be able to get hold of articles in different scientific e-journals within our fields of research, the authors of this thesis used the Jonkoping university proxy server, and through that server accessed, first and foremost, Google Scholar although other databases were searched, such as; ABI/Inform, JSTOR
and Emerald to gain information in earlier studies within our research topic. The articles that were used the most were in the e-journals of; distribution, logistics, marketing, and supply chain management.

### 3.6 Introduction to case study

The previous chapters have giving the background to the research- reasoning, strategy and approach and are now deriving at the empirical part of the methodology. In the striving to reconnect the theoretical research profile and the thesis purpose with empirical findings is a case study performed. In the following chapters is the theory of the case study connected with the research profile as well as a tour in how the case study was carried out.

#### 3.6.1 Case study design

According to Creswell (1994) is a case study seen as a particular bounded entity that can be studied in detail, over a comprehensive period. The social unit that is studied defines what the research case study is, whether it is a situation, person, program or organization (Maylor & Blackmon, 2005). The data collection can be done in several ways such as; interviewing, participant observation etc. Researches that are made within a case study are in majority of quantitative character, however if a whole organization or team is studied then a qualitative study can be designed (Maylor & Blackmon, 2005). There are various ways to conduct a case study, and the validity of the study are depending on the decisions made to that specific research approach one has chosen. When case studies are carried out both theoretical and practical reasons can be the underlying factors (Maylor & Blackmon, 2005). A case study is an useful design to apply if one is going to form a study with limited time and budget (Blaikie, 2000). A case study can answer research questions with how and why characteristics and one can use the approach for theory generating and theory testing, another vital part to consider is to either choose a single or multiple case study design (Maylor & Blackmon, 2005).

The key elements of a case study should be designed according to Maylor and Blackmon (2005) as follows;

- defining the case to be studied
- determining how to collect and what data to collect
- deciding how to present and analyze the data
3.6.2 Description of the case study

The case study has been carried out at a well-recognized and global 3PL-provider. The case study was constrained to access the 3PL-sites located in or near the town of Jonkoping, Sweden. The 3PL-provider in Jonkoping serves a handful of customers in terms of handling their’ logistic activities. Their customer base consists of highly recognized international firms, many in totally different segments. The 3PL-provider facilitates one physical site and fixed personnel for every customer relationships, each one located in or near the recognized distribution hub Torsvik, south of Jonkoping. The incentive and purpose of the thesis is to investigate the value of information sharing in these customer relationships. Due to this the authors believed that by launching a case study involving well recognized companies should strengthen the conduction of the analysis and to the thesis as a whole. The case study however are anonymous since the 3PL-provider was concerned how their customers would react, the respondents were also told prior to their respective interview that their names would never be exposed.

The case study took the form of interviews where open-ended questions were used to support the qualitative approach. Further was the case study together with its questions directed at an operational level at the 3PL-provider. This entails that the interviews took the character of searching answers regarding the everyday work rather than taking strategic or tactical matters into consideration. The case study was executed through interviews/discussions in three unique relationships.

Prior to the interviews were launched, were the authors shown around in one of the warehouses. Here did the authors make observations, and were thereby able to see in what settings some of the activities important for this thesis took place. The authors had also the possibility to meet the respondents in advance to inform about what the thesis purpose was about and preparing them by giving the interview questions in advance. The contact person at the 3PL-provider has been very helpful and made it possible for the authors to visit several times at the warehouse to discuss and ask questions, helping this thesis to progress. He has also been available by phone, which has had great value when questions appeared.

It was at an early stage decided to take the standpoint from the 3PL-providers perspective and launching interviews solely at them.

As the interviews progressed, the authors found it inevitable not to interview the customers as well. In that way became the case study twofold. The amount of interviews for each relationship varied, and it showed only to be possible with customer interviews in one of the relationship. Table 3-2 provides an overview for the number of interviews for each relationship.

The respondents to the interviews have been, starting with the relationship between the 3PL-provider and Customer A:

- IV1: Male, Outbound Team-leader
- IV2: Male, Inbound Team-leader
- IV3: Male, Customer-Relation-Supervisor
- IV4: Male, Customer-Operations and Support’s Team-leader
- IV7: Male, Customer A Operation Manager Warehouse & Distribution
For the relationship with Customer B was one interview launched with:

- IV5: Male, Team-leader

The last relationship with Customer C had one interview as well, conducted with:

- IV6: Female, Operations Manager

Table 3-2 Number of interviews.

<table>
<thead>
<tr>
<th>Number of interviews</th>
<th>Customer A</th>
<th>Customer B</th>
<th>Customer C</th>
</tr>
</thead>
<tbody>
<tr>
<td>3PL-provider</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

The questions that are found in the appendix 7.1 were intended to be asked during the interviews at the 3PL-provider. In the appendix 7.2 are also the questions aimed for the customers of the 3PL-provider. The authors believe that the answers for these questions helped to investigate and analyze the suggested theoretical framework in figure 2-5 which emphasizes the important role of information sharing. More specific did the answers provide useful information and understanding on to what extent the information requirements; accessible, relevant, accurate, timely, and transferable were actually being used and looked at in a real case.

### 3.6.3 Interview/discussion design

According to Maylor and Blackmon (2005) should some main areas been touched upon when considering an interview/discussion design, these are as follows;

- Should I interview in group or individual?
- How should I choose my interview subjects?
- How should I structure the interview/discussion?
- What sort of questions should I use?
- Should the issues be structured or should I be led by the data?
- How should I record the interview data?
- How do I make sure that I avoid possible sources of bias in the interviewing process, both from myself and the interviewee(s)?

For the first question, if the interviews should be made in group or individual, there are different advantages and disadvantages for that decision, also if the researchers choose to interview together. A panel interview is settled when there is more than one inter-
viewer for each interviewee. This way of launching interviews is according to Maylor and Blackmon (2005) a reliable way to remove some of the researchers’ prejudices. This type of interview is good for novice interviewers since there is easier to build confidence and correct each other and make sure that all relevant topics are touched upon during the interview (Maylor & Blackmon, 2005).

Since the authors of this thesis are on a novice basis when it comes to facilitating interviews, was it decided to conduct a series of panel interviews. This to make sure the authors did not miss any relevant points during the interviews and can help each other out. The authors of this thesis thought that the interviewees were not finding the situation intimidating since the interviews were carried out in their own working environment, i.e. their offices. However were one interview conducted over the phone and one corresponded via E-mail, but the majority of the interviews were conducted face to face.

According to Maylor and Blackmon (2005) is the next decision that the researchers should consider choosing who to interview, since the sample of interviewees should not be of random character since one do not want to generalize over the whole population, rather use interviewees that are considered to be representative for the topic studied. If one chooses to select the sample out of a theoretical or purposive character, a wide variety in the response will be the result. However a convenience sampling is practical when it comes to organize interviews, which is a sample of interviewees that the researchers of the study have an easy access to. One needs to consider how the issues of physical access and time can be managed, in accordance to get the interviewees to share information to the study. The researcher needs to remember to book interviews in advance (Maylor & Blackmon, 2005).

Since the authors of this thesis had located and contacted a 3PL-provider in the Jonkoping’s region, was the selection of interviewees made by the authors and the contact person. The interviews were held with people holding positions in the company that is of significant value for the study. There was also an interview conducted with one of the 3PL´s customer as well. The authors of this thesis booked the interviews in advance and spent the time well at the company. The customer interview was made over phone. Further were the interviews conducted in Swedish since the authors of this thesis believed that the interviewees should find themselves more confident when they are talking in their own native language.

When interviewing, should the questions be of both open-ended and closed-ended character. Closed-ended questions is a good start for the interview since the interviewee has a limited set of answers, and after that continue the interview with open-ended questions. When interviewing one need to take into consideration that the researcher is borrowing the interviewee’s time. It is for that reason important to present the questions within that timeline (Maylor & Blackmon, 2005).

