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Business Relationships and its Impact on Customer Requirements

A Case Study at Volvo Group

Master's Thesis in the Supply Chain Management Master's Programme

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CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden 2019
Report No. E 2019:011

MASTER'S THESIS E 2019:011

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Abstract

As of January 1st, 2020, new regulations regarding sulphur emissions will be implemented, called IMO 2020. This implies that the limit for sulphur in fuel oils used in ships operating outside Emission Control Areas (ECAs) is decreased from 3.5 % to 0.5. A majority of today's shipping fleets use bunker oil. However, this fuel does not comply with the new regulation in terms of sulphur emissions. Therefore, the shipping lines are forced to act in order to comply with the new restrictions to avoid sanctions. There are three strategic options for the carriers in order to adapt, where the indications point to that the most widely used option will be a switch to LSMGO fuel. This fuel is more expensive than the fuel used today, and the container shipping industry alone could see a total of \$15 billion in increased fuel costs yearly. This cost will ultimately be put on the customers. Because of this, Logistics Purchasing is interested in finding how specifications and requirements could be challenged or adjusted in order to decrease costs and to mitigate the additional cost that derives from IMO 2020.

The aim of this master thesis is to identify possibilities and hinders to adjust current specifications and/or requirements in order to reduce costs. This was achieved by examining the sourcing process together with an analysis of Logistics Purchasing's current relationships with two container carriers in order to identify the characteristics of the relationships. To reach the aim of the thesis, interviews were carried out internally and externally. From the interviews, it was possible to identify the level of involvement, what interface, types of collaborations, as well as uncertainties that exists.

The thesis has shown that the relationships with the carriers are characterized by low involvement with a specified interface. It has also shown that the type of collaborations between Logistics Purchasing and the carriers differ to some extent, and that uncertainties exist. It has been identified that Logistics Purchasing could increase the price orientation by using more standardized specifications and requirements, resulting in increased competition among carriers. This could ultimately impact the price. Possibilities have also been identified in terms of having a different strategy towards the carriers. This would mean that Logistics Purchasing could have different levels of involvement with different carriers depending on the carriers' unique capabilities and resources. This could create possibilities to benefit from low involvement relationships and optimize each transaction with carriers who economize through scale and scope, while high involvement relationships would focus on long term operational optimisations with carriers who economize through innovation. In a high involvement relationship, specifications and requirements could be created jointly in order to achieve mutual benefits, such as reduced total costs.

Acknowledgements

This Master's Thesis was conducted during the spring of 2019 at Chalmers University of Technology as the final part of the Supply Chain Management Master's Programme. The thesis was conducted in collaboration with Logistics Purchasing at Volvo Group.

We have been very fortunate to work with many interesting and competent people during the course of this Master's Thesis. We would like to thank our tutors, Kathia Unger and Feiran Zhao, and Mario van den Bussche who have been supporting us during the time at Volvo. We would also like to thank all interviewees who took their time with us, making this thesis possible. Also, a big thanks to the Carriers who were very friendly and helpful when aiding us with our Master's Thesis.

A special thanks to our tutor and examiner, Kajsa Hulthén, who has supported "the boys" from the very start. With your invaluable input and guidance, you made our journey much easier. Last but not least, a big thanks to our family and friends who supported us when we needed it the most.

Simon Apelqvist and Jakob Palmér

Gothenburg, June 2019

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1. Introduction

This master thesis is written in collaboration with Volvo Group at Logistics Purchasing. The first chapter presents the background of the research subjects. It consists of a background description of Logistics Purchasing and the forthcoming sulphur regulation IMO 2020 and what it could mean for the container shipping industry. This is followed by a presentation of the aim of the master thesis.

1.1 Background

Logistics Purchasing (hereafter referred to as LP) is a global team performing all purchasing of logistics services for Volvo Group (hereafter referred to as Volvo) and is a department within Production Logistics (PL). For the past years, LP has created a purchasing organization with the mission to optimize the logistics cost for Volvo by optimizing transport networks through sourcing projects and processes. The purpose statement of their organization is “Together we provide optimized logistics solutions for customer success and a sustainable future”. The corner stones in Volvo’s supply chain requirements are delivery precision, flexibility and cost.

Sea transportation is one mode of transport which LP governs. The shipping industry has been undergoing large transformations in forms of legislations and regulations the past years (IMO, 2019a). As of January 1st 2020, the International Maritime Organization (IMO), which is responsible for the marine atmospheric pollution generated by ships, will implement a new regulation regarding fuel emissions. The regulation is called IMO 2020. This implies that the limit for sulphur oxide (SO_x) emissions generated from ships operating outside Emission Control Areas (ECAs) is decreased (Cullinane & Bergqvist, 2014; IMO, 2019b; IMO 2019c). A majority of today's shipping fleets use bunker oil to run the engines. However, the quality of this fuel is low and does not comply with the new regulation (Cullinane & Bergqvist, 2014). The shipping lines are therefore forced to act in order to comply with the new restrictions to avoid sanctions.

The container shipping industry alone could see a total of \$15 billion in increased fuel costs yearly due to IMO 2020 (JOC, 2019). This will ultimately be put on end customers, in this case LP. The shipping industry is characterized by pressured prices and small margins (Shippingwatch, 2014). Therefore, LP wants to see what possibilities and hinders there are to reduce costs by challenging and/or adjusting specifications and requirements set by LP towards their container carriers.

1.2 Aim

The aim of this Master Thesis is to identify possibilities and hinders to adjust current specifications and requirements in order to reduce costs.

2. Empirical background

First, this chapter describes LP and their operations in order to explain the context for this master thesis. This information is based on internal documents and meetings with LP personnel. Second, background information regarding IMO, IMO 2020, and how the shipping industry could be affected by this regulation is presented.

2.1 Description of Logistics Purchasing at Volvo

LP is a department within Production Logistics (PL) in the Group Trucks Operations (GTO) branch of Volvo, see Figure 1. LP's mission is to contribute to customer success by driving production supply chain operations and development to achieve competitive flexibility, delivery precision, and cost. They are responsible for providing optimized logistics solutions for customer success and a sustainable future. Their aspiration is to:

- Provide their customers with requested flexibility and delivery precision
- Collaborate across the supply chain to deliver a stable and optimized performance
- Build a sustainable supply chain through continuous improvement
- Be inspired by innovation, develop an integrated end-to-end supply chain
- Be highly competent and engaged in order to deliver with a proactive and pragmatic mindset.

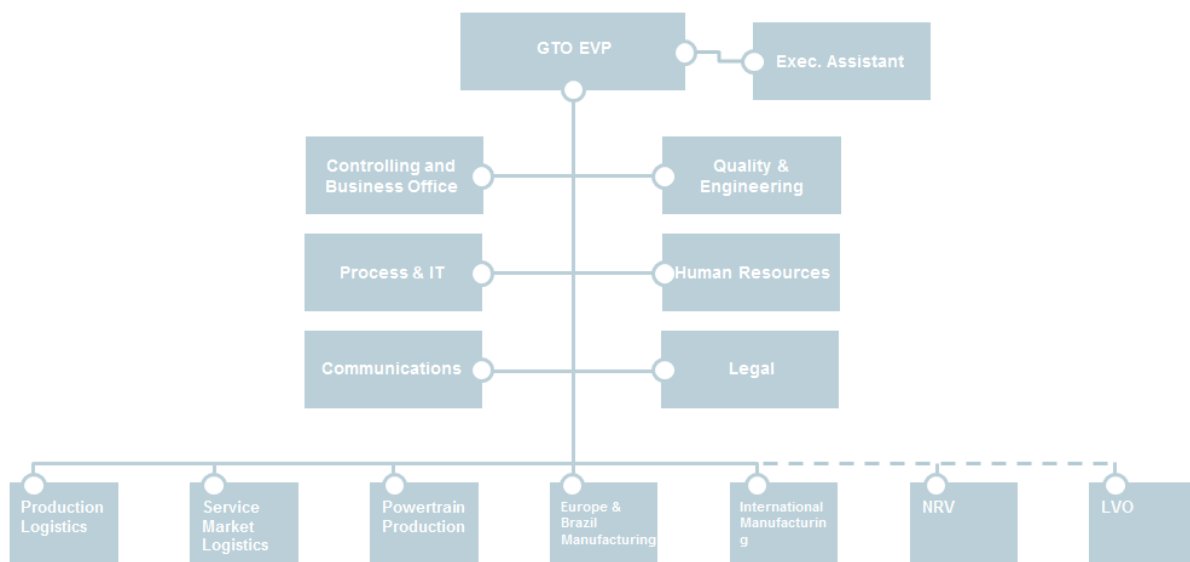


Figure 1. Organisational chart of GTO with PL bottom left.

LP govern all transport modes and necessary complementary activities used by Volvo. This includes road transport, air transport, sea transport, rail transport, contract logistics, and customs. LP works with many Volvo brands over the world. This includes Volvo Trucks, Volvo Buses, Volvo Penta, Renault Trucks, Mack Trucks, UD Trucks, and Eicher Trucks. Their scope covers the whole supply chain, from the supplier to the customer. LP operate in the regions of EMEA, APAC, and Americas, see Figure 2.



Figure 2. The locations of the LP organization around the world.

When Volvo choose suppliers for their products, components or services, a sourcing process is used. This applies for LP when choosing carriers as well. This process consists of four different gates. Gate 0 represents the preparation of everything which is going to be included in the service. A *Request for Information (RFI)* is sent out to potential suppliers. Gate 1 represents the *Tender & Review*, which consists of sending out the specific requirements through a *Request for Quotation (RFQ)*. When the quotations from different suppliers is analysed and compared, a short-list of potential suppliers is created. Gate 2 represents *Negotiate & Award*. This is where a supplier from the short-list is chosen based on LP's specifications and requirements for the specific service, and the final details are negotiated, and the supplier is awarded the project. Gate 3, *Implement & Sign off*, is the implementation stage. Gate 4, *Follow-up*, is a review the implementation and the administrative work has been implemented and handled. See Figure 3 for visualization.