In this thesis research has the interview questions been of both closed-ended and of open-ended character. The authors of this thesis think that this way of conducting interviews gave the most useful information, since it felt like the respondent become calmer when the interview started with more general questions. The respondents and the duration of the interviews are presented in the appendix 7.3.

Besides structuring the interviews, researchers should also think about how they want to progress after the interviews. There are two ways to conduct the interview, by holding
highly structured interviews or more unstructured (Maylor & Blackmon, 2005). The outcome of the interviews is also depending on the interviewers’ possibility to stay unbiased and adapt to the interviewee’s language, asking for clarification, which will make the participant more convenient.

The authors of this thesis used a semi-structured interview approach with questions leading to specific topics, this with the incentive to get richer information. According to Maylor and Blackmon (2005) are there a few notes to take into consideration when it comes to recording the data that the researchers need. For example it is important during interviews to record and take notes to avoid vital information going to waste. Another important point is to make sure with the interviewee that it is ok to record the interview and also give information that there is a possibility for confidentiality. After the interview is it important to transcribe it into written form, cause that will make it easier to use the text as raw data for analysis of the interview. The researchers should not throw away any data at this point since it is still unclear what is considered to be of value for the research.

The authors of this thesis used one mobile phone and one computer as recorders during the interviews to secure that the researchers hold on to the information gained. Further were one of the author the interviewer and the other author took notes. After a finished interview did the authors of this thesis transcribe the interviews into Word documents on their computers, to be able to get an easier overlook for the analysis of the empirical findings. After that did the authors of this thesis use their knowledge in the English language and translated the transcribed documents.

For the last point of the interview design the role as a researcher needs to be taken into consideration. Personal opinions and prejudices needs to be taken aside of the project, since the received answers is not for the researchers personal matter. It is the study that should reap the outcome of the answers (Maylor & Blackmon, 2005).

Despite the fact that the authors of this thesis have personal experience in the area of the thesis and despite the fact that the thesis has been taking the standpoint of the 3PL perspective, it is required for the authors of this thesis to facilitate objectivity to some extent. This was made to protect the outcome to not be biased.

### 3.7 Using the empirical findings

In the following chapters are the authors of this thesis showing how they have managed, analyzed and interpreted their empirical findings.

#### 3.7.1 Managing the empirical data

One thing that needs to be done before researchers can start analyze their data is to set up the gathered data in a manageable way to make sure that the reliability, traceability and completion of the interviews are secured (Maylor & Blackmon, 2005).
After each day of interviewing the authors took of this thesis their mobile phone and computer and securely copied the recorded interviews into their computers and backed them up on their electronic Dropbox account. Thereafter the authors translated, with their own English knowledge, the interviews and transcribed them into documents. After all interviews had been transcribed and translated the authors of this thesis added their own written notes to each interview to cover all aspects.

3.7.2 Analyzing the empirical data

In comparison to the quantitative linear research and strict data analysis is the qualitative one becoming non-linear in research, and open-ended and complex in the data analysis part (Maylor & Blackmon, 2005). The execution of a qualitative study regarding research design, data collection and data analysis may overlap, it can also be that one can travel between the different parts back and forth, giving the researchers a hard time to know in advance; what data to analyze and how they are going to analyze it (Maylor & Blackmon, 2005).

Since the authors of this thesis have chosen to conduct a qualitative study has also this part being dealt with in this thesis, as been mentioned earlier, an overlap between the different stages of the study, with not knowing what data to find and analyze when starting the research.

There are two ways to analyze the data that the researchers have collected, the unstructured and structured. The unstructured analysis does not take a deadline into consideration since it is more open-ended than the structured path, and the appearance of theory might take time because it emerges from the study when researcher devotes time to analyze. If the researchers however has a deadline to beat then the structured data analysis route is of better fit to the research process, with a theoretical framework already been set and the researchers search through their data with the framework already in mind (Maylor & Blackmon, 2005).

Due to the fact that this thesis was written with a deadline, the authors choose the structured way of analyzing data by using the theoretical framework as a base.

3.7.3 Interpreting the empirical data

When it comes to interpreting a qualitative research, the researchers need to connect the empirical findings with their theory of choice, and the key goal is to show how every step of the whole research have been conducted (Maylor & Blackmon, 2005). Since the qualitative research process is not linear to its nature, the researchers need to be able to pending between the processes of conceptualization, data collection and data analysis, to finally combine these areas in the conclusion of the study. There are according to Maylor and Blackmon (2005) two ways to organize ideas that comes into the minds of the researchers; either through categorical or thematic. Categorical means that categories have been prearranged or come into sight from the data analysis.
The authors of this thesis has been pending between the different research processes to be able to straight out ideas and find tools to help the thesis to advance, the categories have thus aroused during the literature review.

### 3.8 Research limitations

According to Simons (2009) could weaknesses or limits that show up in a case study be the mass of data collected which could make it hard to process the findings. Further, Yin (2003) argues those limitations that comes up due to how the questions are constructed and the possibility that the interviewee might be trying to give the answers that the researchers want, needs to be taken into consideration.

In the interviews of this thesis were semi-structured questions used to be able to extract relevant information in the area of this study from the interviewees, the questions were also functioning as a push for the interviewees to discuss the different areas. Since the interviewees did not respond in the same way, were the authors of this thesis able to sort out the important information from the less relevant one. Some concerns arouse regarding the researchers skills to write interview questions, however, was the tutor of this thesis and the contact person on the 3PL-provider consulted before the interviews were conducted, to minimize un-relevant questions and valuable interview time going to waste. The authors understand that there is always a risk that interviewees gives the answers to please the study result, it has been taken into consideration, there is however little for the authors to change when it comes to an interviewee´s thoughts and actions. The interpretation from the authors is that the interviewees are giving honest answer due to their awareness of their anonymity.

### 3.9 Validity

According to Crowther and Lancaster (2009) are there, when assessing data, several complex criteria or dimensions. They argue that to help the researchers stating this dilemma is the use of validity applicable. Validity could be seen as to which extent that the research methods are describing what it is supposed to (Crowther & Lancaster, 2009). Another definition by these authors is that validity is seen as the absence of self contradiction and crucial for the data quality. Crowther and Lancaster (2009) are further emphasizing that if a research is not describing what it is assumed to do, at the best the research could be seen as meaningless but if more severe, misleading. Further are the authors arguing that this is a complex concept to state, however, it is important for the researchers to still assess to what extent the current approach are going to produce valid collected data (Crowther & Lancaster, 2009).

The authors of this thesis were acquainted with the problem of validity before and during the study. This since the consciousness of that third party logistics together with information sharing and value are researched areas since before and that this study is conducted at only one 3PL-provider but in three different 3PL-relationships.
As Maylor and Blackmon (2005) argued earlier are there time-constraints when doing a student thesis, since the thesis needs to be written and the study conducted sometimes within a time-frame that could be inappropriate for the sample addressed.

The aim for this thesis has been to investigate the value of information sharing; it has therefore become very important that relevant information has been collected to be able to answer the purpose of this thesis. Since the authors took the standpoint from the 3PL-provider perspective it was possible to make the thesis more specified. However, the authors of this thesis believed that to make the study more valid was it impossible not to interview some of the customers as well. The 3PL-provider was not keen on letting the authors interview their customers for the different relationships since they were anxious that interviews could harm the relations. In a way is this behavior showing that this topic is complex and not that easy to address for the 3PL-provider, however is this in major concerns to the authors and there was only one interview conducted with one of the customers.

The authors of this thesis had an ambition to at least be able to conduct interviews with three to five interviewees at every 3PL-relationship, which were only reached in one of the relationships, however are the comparison between the different 3PL-relations making it possible to give external validity to the study.