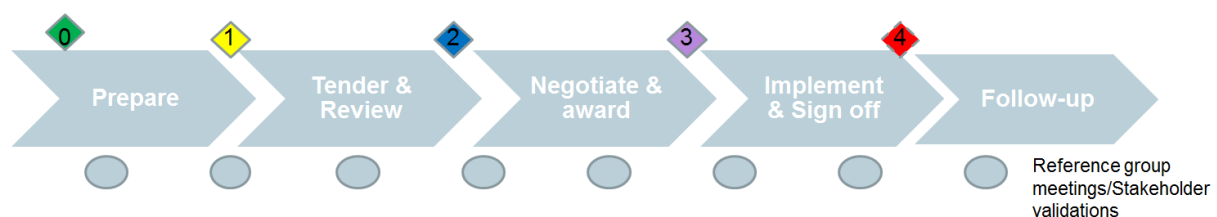


Figure 3. The Sourcing Process & Decision body which LP use for their projects.

2.2 Departments within Production Logistics connected to this thesis

The different departments within PL that are involved when setting specification and requirements towards carriers during the Sourcing Process is described below. Figure 4 is a visualization of the departments and their connection to the Sourcing Process. These are the departments which have been contacted for the interviews, see 4.2.1 Data collection

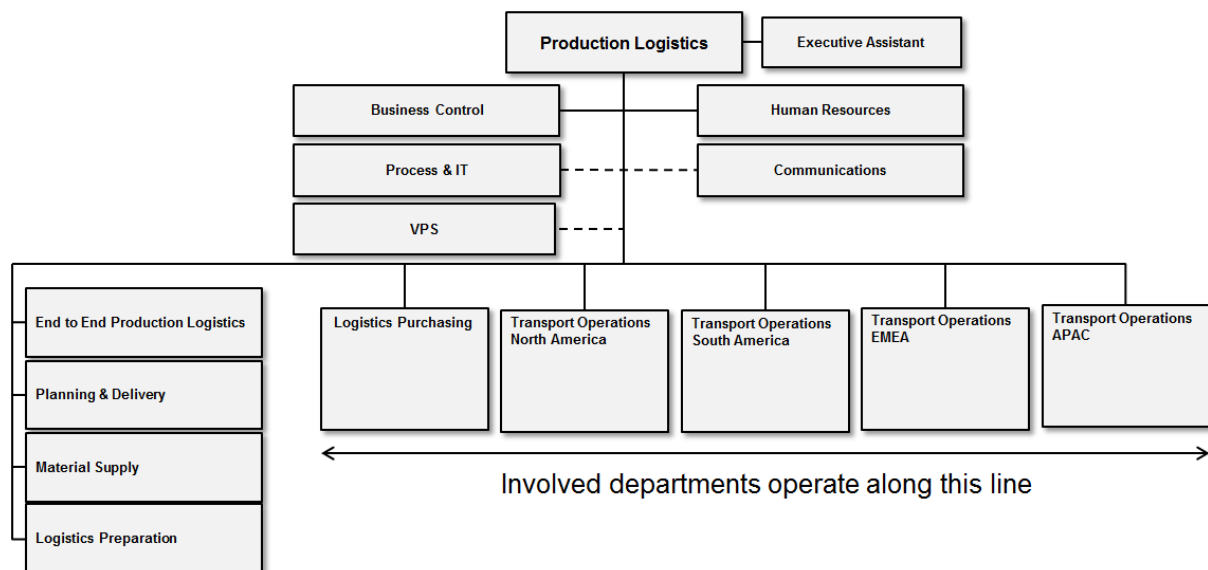


Figure 4. Visualization of PL where the departments which is described below operate.

2.3 IMO 2020, and its effect on the shipping industry

The International Maritime Organization (IMO) was established in 1948 by the United Nations with the purpose to develop and maintain international regulations regarding sea safety for the world's shipping nations. A regulatory framework for the shipping industry that is "fair and effective" (IMO, 2019a).

As mentioned in 1.1 Background, IMO is responsible for the marine atmospheric pollution generated by ships. As of January 1st, 2020, new regulations regarding SO_x emissions will be implemented, called IMO 2020. This implies that the limit for sulphur in fuel oils used in ships operating outside Emission Control Areas (ECAs) is decreased from 3.5 % to 0.5 % (Cullinane & Bergqvist, 2014; IMO, 2019b; IMO 2019c). The sulphur limit inside the ECA is currently set at 0.1 % and will continue to be so even after 2020 (IMO, 2019c), see Figure 5. A majority of today's shipping fleets use bunker oil. However, this fuel does not comply with the new regulation in terms of SO_x (Cullinane & Bergqvist, 2014). Therefore, the shipping lines are forced to act in order to comply with the new restrictions to avoid sanctions.



Figure 5. Map of the ECAs and the areas affected by the global sulphur limit (Alfa Laval, 2019).

The IMO 2020 initiative is one of many regulatory changes. In Figure 6, different phases regarding sulphur regulation limits in shipping fuel are shown. This is one step in order to reach all the 17 Sustainable Development Goals (SDG) initiated in 2015 by the UN to be achieved by 2030 (IMO, 2019d). The first regulation solely focusing on sulphur emissions were implemented in 2015 (IMO, 2019b), but has been a subject of step changes since 2010 (IMO, 2019c). In order for carriers to comply with the regulations in ECAs, different fuels are used during the same trip. As soon as the ship enters an ECA, a full change-over is required for the ship to start operating with a fuel compatible with the sulphur limit for that specific area.