The authors were also aware of that the personal chemistry can biased the information sharing, however this thesis has not taken social factors into the investigation.
4 Empirical Findings

The following chapter on Empirical Findings presents the results and outcome of the interviews. As already mentioned were the interview questions semi-structured with the incentive to initiate discussions. All the questions in appendix 7.1 and 7.2 where touched upon, the received answer will however not be strictly presented. Since three different relationships were studied will this chapter be divided in a way presenting all relationships. Further is each relationship divided into presenting empirical findings regarding the topics of relationship, information, communication methods, information requirements, and customer value.

The 3PL-provider of choice is a well-recognized actor in its business segment and provides a vast number of customers all around the world with logistic solutions. The 3PL-provider is differentiated in the logistic segment and their business stretches from simple transportation solutions for individuals to well integrated business solutions for large companies and conglomerates. One area of specialization is contract logistics, also known as third-party logistics.

The case study includes an investigation of three customer relationships. The investigations have been done through qualitative interviews/discussions with the incentive to answer this thesis purpose and its research questions. There have also been possibilities to do observations since the authors were presented a guided tour in one of the warehouses. A customer relationship is referred to consider the one 3PL-provider of focus but with serving three different customers. A brief description of the three relationships will be presented. A more thorough interpretation of the interviews will be fully presented in the analysis. In the table presented in the appendix 7.3 is the entire contact history presented.

There is with no doubt clear that the respondents showed a lot of interest in the questions and for the aim of the thesis. The common opinion is that the information shared between the 3PL-provider and its customer is of absolute highest importance for customer value to be created, but also to sustain a successful relationship.

4.1 Relationship 1

Relationship 1 has proceeded over a few years of time. Initially did the customer itself manage the entire logistic flow and were in total control of the warehouse and the distribution center. Due to reorganizations did the customer choose the option of outsourcing the logistics activities. The 3PL-provider manages the warehouse and distribution center which is located south of Jonkoping, Sweden. The main core functions regarding logistic services are warehousing and preparation for further transportation. The major activities connected with the warehouse-function are unloading, handling, paletting, storing, picking, and assemble ready for transportation. The major, as the theory refers them to, value added services comes in the form of unloading, un- and repacking, mark-
ing, labeling, quality control, and measuring of goods. One can divide the warehouse function into two major departments, namely inbound and outbound. Additional to these are there sub-departments such as customer-operation-support, and e-commerce. The inbound department requires information regarding incoming good. Information such as; time for unloading, volume, number of parcels, from which supplier, and what type of good are all considered standard information. Additional information regards quality control, prioritized goods, and special handling and storing. The outbound department requires standard information regarding the number of orders, the number of deliveries, and final destination for goods.

4.1.1 Relationship

The common opinion among the respondents was a perception where the organizations (the 3PL and Customer A) were striving for different goals. This was highlighted by IV1 (personal communication, 2012-04-19) saying; “we are working in two different directions; we are here to help Customer A with their warehousing.”

The respondents did also get the possibility to point out in a diagram to show how much, in regards to integration and commitment, the two organizations were connected. Afterwards were the respondents shown Skjoett-Larsen’s (2000) figure 2-2 which presents the degree of integration and commitment for a 3PL-arrangement. Here is IV3 (personal communication, 2012-04-19) explaining; “I think that we should be able to take another step, but to be on the lowest side of the page would be considered to be a mistake, but an important mistake since there is something that is not right, then it is my fault if the employees does not think higher of the relation.”

4.1.2 Information

The flow of goods is straightforward with a process starting at the supplier which transports the goods to the 3PL-provider which in turn supplies the end-customer. The information flow is on the other hand more complex and extensive. A steady bilateral flow of information is present between the supplier and customer, the 3PL-provider and the customer, and with the customer and its end-customer. Further is there a dual perception whether or not an exchange of information is presents between the 3PL-provider and its customer’s end-customer. Two respondents out of four recognize such a flow while the two other respondents reject its presence. The flow of information in focus for this thesis is the one between the 3PL-provider and its customer. It was a conscious decision to choose respondents with different titles and areas of work at the 3PL-provider. It was believed that the outcome of such interviews would give a more thorough investigation of this particular flow. From whom one receive information varies dependent on in which area of work one is active. The inbound department at the 3PL-provider receives the absolute majority (app. 90 percent) of all the information directly from its customer while the outbound department receives their information mainly from the internal customer-relation (IV3). The customer-relation on the other hand receives his in-
formation directly from the customer. This entails a hub-and-spoke system where the customer-relation functions as the hub distributing information internally. The opinion of this system is biased where the outbound department believes that their everyday work could be more efficient with direct contact with the customer instead of receiving “filtered” information second handed. Some of the respondents say that when they reconnect information with their customer better they receive information faster and it was also easier to get fast answers to their own questions.

The customer on the other hand has the opinion that it is more convenient to provide one or very few persons at the 3PL-provider with much information instead of spreading it in small portions. The staff at the 3PL-provider is solely in contact with the logistic department at the customer, a group of five persons all with different responsibilities.

4.1.3 Communication methods

The communication methods in use at the 3PL-provider for external communication are; telephone, E-mail, FTP-server, EDI-files and face to face meetings. The most frequent used communication methods are telephone and E-mail. All of the respondents prefer the exchange of information to be done through conversations via the telephone since it is the absolute fastest method and the perception is that it is preferable due to the fact that it is easier to approach a potential problem directly. Due to the fact that information exchange via telephone has lead to several misunderstanding between the 3PL-provider and its customer, which in turn has lead to disputes is every question and decision “clubbed with an E-mail” (IV3, personal communication, 2012-04-19). The team-leaders have all been told due to its legally binding that E-mail is the most important communication method. There are face to face meetings arranged but the majority of the respondents want this type of meeting to be set every month to be able to discuss operational problems with their customer. As of the FTP-server are planning concerning inbound goods done through this server since here are information received about containers and trucks that will arrive, here are the 3PL-provider also receiving packing lists for the goods, however are the information about the measurement of the products insufficient; which the 3PL-provider respondents say that they need to be able to plan how to fill up the warehouse in the most efficient way. The outbound department receives information concerning orders through their FTP-server and through EDI-files, where all the respondents thinks that the FTP-server is unfortunately slow since the server is located behind the fire-wall at the customer, which makes pdf-documents taking up to hours to download to the 3PL-provider. The EDI-files are the outbound department receiving through their IT-system.

The 3PL-provider’s IT-system is not fully synchronized with its customer, since the organizations need to have a software that can connect the two different IT-systems, which is why EDI-files are send as text files, their customer cannot update their system which is seen as a setback that the organizations does not “share computer screens”, that is, seeing the same things on multiple screens at the same time (IV3, personal communication, 2012-04-19).
4.1.4 Information Requirements

When it comes to the information requirements the researchers could during the interviews point out different factors on the perception of how these requirements are being fulfilled or not. There is a common opinion at the 3PL-provider that the accessibility of information is insufficient, mainly due to not fully synchronized IT-systems. Despite the awareness of the lack of IT synchronization the perception is that it is difficult to get access of all information. However, once information is retrieved it is consider being relevant, where excess information is not a problem. Due to the internal distribution of information from the customer-relation the accuracy of information is, when it reaches the operational level considered positive. The customer-relation filters the information he receives down to be truthful and accurate for the final internal receiver. The requirement of timely is considered to be the biggest failure of them all. Despite acknowledged understandings from both parties of deadlines for certain information such as packing lists, volume of incoming goods, time for incoming goods etc, there is still common with last minute changes which entail problems for the 3PL-provider. Problems regarding staff planning, usage of fork-lifts, areas of unloading etc. There have also been times when goods have been standing in the warehouse without proper information and they have been waiting for over a month for the right information to be sent; which has made it impossible for the 3PL-provider to process the goods. The requirement of transferability becomes a problem due to the fact that two not fully synchronized IT-systems are in use. One fundamental problem regarding this is for instance that the physical goods have two different identification codes, one at the 3PL-provider and another at the customer. Despite this fundamental flaw is the transferability considered partly satisfying at the 3PL-provider.

4.1.5 Customer value

The perception on what value is and what creates value for the customer are as different as the number of respondents. One opinion is that value for the customer is when the 3PL-provider has the right staff, operating the right task in the right time. The elaborated opinion is that if the customer makes it possible for the 3PL-provider to live up to those expectations the customer will be able to exhaust a monetary value. By avoiding wrong staff performing wrong tasks in the wrong time, the customer will avoid unnecessary costs of extra personnel and overtime charges. Further does IV4 explain that quality is one big contributor for how the customer perceives value. Quality of the product, quality of how the 3PL-provider receives it, quality of how the 3PL-provider stores it and prepare it for further transportation. Another opinion is that the customer doesn’t value the value adding services performed by the 3PL-provider. This opinion is derived by the fact that the customer doesn’t provide enough information that makes it possible for the 3PL-provider to perform at their best. A more thorough and elaborative explanation on what customer value is, was presented by IV3. He explains that he clearly understands the monetary value where the customer has great interest in that the 3PL-provider is as efficient as possible. This will, as in line with IV3, minimize costs for the customer which will lead to the exhaust of monetary value. In addition to this does IV4
first present to us the focus on “soft values”, the security factors. Security factors are for example back feeding from the 3PL-provider on the progress of ongoing work. Another important security factor is quality. More specific quality in the essence of production, once again in line with IV3’s explanation. In IV4 position as customer-relation he recognizes that a lot of weight is put on emphasizing these two factors, back feeding and quality. The back feeding is directly connected to the information exchange where the customer highly appreciates and value the back feeding of information. Due to this fact does IV4 believe that quality and the back feeding of information is something the customer value. His perception on how the customer perceives value is therefore derived to those two factors.

4.1.6 Customer A’s point of view

Due to the fact that the interview with Customer A showed to be difficult to launch with an open-ended character, and the fact that it led to short answers will its outcome only be used as a parenthesis for the analysis.

The authors had the possibility to perform a smaller interview with the Operation Manager Warehouse & Distribution at Customer A. The incentive with this interview was to see the differences in answers compared to the one from the 3PL-provider. Noteworthy to point out is that the interview was not conducted in anyway where the respondent at Customer A were to defend any critic. Customer A was further more not given any information on how the 3PL-provider responded.

The respondent at Customer A, from now on referred to IV7, explained the flow of information similar to 3PL-provider. The big difference was that IV7 clearly states that there is an exchange of flow between the 3PL-provider and Customer A’s end-customer. The communication methods used are E-mail, telephone, FTP-server, EDI-transfer, and face to face meetings. IV7 believe the communication methods necessary are used, however are there room for improvements. He gives an example where he explains that the joint FTP-server functions poorly due to the fact that the 3PL-providers firewalls are hindering the utilization of speed. IV7 further believes that Customer A are fully aware of what type of information to send that is necessary for the 3PL-provider. On a question regarding whether or not any type of deadline exist from which point information sent to the 3PL-provider shall not be revised he answers that there is no such thing as a deadline. There is a directive that can be referred to as a deadline but it is mere directives and aim rather than a strict deadline.

IV7 further explains that his perception of customer value in this relationship is when the 3PL-provider performs operations which Customer A couldn’t do themselves. He continues to state that this is the whole idea of outsourcing. The aim with the outsourcing of logistic services are to get access to a well established logistics company which already has a developed transportation network and warehousing skills. As in the other interviews was IV7 provided a blank paper with the axis degree of integration and degree of commitment for him to locate where he believes the relationship looks like. The location showed a low degree of both integration and commitment. The motivations of the low degrees are based on two factors. The first one is the poor communication,
where for example IV7 believes more frequent face to face meetings would only be positive. This would be positive since the two parties reach deeper understandings of one’s organizations and work. The second factor is money. Both Customer A and the 3PL-provider are two profit making organizations and the question of who should pay is always a hot spot where the two organization clashes.

4.2 Relationship 2

This relationship involves a bigger customer, bigger in the essence of size, financial measures, and global involvement. The 3PL-arrangement with the two parties has been active for a long period of time. The researchers were able to get hold on one person who were willing and had the time to participate in an interview. The core functions in this agreement are considered warehousing, transportation, and cross-docking with functions such as deconsolidation, storage, handling, and paletting. The associated value added services are quality controls, marking, labeling and tracking and tracing.

4.2.1 Relationship IV5

IV5 see the relationship between the 3PL-provider and Customer B overall to be partly satisfying. He continues to explain that in reference to that assumption is the fact that he as a team-leader at the 3PL-provider has a good relationship with his peers and contact persons at Customer B. However, looking at the relationship from the big picture IV5 does not believe that it is a good relationship. He explains that both the 3PL-provider and Customer B are two profit-making companies striving for individual goals. Due to this becomes the cooperation suffering, since the two actors don’t seem to believe in making progress together. IV5 perceive the relationship, in terms of degree of integration and commitment, to be low.

4.2.2 Information

The information and material flow is much similar to the one in Relationship 1 where the existing bilateral information flows are between the manufacturer and Customer B, between the 3PL-provider and Customer B, and between the retailers and Customer B. The 3PL-provider receives information from Customer B on incoming goods. Standard and required information for this is considered to be; time of arrival, what type of good, volume, and number of parcels. Since cross-docking is characteristic for the 3PL-provider’s functions information regarding outgoing transportation is also received. Required information for that aspect is; time of departures, addresses for final destination, what goods should be loaded into what container, and order of loading. The team leader at the 3PL-provider receives the required information from what is referred to as “the supply department” at Customer B. This department includes a handful of persons working directly towards the 3PL-provider and distributes the information necessary.
This entails that the 3PL-provider are not in contact with any other department at Customer B but the supply department. The respondent receives all information from Customer B, i.e. the information is not filtered internally at the 3PL-provider.

4.2.3 Communication methods

The communication methods in use for Relationship 2 are; telephone, E-mail, fax, face to face meetings, and EDI-transfers. The EDI-files are transferred when scanning the received good and again transferred scanning loading of container before it departures for final destination to the retailers. The respondent ranks the telephone to be of best for effective information exchange from Customer B. This choice with the motivation of speed and solve potential problems at once. E-mails are also of frequent use, and are the main communication method when information including reference lists, packing lists, custom-notification are needed. IV5 further explains that information which includes numbers, dates, and other specific data are fixed subject for the communication method of E-mailing. In comparison with Relationship 1 have this relationship weekly held face to face meeting with their customer. On the agenda for such meetings are reviews of the past week and bilateral suggestions for improvement. Noteworthy are that these meetings are held with the incentive to support the daily work at the 3PL-provider on an operational level. The respondent concludes that without these meetings would the relationship become more difficult to operate on a day-to-day basis.