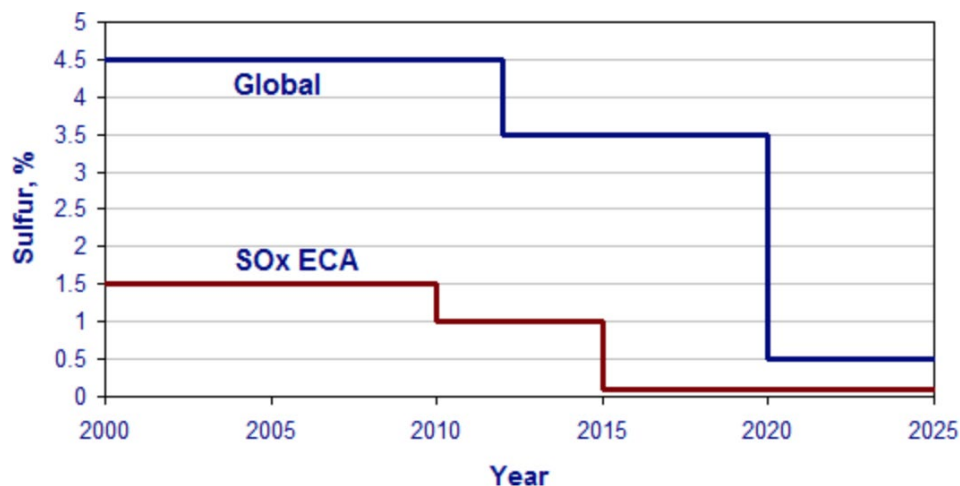


Figure 6. MARPOL sulphur limit chart (DieselNet, 2018).

According to Cullinane and Bergqvist (2014), there are several strategic available options for carriers in order to adapt to the IMO 2020 regulations outside the ECAs. There are however indications that a switch to low sulphur marine gas oil (LSMGO) will be widely used (JOC, 2019). Maersk Line and Hapag-Lloyd, who are two large actors in the shipping industry, estimate that the change of fuel will increase their annual costs by \$2 billion and \$1 billion respectively. The container shipping industry

alone could see a total of \$15 billion in increased fuel costs yearly (JOC, 2019). There are many uncertainties regarding the exact outcome of IMO 2020 for both carriers and customers.

3. Theoretical framework

One aim of this thesis is to identify possibilities and hinders to adjust current specifications and requirements in order to reduce costs. The theoretical framework is based on two main subjects; the purchasing process and business relationships.

This chapter starts with an overview of the traditional purchasing process. This is followed by a discussion of various types of business relationships and collaborations. The theoretical framework ends with a problem discussion where research questions are formulated.

3.1 The purchasing process

The sourcing process used by LP, as explained in the Empirical background, share many similarities with the Purchasing process as explained by van Weele (2014). They both consists of several activities, starting with a specification phase and ending with a follow-up and evaluation phase, see Figure 7. The steps involved in this purchasing process is what Gadde, Håkansson and Persson (2011) call classic purchasing with a traditional purchasing model. It is considered by Gadde et al. (2010) as a straightforward decision-making process which starts with a recognition of something needs to be purchased. The steps according to van Weele (2014) in this purchasing process is described below.

1. *Determining specification*

The purchasing process starts with a recognition of something that needs to be bought, may it be a product or a service. It needs to be defined what specifications are required, i.e. required quality and quantity which is either specific or functional.

2. *Selecting supplier*

When the specifications are determined, the best possible supplier for the product or service needs to be selected and to develop routines and procedures which enable this.

3. *Contracting*

When an adequate supplier is selected, negotiations must be prepared and conducted. This in order get into an agreement and establish a legal contract.

4. *Ordering*

In this stage, the routines and the handling around the purchase is set in order to make it as efficient as possible.

5. *Expediting and evaluation*

In order to secure supply, monitoring and control of the order is done.

6. Follow-up and evaluation

This step is done in order to rate the supplier and rank them, to see if they have performed as was procured for. Here it should be determined if the supplier should be kept or replaced.



Figure 7. The purchasing process according to van Weele (2014).

Since the aim of this Master Thesis is to identify possibilities and hinders to adjust current specifications and/or requirements in order to reduce costs, it is important for this thesis to understand what specifications mean in the *Determining specification*-step of the purchasing process as well as how it affects/impacts the *Selecting supplier*- and *Contracting*-step. According to van Weele (2014) there are technical specifications and functional specifications. van Weele (2014) describes technical specifications as both the characteristics and technical properties of an offering, as well as what activities to be performed. Functional specifications concern what functionality the offering needs to have. van Weele (2014) further explains that both the technical and functional specifications are a part of what is called the purchase order specification (POS). It is a set of documents that consists of different types of specifications and requirements. Usually the (POS) consists of the quality-, logistics-, and maintenance specifications, legal and environment requirements and lastly a target budget. van Weele (2014) argues that there are three major benefits with the functional specifications. Firstly, the supplier has the opportunity to use their expertise in the most efficient way. Secondly, best practices or new technology that the buyer is not familiar with can be used. Lastly, it creates a standard which all supplier proposals can be evaluated against.

When the purchasing process is applied, “every buying decision is seen as an isolated event” (Gadde et al., 2010, pp 6). The logic to this, according to Gadde et al. (2010), is when each event is to be handled separately in the best way, the best overall situation is achieved. This means that all cost and revenue factors are isolated as well. Gadde et al. (2010) mean that “if there are major cost or revenue consequences connecting this event with others, the tender with the lowest price may not be the best solution at all”. There are a lot of interdependencies among purchasing events. This makes the traditional view of the purchasing process problematic (Gadde et al., 2010). The supply of services is needed more or less continuously, and business transactions are often connected to other purchasing events (Gadde et al., 2010). This in combination with that some suppliers may deliver more than one service to the buying company makes it a non-isolated event; they are often embedded and linked with each other (ibid.).

According to Gadde et al. (2010), different conditions related to this traditional view bring negative effects to the approach. Gadde et al. (2010) discuss three assumptions related to the traditional purchasing approach. The first assumption is that each purchasing event is isolated from another (Gadde et al., 2010). This means that the focus is on the price of each transaction, whereas the costs associated with the transaction is often overlooked and assumed to be the same, regardless of which supplier is chosen. Even suppliers not qualified for the short-list induce costs, since

they have to be handled administratively throughout the RFI and RFQ. The total cost is more than just the price, where indirect costs are often a lot bigger than the price, see Figure 8. Gadde et al. (2010) argue that these costs are sometimes even more important to focus on rather than just the price, and the challenge for the supply side is to reconsider the assumption that the “ultimate performance” is achieved when a single purchase is made with the lowest cost possible (Gadde et al., 2010). By analysing total cost and its driver(s), areas of improvement for the buyer can be identified. Therefore, Gadde et al. (2010) argue that by gaining knowledge regarding suppliers’ competences and capabilities together with better information exchange, requirements can then be adjusted towards the offering which can lead to benefits for the buyer. By joining with suppliers and sharing capabilities with the supply side, logistics and distribution can potentially be improved substantially (Gadde et al., 2010).

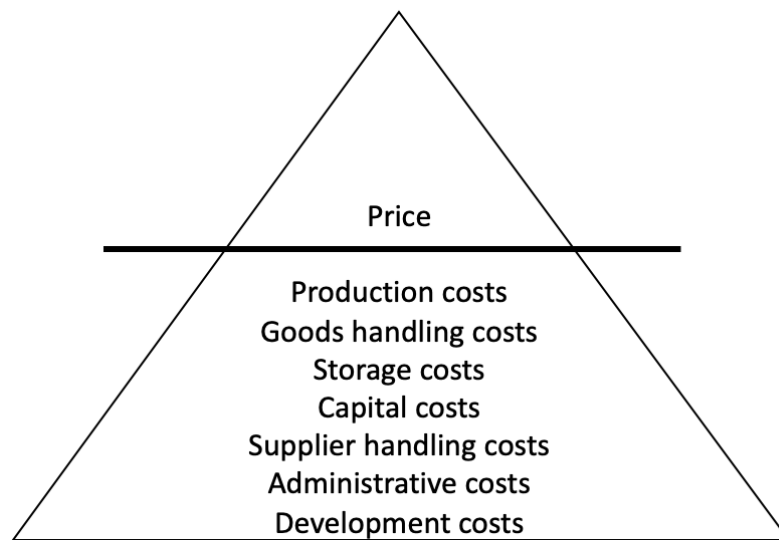


Figure 8. Costs affected by purchasing, adopted from Gadde et al. (2010).

The second assumption relates to “the perspective of benefits” (Gadde et al., 2010, pp 7). When evaluating tenders according to the traditional model, the offering needs to be standardized. The supplier therefore gives a standardized solution based on customer specifications. Gadde et al. (2010) therefore argue that a wider view (or scope) is required, which can be achieved by including the supplier’s perspective, as the buyer’s specifications and requirements will affect the price. Since the traditional model focuses on standardized tenders and offers, Gadde et al. (2010) argue that the traditional view does not invoke the suppliers to make use of/show their unique capabilities and/or resources, which could be beneficial for both buyer and supplier. The supplier’s perspective is often overlooked and makes it difficult to let both parts benefit of each other’s strengths in order to reduce costs. Purchasers must play a greater role when it comes to looking outside the buying company’s boundaries by question the use of standardized solutions and specifications. Gadde et al. (2010) argue that once the supplier is provided with some degrees of freedom, there is potential for cost-reducing solutions. This assumption shares many similarities with the discussion regarding involving the supplier and functional specifications, as stated by van Weele (2014).

The third assumption relates to “the unit of analysis considered in the buying process” (Gadde et al., 2010, pp 7). Gadde et al. (2010) argue that the focus is on the buying firm during the first phase of the traditional purchasing process. When a supplier is

selected the focus expands to a dyad, which involves the buyer and the supplier. These are the parties who jointly handle issues regarding delivery conditions. This means that other parties like internal and external stakeholders, who play important roles, are not included in the traditional view of a purchasing process. Connected to this, Gadde et al. (2010) argue that there is a challenge connected to time and space and that a wider scope connected to both is needed. This since “each purchasing decision is related to the past and impacts on future purchases” (Gadde et al., 2010, pp 12). The authors mean that a buyer’s unique purchase in one specific situation affects and is affected by other purchases at the same time. Since many purchases and purchasing opportunities are interconnected, capabilities from both sides of the dyad need to be used. Therefore, the strategic roles from both the buyer and supplier need to be defined. In order to make use of capabilities and set strategic roles, long-term relationships are required, since investments like this will only pay off over time (Gadde et al., 2010).