4.2.4 Information requirements

Discussions on the quality of the information provided to the 3PL-provider came to be extensive. In terms of accessibility is the general perception that it is often proven hard to get access to the required information. IV5 further explains that the information exchange doesn’t really start until the 3PL-provider initiates it and asks for certain information. The information sharing is characterized as a pull-system from the 3PL-provider rather than a push-system from the customer; this affects the accessibility of information in a negative way. Once the information is received it contents is solely relevant for the operational tasks. It is very seldom when the information received are considered misleading and non-accurate. Due to the fact that IV5 receives all information for his work externally by Customer B, he must come to a sense where he counts on that the information to be accurate. Since the “pull-system” of information sharing is initiated by the 3PL-provider this can sometimes lead to delays where the information is provided first after the physical good arrives. This of course has a negative impact on the quality factor of timely. Despite that fact have the 3PL-provider and Customer B agreed on a deadline for the required information mentioned in 6.2.1, from which point of time the information should not be revised. This deadline agreement has shown to be satisfying. The information shared with the 3PL-provider is considered transferable since it is mainly done through the communication methods of telephone and E-mail.
4.2.5 Customer value

On the topic of value and how the 3PL-provider believes Customer B’s perception of what value is, IV5 explained that it always ends up with monetary value. IV5 continues to explain that Customer B shows no understanding and interest in the 3PL-provider’s daily work. His perception is that Customer B is only looking at value from a directly monetary perspective. IV5 continues to say that he understand Customer B’s monetary interest since that is what value is all about in the very end. What he is lacking on the other hand is the fact that Customer B doesn’t understand that small changes and improvements at the 3PL-provider will and can lead to more efficient operations which in turn will be cost-savers for the customer from which monetary value can be exhausted. What IV5 means is that since the 3PL-agreement, in terms of charges, between the 3PL-provider and Customer B consists of monthly bills, a peak in one bill can lead to decreases in the following two for example. He continues to explain that if the 3PL-provider would have been given the required information on incoming goods three days in advance instead of one, he would be able to plan and prepare better. Plan better in terms of number of workers, internal flow of the goods, where to store it, etc. He believes that this in turn would benefit Customer B in a monetary aspect, but the customer is not susceptible for those suggestions.

4.3 Relationship 3

The third relationship is between the 3PL-provider and Customer C and this relationship is located south of Jonkoping, Sweden. The 3PL-provider manages the distribution center and the warehouse, with core functions such as; warehousing and preparation of goods for further transportation to end-customers. Those core functions are; unloading, handling, storing, picking and packing for the transportation. The major value-added activities that are carried out for this warehouse is; unloading, marking, labeling, quality control, and tracking and tracing. Due to seasonal peak at the warehouse and reorganization within the 3PL-provider the authors got hold on one person at the 3PL-provider that could take the time and answer the interview questions.

4.3.1 Relationship

The relationship between the 3PL-provider and Customer C, was seen with two different approaches, firstly did IV6 mention that they are having a good relationship when it comes to how to act within the relationship and how the different flows of goods and information travel. However are there often special-cases and exceptions, with the customer standing for the majority of changes which entitles the 3PL-provider to try to find solutions that will work in the favor of the customer. Further does the respondent reveal that they have taken on a proactive approach to try to come up with standard solutions
to these problems by keeping log on the special-cases and exceptions; and tries by using these logs for statistics see if there is a possible way to find a permanent solution for the relationship. When the respondent got the chance to put the mark in the diagram when it comes to the degree of integration and commitment between the two organizations, did the answer show a high degree of commitment and relatively high considering the degree of integration.

4.3.2 Information

The 3PL-provider shares information with Customer C, and not their customer’s suppliers or customers, the bilateral information is between the supplier and Customer C, 3PL-provider and Customer C, retail shops and Customer C. The information that the 3PL-provider are receiving from the customer is concerning incoming goods and slot-times (unloading-time). Further are information retrieved concerning goods that are going to be sent from the warehouse together with information concerning special demands from the end-customer, which are seen as required information for the 3PL-provider to be able to perform their day-to-day business. Information is received mainly from their customer, except updates on traffic that is received from their own organization. When it comes to the 3PL-provider’s view on what could be considered as desired information, were the concerns on IT-system updates and changes in the Customer C’s organization were the important ones. There is however no one at the 3PL that internally collects and distributes received information, whereas the respondent tells that a lot of workers are receiving information from the customer that is not of their concerns, “we are such a large organization so it can be hard to know who to send in first-hand information to, and then the customer take the secure way and sends everything to everyone” (IV6, E-mail conversation, 2012-05-07).

4.3.3 Communication methods

The communication methods that are in use are; E-mail, telephone, fax, face to face meetings, EDI-transfers and web-meetings. The EDI-files are transferring information to the 3PL-provider concerning which goods that are coming in to the warehouse. Additional information on slot-times is sent by the customer via “booking sheets” (IV6, E-mail conversation, 2012-05-07). Further is EDI used when it comes to book the good that are going to be picked up to Customer C’s end-customers, in accordance with these information receives the 3PL-provider E-mails when changes has happen, then the order becomes a special case or exception. The respondent is ranking E-mail as the most important communication method when it comes to the daily business. Face to face meetings are seen as an important and good opportunity to meet the customer and sort out questions concerning the relationship. The synchronized IT-system functions well, EDI is mainly used and the system is constructed in a way for recapping to be done automatically.
4.3.4 Information requirements

The information requirements within Relationship 3 did the respondent correspond to that the accessibility of the information were satisfying since the IT-systems are synchronized and when the information are flowing through that system are IV6 concluding that the information received is satisfactory. However when it concerns how relevant the information is for everyone are not that satisfactory, as mentioned, the 3PL-provider is a big company and some customers sends everything to everyone. Since the provider is to a high extent, receiving information solely from Customer C, are IV6 presuming that the information is accurate, otherwise will an E-mail be received from the customer, making a special case or exception possible. Most of the information are timely since the Customer C are following the deadline they have, but if there should be changes or special demand from the customer, then has the 3PL-provider not the same pressure in measurements from the customer concerning key performance index (KPI), and the quality outcome in the time perspective are softened. The transferability is seen as a good working requirement, since the two organizations IT-system are well synchronized.

Overall is the respondent satisfied with how Customer C is handling the information requirements, but there is however special cases and exceptions that needs to be solved and therefore are not the information flow that controllable as the 3PL-provider wishes.

4.3.5 Customer value

Customer value is for IV6 that the customer can in an easy manageable way and according to incorporated routines do their job. Further she reflects; “we are the whole time going to be on our toes for their demands and wishes, and we need to have understanding for their operation” (IV6, E-mail conversation, 2012-05-07).”

The 3PL-provider must oblige all type of fluctuations due to the customer change in demand, either it is inbound or outbound, the customer should be able to know if the provider can handle the changes, since that is giving Customer C a presumption to be able to work effective and successfully. If desired information would be retrieved then should unnecessary communication happen, and the 3PL-provider get a valuable insight in to why everything is not going as planned.

4.4 Empirical summary

The three different relationships are similar when it comes to the information and material flow, Relationship 3 is matching the flows to the same extent as the Relationship 2, and Relationship 1 is however having an information flow that is for some of the respondents and for Customer A recognized between the 3PL-provider and the end-customer (shown within brackets in the figure 4-1 below).
The communications methods that are generally ranked the highest of the respondents are traditional methods, with telephone absolutely in top. However as of problems with legal binding and if the method disappear, is all respondents giving the answer that E-mail is the most important method for the day-to-day business to function. Face to face meetings are another traditional communication method that is desirable in Relationship 1, thus in the other two are the method functioning to a high degree of satisfaction.

In the figure 4-2 is the shared view shown of the degree of commitment and integration from all of the respondents in the different relationships. The smaller star-mark is the respondent from Customer A´s view of the relationship with the 3PL-provider. Despite the deviation from IV6, which pointed out a high degree of commitment, did the majority of the respondents recognize a low degree of commitment and integration within the relationships.
The general views for the information requirements are presented in table 4-1, where accurate are seen in all the relationships to be of sufficient nature. The requirement of transferable are closely connected with if the relationships have synchronized IT-systems or not, therefore is Relationship 1 insufficient and the other two has a sufficient degree.

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<thead>
<tr>
<th>Relationship Info. Req.</th>
<th>Relationship 1</th>
<th>Relationship 2</th>
<th>Relationship 3</th>
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5 Analysis

The purpose of this thesis is to understand and investigate the value of information sharing, focusing on the sharing of information between the 3PL-provider and the customer. One 3PL-provider in three different relationships has been investigated. The analysis is based on the framework presented in section 2.4. For starters will the relationship as a whole be discussed which is essential to continue with the framework. The Information sharing will be analyzed based on its pillars; Information Requirements and Communication Methods. The concept of value will be analyzed and as a conclusion will answers on the purpose and its research questions be presented.