Gadde et al. (2010) argue that to enable rationalisation and efforts spanning across boundaries of the buying company, input from various suppliers is needed. There must be some sort of commonality in order to improve efficiency in deliveries. Joint activities between buyers and suppliers could be beneficial (Gadde et al., 2010). According to the authors, efficient supply chains do not only need the suppliers to be involved, but also the suppliers’ suppliers. Gadde et al. (2010) argue that the performance of companies is highly determined by its efficiency and effectiveness in purchasing activities and the handling of its suppliers. Hence, a supply network perspective calls for both efficiency and effectiveness in purchasing.

3.1.1 Logistics purchasing

LP performs all purchasing of logistics services for Volvo Group. They want to “provide optimized logistics solutions resulting in customer success while working towards a sustainable future”. Various specifications and requirements are set towards their suppliers in order to align to Volvo’s overall strategy and goals. Therefore, this sub-chapter aims to get an understanding of logistics purchasing and its overall goals.

Logistics is defined by the Council of Supply Chain Management Professionals (CSCMP) as “The process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements. This definition includes inbound, outbound, internal, and external movements” (CSCMP, 2013, pp 117). Logistics can also be defined as the “management and optimization of transportation” (Porporato, 2016, pp 392). Due to the technological advancements made the last decades, the increased flow of information required to operate a supply chain efficiently has enabled industries to operate at lower costs, leading to success in coordination and selection of activities within logistics management (Porporato, 2016).

According to Jonsson and Mattsson (2011), logistics is connected to economic gains within a company. The purpose with logistics is to improve the efficiency within a company in order to deliver positive economic results. Efficiency can be expressed in variables, and the main efficiency variables in logistics are:

- Customer service
- Cost
- Capital tied up
- Flexibility
- Time
- Environment (Jonsson & Mattsson, 2011).

By setting up goals, measure, and do follow-ups on efficiency variables, Jonsson and Mattsson (2011) argue that it is easier for a company to align its business according to both its competitive advantages and its strategy and goals. Some of the above-mentioned efficiency variables are contradictory to each other. Therefore, they have to be prioritised and connected to the overall goal of the company. This since the prioritised efficiency variables make the foundation of the overall goal of the logistics strategy.

3.2 Business relationships

According to Kleinaltenkamp et al. (2015), a business relationship can be seen as a series of transactions that take place between a supplier and a customer. The reasons why the supplier and the customer do business with each other repeatedly can be many. As an example, both Kleinaltenkamp et al. (2015) and Ford et al. (2003) exemplifies that a positive economic effect may only take place after a certain number of transactions have been completed. It can also be due to good previous experiences of doing business with the other party and therefore they want to do it again.

Kleinaltenkamp et al. (2015) further state that business relationships can vary and have different shapes. What the relationship looks like partly depend on the transactions that occur between the buyer and the supplier (Palmatier et al., 2006). The transaction can be of simple nature, but also a series of very complex transactions lasting over a long period of time. The spectrum stretches between “discrete transactions” and “relational transactions”, where discrete transactions are characterized by being short-term, without social contact between the two parties and by temporary solutions for information sharing. Relational transactions are characterized as being long-term, with social contact between the parties and that there are structured ways for how information should be shared (Kleinaltenkamp et al., 2015). According to Gadde et al. (2010), the fundamental platform of any supply network strategy is represented by the relationships with suppliers. The key to success in turning a traditional approach to a supply network approach is the development of appropriate supplier relationships (Gadde et al., 2010). Ford et al (2003) state that the issue for managers is no longer about “buying the right products at the right time and at the right price”, focus should rather be on how to handle and develop relationships with key suppliers over a long period of time.

3.2.1 The level of supplier involvement

The supplier relationships are one of the most important resources for a buying firm since no business is possible without the suppliers (Ford et al., 2003; Gadde et al., 2010). The authors argue that no company can control or access all needed resources internally and the supplier relationship is the key to get access to external resources. In the case of LP, it is of importance to be aware of the character of the current

relationships and what cost and benefits that each relationship can bring. It should be of interest for both the suppliers and LP to exploit the relationship in order to reach its full potential, especially when regulations with big impact are to come. It should also be of interest for both the supplier and LP to investigate the existing relationship and the possibilities and hindrances this type of relationship brings, in terms of possibilities and costs.

According to Gadde et al. (2010) and Ford et al. (2003), relationships can be of great importance for different reasons. One relationship can be considered very important due to the high volumes it may represent, while another relationship can be considered as important since the supplier may affect the buying company's offering in terms of quality or technical development. However, Gadde et al. (2010) state that it is difficult to determine the exact value of a specific relationship since a number of technical, commercial, and organisational solutions in a supplier relationship affect both parties in terms of costs, but also in terms of benefits. Gadde et al. (2010) further argue that some of the economic consequences that affect the value of the relationships is easy to describe, monitor and quantify while others are more difficult to measure, more indirect and less obvious connected to the relationship. Ford et al. (2003) argue that an analysis of the current and the potential contribution of suppliers is a prerequisite for understanding in what way the relationships can bring benefits, but also how the relationships should be handled and developed.