The theoretical framework, first presented in section 2.4 conceptualizes the relevant literature and an explanation of it is once more presented below.

According to Levy and Weitz (2009) the customer’s perception of value is determent by their perceived benefits. These perceived benefits are gained through the usage of value added activities at the 3PL-provider. The value added activities are seen as activities associated with the 3PL-providers core functions (Engelsleben in Delfmann et al., 2002). For the transfer of value added activities to contribute to the perceived benefits the information sharing is of great importance. The “pillar” representing the information sharing in figure 5-1 is build upon the theories on information requirements together with the usage and utilization of communication methods.
5.1 Relationship

During the interviews did the authors ask the respondents of their perception on the ongoing relationship. The relationship status was determined through the variables of integration and commitment according to Skjoett-Larsen (2000). To first get an understanding of whether or not the relationship is considered to exercise a high degree of integration and commitment or not is considered important. It is considered important due to the fact that the outcome of such a study will reveal a starting reference to estimate the value of information sharing. The outcome is presented below and is further cross-matched with the original figure by Skjoett-Larsen (2000).

The upper plot in figure 5-2 shows the outcome of all respondents choice combined. The chosen locations slightly differs for every respondent, however all reveals a relatively low degree of both integration and commitment except for IV6 in Relationship 3, even Customer A (marked with a small star) are recognizing the low degrees of commitment and integration within the 3PL-relationship. When cross-matching the interviewees’ outcome with the original figure-setting by Skjoett-Larsen (2000) one discovers an obvious difference. Where Skjoett-Larsen place a “Third Party agreement”, which is the official type of relationship every one of the respondents are in, differs compared to empirical findings. The respondents location of their perception of the relationship in terms of integration and commitment should, according to the original figure, be considered “Repeated transactions” rather than “Third Party agreements”. Skjoett-Larsen’s original figure-setting entails, in this case, a glorification of reality. IV6’s location of choice is in the other hand pretty close connected with what Skjoett-Larsen (2000) refers to as a “Third Party agreement”. IV6’s choice will later show to be interesting when analyzing the information requirements.

![Cross-match. Degree of integration and commitment](image-url)
Through the discovery of the majorities location of choice one can now argue that the relationship is considered being poor or at least being subject for improvements. Back feeding to Langley’s et al. (2009) mapping, figure 2-3, on different types of relationships one can argue that the majority of the relationships are facilitating more towards a transactional than relational character.

Further elaborating on the respondents’ perception of the relationship, it shows that their choice of low integration and low commitment is according to themselves rooted by the poor communication between the two parties. Out of this knowledge one can make a qualified assumption that the information sharing between the 3PL-provider and Customer A, B, and C is also considered poor. This assumption is partially based on the fact that the respondents actually motivated their choice of location in Skjoett-Larsen’s figure by referring to bad communication and also by the fact from theory which says that the information flow is considered to be the biggest contributor for either the success or the failure of the relationship (Skjoett-Larsen, 2000; Cheong, 2003; Langley, 2005). To get a more thorough understanding of the information sharing the authors are breaking this term down to analyze the information requirements together with the usage of ICT. This will also contribute to determine a clear connection with the information sharing and the relationship as a whole as well.

### 5.2 Information Requirements

The information sharing is considered positive if the requirements of; *accessibility, relevant, accuracy, timely, and transferable* are all met. According to the theory are the information requirements what makes the quality of the information and this is considered fundamental for the sharing of it (Langley et al., 2009). By analyzing the empirical findings of every one of the information requirements an understanding and a “health check” on the information sharing can be gained. Despite the fact that one already can assume that the information sharing is considered poor it is believed important to thoroughly investigate how each one of the information requirements were met.

Table 5-1 Information requirements within the relationships.

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<thead>
<tr>
<th>Relationship Info. Req.</th>
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5.2.1 Accessibility

Langley et al. (2009) explains that the requirement of accessibility is in many cases proven hard due the fact that supply chain data are often dispersed at several locations. The outcome of the interviews supports that fact since the majority opinion (5/6 respondents) is that accessibility is an area of problem and that it actually is hard to get the hands on information, mainly due to the actual lack of providing information from the customer. IV5 in Relationship 2 pointed out an interesting fact regarding this. He explained that he is experiencing the retrieving of information from their customer as a “pull-system”, where the 3PL-provider’s request of information initiates the sharing.

5.2.2 Relevant

The requirement of relevance emphasizes the importance of sharing information that is applicable for a requested situation (Langley et al., 2009). The empirical findings showed that the relevance of the information that is actually being shared is satisfying. For Relationship 2 one can make the assumption that if a pull-system is the case one pull for certain and particular information and it is for that reason the information is relevant.

5.2.3 Accuracy

The information shared has to be exact and truthful for the receiver to be able to make appropriate decisions (Langley et al., 2009). The outcome of the interviews in Relationship 1 showed that the majority of all the information reaches the customer-relations first, he in turn filters the information before it passes on to the staff at the operational level. Out of this “hub and spoke” system this requirement is considered met since the internal information sharing is exact and truthful. Further did the interviewee in Relationship 2 explain that he considers the information shared from Customer B to be accurate, and that he must trust that the information is correct and truthful.

5.2.4 Timely

The requirement of timely explains that the information needs to be available and updated in a reasonable timeframe (Langley et al., 2009). The empirical findings have shown that this requirement is considered the biggest failure of them all. All the relationships have acknowledged understandings with their customers of certain deadline, of which point information shall not be revised. Despite these deadlines it is very common, sometimes weekly, scenarios when the deadline is ignored. This has a negative impact on the 3PL-providers conditions of planning their daily work. Further does a
“pull-system” of information sharing like in Relationship 2 leads to several delays. Delays since the information needed for a certain physical good is first provided after the actual good has arrived.

5.2.5 Transferable

This requirement regards the ability for certain information to be converted into understandable and useful formats (Langley et al., 2009). The three relationships all exercise certain information sharing through the transferring of EDI-files, yet with varying success. The first relationship is experiencing a business relationship characterized by not fully synchronized IT-systems. This has suffered the transferability since it is sometimes unclear what a certain EDI-file indicates. The other two relationships are using what the respondents refer to as fully synchronized IT-systems. Their own words are that they are sharing the same screen as their customer. A fully synchronized IT-system entails successful conditions for the transferability to function. Further is the transferability considered defective in Relationship 1 due to the slow functions of the FTP-server.

To summarize one can point out that the information requirements, which makes out one cornerstone for the measuring of the information sharing, varies on how they are met. Through the empirical findings one can see that the defectiveness on one of the requirements creates a domino-effect which makes the next impossible to utilize. An example is in those cases when the information shared is considered not to be fully transferable, as in the case of the FTP-server in Relationship 1, this makes it impossible for the information to be timely. This entails that the fulfillment of these requirements are not linear but rather dynamic. The conclusion one can make is that whether the information requirements are met or not, they are big contributors for the success of the information sharing as a whole.

An important conclusion is also the fact that it is proven to be a clear connection between how the requirements are met and how the respondents view the relationship as a whole. Relationship 1 and 2 are the ones recognizing the least fulfillment of the requirements and they also explained the relationship as a whole to be characterized by a low degree of both integration and commitment. IV6 in Relationship 3 believes that requirements except one are being fulfilled, further did IV6 also recognized their relationship to facilitate a high degree of both integration and commitment. This discovery confirms the statement that information sharing has a big impact on the relationship as a whole.