Gadde et al. (2010) further argue that for a firm it is of great importance to be aware of the multiple factors that affect the relationship and the potential economic consequences from these. The costs and benefits that a business relationship can bring is highly dependent on the level of involvement (Gadde & Snehota, 1998). This can be related to what Kleinaltenkamp et al. (2015) state about discrete transactions and relational transactions. How Gadde and Snehota (1998) describe low involvement relationships are similar to how Kleinaltenkamp et al. (2015) describe discrete transactions, the same for high involvement relationships and relational transactions.

According to Ford et al. (2003) buying firms have historically been recommended to keep the supplier on arm's length, with other words to have low-involvement relationships. The authors point out four advantages with this. Firstly, the relationship is cheap to operate, and the handling costs are kept low. Secondly, by using a number of suppliers, short term transaction uncertainties can be reduced, meaning that issues connected to delivery failures, quality, fluctuation in demand etc can be reduced by spreading out the risk by the use of several suppliers. Thirdly, the customer does not get "locked in" to a specific supplier if not investing too much in one specific relationship. Lastly, having several suppliers on arm's length distance instead of a high-involvement relationship encourages competition among the suppliers and prices and offerings could therefore potentially be improved from a customer point of view.

Ford et al. (2003) further argue that a price orientation neglects indirect costs associated with the purchase, but also potential benefits that could be reaped. In addition, the gains for the customer when being price oriented is a loss for the supplier and the other way around. It is stressed by Ford et al. (2003) that a low involvement relationship is handled with limited coordination, adaptations and interaction.

High-involvement relationships are based on an alternative idea of purchasing efficiency, having a different view on the supplier's role in the relationship (Ford et al., 2003). Since customers rely on external resources controlled by suppliers, activities must be coordinated. Coordination between company borders means that both parties need to adapt to each other, but also invest resources in maintaining the relationship. Ford et al. (2003) state that with a high-involvement relationship, the focus is not on optimizing the price for each transaction but rather improving the operations in the long term. This by utilizing the suppliers' resources and abilities more efficiently in order to decrease the total costs. However, both Gadde et al. (2010) and Ford et al. (2003) argue that a high-involvement relationship does not come without increased relationship handling costs. These costs, both setup and maintenance costs of the relationship, have to be considered when deciding the level of collaboration. Hence, a high-involvement relationship requires substantial coordination, adaptation and interaction. In Table 1 below, a summary of identified characteristics of high- and low-involvement relationships are presented.

Table 1. Identified characteristics of high- and low-level involvement in relationships, influenced by Araujo et al. (1999) and Gadde et al. (2010).

Characteristics of high and low involvement relationships	
High-involvement relationships	Low-involvement relationships
Investing resources to maintain the relationship	Not investing too much in a specific relationship
Coordinated activities in order to access external resources	Limited coordination
Requires adaptation to other parties	Limited adaptations to other parties
Requires substantial interaction	Limited interaction
Optimization of operations in long term to decrease total cost	Optimization of the price of each transaction. Encourage competition among supplier in order to push prices and offerings
Increased relationship handling costs	Cheap to operate and handling costs are low
Use the relationship in order to overcome transaction uncertainties	Using a number of suppliers to overcome transaction uncertainties

The main rationale to have a high level of involvement with a supplier is associated with the relationship benefits which are either related to cost benefits or revenue benefits (Gadde et al., 2010). Cost benefits refer to cost savings that is related to the relationship with the supplier. An example of cost benefit could be reduced cost due to changes in customer requirements which could result in that the supplier can operate more efficiently. Revenue benefits refer to the impact that purchasing can have on the

revenue. It can be connected to improved quality generated by a better use of the supplier and its resources and capabilities. A low-involvement relationship offers minimal opportunities to reap cost benefits and revenue benefits beyond price. By increasing the level of involvement, Gadde et al. (2010) state that it may be possible to improve service levels and flexibility, reduce costs in processes or physical flows, or other types of cost reducing effects or benefits. The authors argue that it is particularly important for the buying firm to be aware of possible effects when changing the level of involvement.

As previously mentioned, supplier relationships can be considered as one of the most important resources for a buying firm. The reason behind this is that the supplier relationships represent the integration of internal and external resources (Gadde et al., 2010). Other authors take it even further and Araujo et al. (1999) state that the buying firm's competitive advantage relies on both internal and external resources.

3.2.2 Business relationship complexity

There are often a lot of people and departments involved in a business relationship, from both the buyer and the supplier, who interact with each other. This brings complexity to a business relationship (Gadde & Håkansson, 1993). Problems and opportunities which may arise are discussed and solved at both the buyer and supplier. Even though they are solved independent from each other does not mean that the problems themselves are independent (Gadde & Håkansson, 1993). The problems at the respective companies are often interconnected in many ways, which is why Gadde and Håkansson (1993) argue that good contact between the buyer and supplier is of importance, see Figure 9.