By analyzing the theory on the requirements together with the actual empirical findings the authors believe one important requirement is lacking in the theory. During the interviews one specific finding caught the authors’ attention. When discussing freely on the topic of information sharing and its failures, the respondents independently from Relationship 1 and 2 were explaining that the information received from the customer is in many cases not complete. This means that approximately only 80 percent of information regarding specific areas is being shared. In a real case scenario this can show itself when information on incoming goods are received. If standard information regarding date of arrival, what type goods, volume, and number of parcels are being received can the ac-
tual time of arrival be left out. This way of only providing 80 percent of the information leads to difficulties for the 3PL-provider. For example difficulties on the possibility to unload in time, which is in the customers interest. Further does the incomplete information result in unnecessary social uncertainty. One can further analyze that if only 80 percent of the information is considered complete, the actual information provided is useless unless it’s a 100 percent complete. The authors believe and argue that completeness or absoluteness should be count as one additional information requirement. By adding this requirement the quality on the sharing of information would be enhanced.

As mentioned earlier are the information requirements considered to make out one out of the two fundamental and contributing pillars in the quality of information sharing. The empirical findings showed that many of the requirements are lacking in its fulfillment. The second pillar subject for analysis is the usage and utilization of communication methods.

5.3 Communication methods

According to Carr & Kaynak (2007) are communication methods divided into the categories of advanced and traditional. Advanced refer to the usage of computer links, usage of EDI, and ERP-systems. Traditional are referred to the usage of telephone, E-mail, fax, and face to face meetings. The empirical findings showed that in all relationships both advanced and traditional methods are used. Further did the findings show that the respondents consider communication through telephone and via E-mail as the most frequent used methods. These two together with face to face meetings are also considered to be of most value. Just, face to face meetings are believed to be the most improvable area for the quality of information sharing. The respondents in Relationship 1 urge for more face to face meetings and the respondent in Relationship 3 argue that face to face meetings are of great importance since more complicated questions can be discussed and solved. Further does the respondent in Relationship 2, which has weekly face to face meetings, argue that if these meeting were to be lacking it would lead to many problems in the daily operations.

The reason why all the respondents rank traditional methods the highest, such as telephone and E-mail can be derived from the assumption that the advanced methods are not satisfying. This makes the traditional methods to function as support for the failure of the advanced methods. The advanced methods are linked with the theory on information technology capabilities and the six drivers of supply chain excellence.

To be able to get an understanding of the second base pillar for information sharing, communication methods, the authors believe a thorough investigation of the six drivers of supply chain excellence will contribute.
5.3.1 Six drivers of supply chain excellence

When one looks upon the six drivers of supply chain excellence from Langley et al. (2009) are there several of them that are not having a satisfactory standard within the 3PL-relationships. One part that is working to some extent is the connectivity, since the 3PL-provider and Customer A are connected via a FTP-server. This server however functions very slowly for example when it comes to downloading files containing packing lists. The lack of speed for the server is according to the 3PL-provider caused by the fact that server is located behind Customer A:s fire-wall. The respondent at Customer A, IV7, on the other hand says that the slow speed is caused since the fire-wall at the 3PL-provider is blocking it. This two-shared view indicates and confirms even further that relationship suffers from poor understanding of each other’s firms. The FTP-problem has become a growing issue and have rendered in times when no information has been retrieved for arriving goods; which have made the 3PL-provider unable to process the goods. These kinds of problems have made it impossible for the 3PL-provider to be able to keep up the information flow in the same pace as with the material flow, similar problems had occurred in all of the relationships, where goods has just been delivered at the warehouse without proper information about its contents. This area of problem is noteworthy due to the fact that several scholars state that the information flow is considered to be one of the biggest contributors for the relationship to succeed or fail (Skjoett-Larsen, 2000; Cheong, 2003; Langley, 2005). Carr & Kaynak (2007) further argues that a synchronized flow with goods and information is vital if the 3PL-provider are going to be able to stay competitive and improve competitive factors/perceived benefits, such as; customer satisfaction, lead-times and product quality, factors that the customer can by all means contribute to improvements by performing information sharing.

Due to the fact that in neither of the 3PL-relationships are they receiving any information from the suppliers to their customers nor having any major information sharing with the customers customer, it is needless to say that visibility are not something that are prioritized within these relationships. The 3PL-provider is only receiving information from its customers about container and trucks that will arrive to the warehouse within the following week. Another information sharing area were benefits could be reaped are that if the customer provide the 3PL-provider with information about what goods their customers are ordering in real-time, then could the planning and monitoring of goods and preparing orders for delivery would as well give positive results to the perceived benefits.

Customer A provides the 3PL-provider with information regarding future orders, packing lists etc. However is the FTP-server very slow, which makes the collaboration driver unsatisfied, when controlling these packing lists can take hours and therefore it is hard to plan any strategies how to prepare future orders since the 3PL-provider cannot view this information in a preferable manner.

To be able to make optimization decision at the warehouse are some information vital for the 3PL-provider, such as the size of the packaging of the goods or how many of each good will arrive. Since the 3PL-provider does not receive this information to a satisfactory extent it is hard to fill up the warehouse in an efficient way. This also is a driv-
er that is not having a satisfactory level when discussing with the respondents in neither of the relationships.

Regards the execution driver did the authors of this thesis not get any understanding from the respondents that showed any type of such software which manage events dynamically and provide warehousing recommendations.

Regards the speed driver are the 3PL-provider lacking this type of software, but there is also however no idea to invest in this type of software with today’s setting between the two companies in Relationship 1, since there is no real-time information shared.

These drivers should be seen as potential future areas were the two organizations could do investments in ICT to be able to build up more efficient supply chain when it comes to information sharing and building customer value together in the 3PL-relationships.

The conclusion made for the information requirements together with the usage of communication methods is that the two of them are not met or functions in a satisfactory manner, this is further shown since the six drivers of supply chain excellence shows not to be fulfilled. Since the two (information requirements & communication methods) made out the basic pillars for the quality of the information sharing, the same conclusion is applied for the information sharing as a whole. To continue the investigation on the value of information sharing will an analysis of how improvements of the information requirements and the communication methods can impact the customer value be done.

5.4 Customer Value

Referring to the framework of the thesis is the customer value dependent on the variable of perceived benefits. In context of this thesis perceived benefits include factors such as; customer satisfaction, flexibility, and productivity. These perceived benefits in turn are dependent on how the value added services are used to support the core functions. The information sharing is what bridges the 3PL-provider and its customer, and seen crucial for creation of customer value. The investigation on how improvements of the information sharing can impact the perceived benefits and finally the customer value is seen contributing for the thesis purpose.

The respondents’ common opinion is that the quality of the information sharing can be improved and that improvements will lead to an increase of the customer value. As an example they explain that if the requirement of timely information will be improved this will lead to easier and better planning of the 3PL-providers staff which in turn will avoid overtime charges. The perceived benefit of cost savings will then increase which finally increases the customer value. Further will clear and accurate information lead to fewer misunderstandings at the 3PL-provider which are time saving. Time-saving in a manner that it is possible to shorten lead-times and increase the perceived benefit of productivity as well as end-customer satisfaction. IV3 looks at value from a different angle where he emphasizes the security factors of quality in production and back-feeding of information. These security factors can be looked on as contributors for the perceived benefits.
The conclusion is that improvements of the information requirements and the utilization of communication methods will increase the customer value.

5.5 Modification of framework

The theoretical framework refers the value adding activities to be the big contributor to increase the customer’s perceived benefits. The empirical findings showed a slightly different outcome.

According to Engelsleben’s (in Delfmann et al., 2002) classification, see figure 2-4 page 16, are the value added activities associated with the core functions. For example when the core activities are warehouse-functions such as storage and handling can the associated value adding activities be marking and labeling (Engelsleben in Delfmann et al., 2002). The conclusion is that it is the value added activities that are contributing to the customer value. The perception from the respondents was that the activities such as assemblies, quality controls, marking, and labeling are all performed. However, the respondents wouldn’t agree to put these activities into a specific field and refer them to value adding activities. They motivate by explaining that such activities are performed at a daily basis and are not considered to be “extra” activities for which the customer care extra off. This is further confirmed by IV7 at Customer A where he argues that what is referred to as value added activities in theory are nothing but expected by the customer for the 3PL-provider to perform. He rather value if the 3PL-provider can make good solutions for Customer A for unexpected happenings and the way they solve emergencies. IV6 in Relationship 3 further argues that her perception of value is rather their way to accommodate themselves for unexpected fluctuations in volumes than activities such as quality control and marking/labeling.
This can have its explanation due to the growth and development of the 3PL industry as a whole. Engelsleben’s (in Delfmann et al., 2002) classification is presented several years back and the growth of the 3PL-industry may have made the value added activities to become the “new core functions”. The analysis made from this empirical findings calls for a revision of theory where one do not make a clear separation of the core functions and the associated value adding activities. The two “blocks” are rather intertwined today than separate. By referring to the theoretical framework a revision has been made, figure 5-3, where the value added services has shifted more towards the block of core functions.

The empirical findings further shows that what today can be referred to as being value added activities are rather how the 3PL-provider acts when unexpected problems occur and how they handle emergency solutions.

Further noteworthy empirical findings are the fact when several of the respondents refer customer value to be a monetary issue. The theory says that the choice of outsourcing using a 3PL-provider has grown to become a long-term strategic choice rather than to gain short-term cost reductions (Skjoett-Larsen, 2000). Several of the respondents, including the one representing Customer A, refer back to the monetary issue and the importance of low costs. The industry as a whole might indicate a growth away from pure cost-reductions, the case studies in this thesis however shows that cost-reductions is still considered a hot-spot for the customer.
6 Conclusion

This chapter presents the thesis’s conclusion and is derived from the analysis together with the frame of reference and empirical findings.

The purpose of this thesis was to understand and investigate the value of information sharing between the 3PL-provider and its customer. To be able to contribute to the purpose has the following research questions been used as support R1: How do the respondents at the 3PL-provider perceive the relationship with their customer? R2: How are information requirements met?

The majority of the respondents at the 3PL-provider perceive their relationship with their customer to be poor, characterized by a low degree of both integration and commitment. Reasons for the low level of relationship was shown to be derived to inter-organizational communication problems and poor information sharing with respective customer.

To be able to contribute to the purpose was the study on information sharing broken down to an investigation looking on how the information requirements were met together with the usage and utilization of communication methods. The information requirements were not fulfilled in a satisfactory manner according to the majority of the respondents. The usage and utilization of the communication methods was also shown to be an area of flaws. The investigation further showed that improvements of the information requirements and utilization of the communication methods improves the quality of the information sharing, and the conclusion drawn is that the information requirements and communication methods are big contributors for the information sharing as a whole.

Another finding is that it is proven to be a clear connection between how the requirements are met and how the respondents view the relationship as a whole, a connection between the two research questions. The conclusion drawn is that perception on the relationship as a whole reveals whether or not the information requirements are met or not.

Despite the fact that no fine definition on the value of information sharing has been done, conclusions on the investigation as a whole can still be drawn. The improvement of information sharing leads to increasing customer value. Since the information sharing is considered a big contributor to the customer value one can use the customer value as reference to determine the value on the information sharing. A main conclusion is therefore that the value of information sharing is dependent on its contribution to the customer value. This entails that the information sharing becomes as valuable as its contribution to the customer value.
6.1 Future research and Managerial Implications

Through the investigation done in this thesis the authors have stumbled upon many different areas that are considered important for further research of this thesis purpose. For starters have no deeper investigation been done to thoroughly view how the contractual agreements conforms the actual standard of information sharing within the relationships. For future research is this considered important to investigate. The keyword of trust is highly related when investigating inter-organizational relationships and has consciously been left out due to constrain. Another aspect that is considered contributing for further research, that however is left out is the social aspect. The social aspect in terms of personal chemistry can have a big impact on the relationship as a whole and affects how the information is being shared.

Regarding managerial implications is it of high importance to emphasize how the information sharing actually is of value since it is a big contributor for the customer value. The 3PL-provider has to be given the correct tools to be able to successfully complete the expected. Every member of a supply chain needs to understand the value of information sharing and that the linkage between information sharing and increased customer value is a fact.
List of references


Cheong, M. L.F. (2003), “Logistics Outsourcing and 3PL Challenges”, M.L.F Cheong is a PhD student with the Singapore-MIT Alliance (SMA) under the Innovations in Manufacturing Systems and Technology (IMST) program hosted at Nanyang Technological University, Singapore.


7 Appendix

7.1 Interview question 3PL

1) Can you please present to us, the flow of information and goods from its origin to final destination, both external and internal?

2) From whom do you usually receive your information? A colleague at the 3PL-provider or directly from the customer?

3) Can you please classify the information you receive into: required, necessary, desirable, important, and not needed at all?

4) Out of this classification can you please explain your perception of how extra value for your customer can be gained if you receive desirable information?

5) What is your perception of value and what do you consider can create value for the customer?

6) Is there any basic information that is set as a standard for you to receive, anything stated in Operations Manual or equivalent?
   
   a) If yes, what information?

7) Is there any deadline for the information provided by your customer to you from which point it should no longer be revised?

8) Are you and your staff satisfied with the amount and the quality of the information? Please elaborate.

9) Does the information reach the right person?

10) Is there any communication-matrix available which explains from who you should be receiving information?

11) Are the communication channels ”clean”, i.e. are they functional with no obstacles?

12) What communication methods are you using?

13) What communication methods are available to use? (for example E-mail, phone, fax, IT, face2face, etc?)

14) Which of these methods do you believe is most important?

15) Do you believe that you are lacking any type of communication method?
   
   a) If this is the case, what method and why is it desirable?

16) Are your IT-systems synchronized to the one used by your customer?
   
   a) If yes, to what degree?

17) Do you feed the information back to your customer once you have received it?
   
   a) Are you prompted to do so?
18) Do you have any thoughts on how the information flow can be more efficient?

19) Have you raised the question with your customer?
   a) If yes, what was their response?

### 7.2 Interview questions customer

1) Can you please present to us, the flow of information and goods from its origin to final destination, both external and internal?

2) What communication methods are you using?

3) What communication methods are available to use? Face to face, email etc.

4) Do you know what information to be send to your affiliates; do you have an operation manual or equivalent that tells you what information to share?

5) In your daily work, do you know who you are going to send the different types of information to at your affiliates?

6) Do your affiliates receive the information that you think is necessary?

7) Do you know what type of information that is important for your affiliates to receive?

8) Do you have a deadline for when information should been sent to the logistics provider?

9) Do you think that your affiliates recap the information you send in a satisfactory way? Prior, during, and after the transmission of the information.
   a) If so, in what way?

10) Have you recognized times when wrong information has been sent, or to wrong persons, how has that affected the relationship?

11) Do you think that your affiliate has communication methods that are satisfactory for the information exchange to operate?
   a) If not, what are you thinking is missing?

12) What is value to you in a business relational setting?

13) What value does outsourcing of logistic activities to a 3PL-provider give to your organization?
   a) What type of benefits?

14) How do you see upon when right information is given, is more value created for the relationship?

15) How do you look upon your business relationship with the 3PL-provider?
   a) Vendor, partner or strategic alliance
16) Do you feel that your organization is well integrated with the 3PL-provider?

17) Do you have any thoughts on if the information flow within the business relationship can be more efficient?

### 7.3 Interaction list

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<th>Date</th>
<th>Medium</th>
<th>Description</th>
<th>Participants</th>
<th>Duration</th>
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