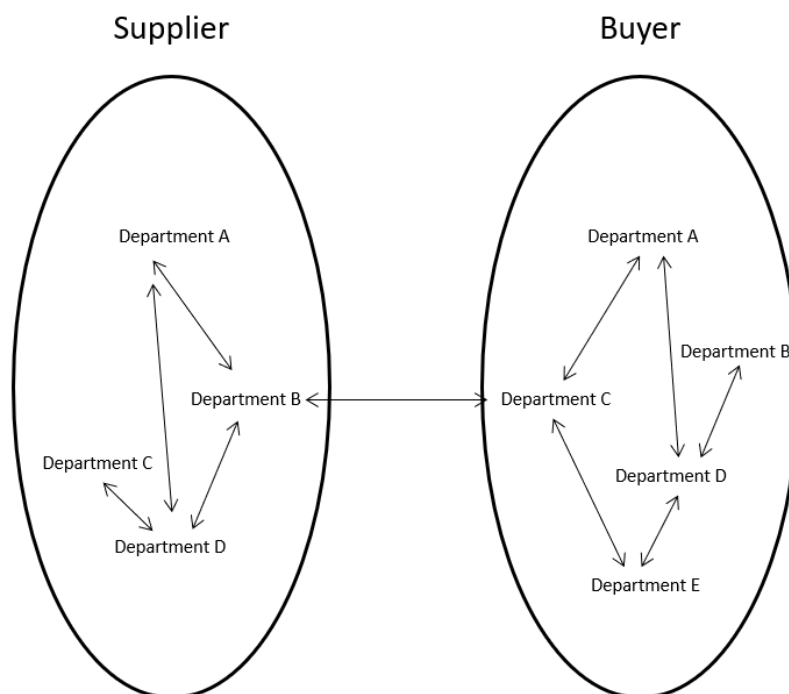


Figure 9. Pattern of contacts in an advanced supplier relationship, influenced by Gadde and Håkansson (1993).

Gadde and Håkansson (1993) mean that an extensive relationship, which often is complex, requires coordination of operations at the buying firm. This however increase the dependence between the parties, which in turn increase the complexity of personal contact between the buyer and supplier (Gadde & Håkansson, 1993). Therefore, it is important to coordinate each relationship with regard to technical- and organizational resources.

3.2.3 Supplier relationship interfaces

Araujo et al. (1999) stress that the benefits that can be brought to the customers through collaboration with the suppliers differ, some collaborations will mainly drive cost rationalizations while other impact on the quality in the final offering. Ford et al. (2003) state that logistics are a critical part of the offerings from the suppliers and purchasing plays an important role in the rationalisation of these offerings. Other collaborations can mainly be about finding best practices or bring new ideas into the business. By getting an external part involved, the supplier relationships can be seen as a part of the development of the business and the supplier can with its experience and expertise contribute when solving problems (Ford et al., 2003).

To efficiently access external resources and to know what interface that is most beneficial in a certain context, it is of great importance for both the buyer and the supplier to be aware of each other's context (Araujo et al., 1999). Interfaces relate to the characteristics of the relationships and the extent the customer can access the supplier's resources through the relationship. Ford et al. (2003) argue that the interface with the supplier is not only crucial when it comes to technical development and further state that the significance of the interfaces between the firms are becoming greater due to the need of external resources. According to Araujo et al. (1999), there are four different interfaces that exist in the relationship between the customer and the supplier. These are the standardized-, the specified-, the translation- and the interactive interface, which can be referred to as the ADG-model, see Table 2. The most important distinction between these four interfaces is to what extent the buyer and supplier are aware of each other's context (Gadde et al., 2010).

Table 2. Summary of characteristics of different types of supply interfaces, adapted from Araujo et al. (1999).

Interface category	Characteristics	Customer Benefits Productivity	Customer Costs Productivity	Customer Benefits Innovativity	Customer Costs Innovativity
Standardized	No directions. No specific connection between user and producer.	Cost benefits from supplier economies of scale and scope as well as learning curve effects.	Adaptation to standardized solutions may create indirect costs elsewhere.	None	No direct costs. Allows only indirect feedback to suppliers based on sales figures.
Specified	Precise directions given by the customers on how to produce.	Supplier can pool together similar orders; economies of scale and scope can be attained.	Supplier's resource base "locked in". Limited possibilities to influence specifications.	Minimal	Supplier used as capacity reservoir. Development of supplier resources may suffer.
Translation	Directions given by customers based on user context and functionality required.	Supplier can propose efficient solutions that improve its own and well as the customer's productivity.	Supplier may reap benefits that are not shared with customers.	Supplier has some leeway to propose innovative solutions.	Supplier may not know enough about customer context to innovate radically.
Interactive	Joint development based on combined knowledge of use and production	Open-ended exchange allows full consideration of direct and indirect costs for both parties.	Investments in knowledge of how best to make use of existing resources.	Supplier learning about user context opens up the gamut of solutions offered.	Requires investments in joint development and learning.

Standardized interface

According to Araujo et al. (1999), the standardized interface occurs in a situation when there are no directions from the customer and no connection between the supplier and the customer. This means that neither the buyer nor the supplier needs to know the context of each other. As a result, this type of interface requires minimal investments related to the relationship and is of generic nature (Araujo et al., 1999). To benefit from

the large-scale supplier operations, the standardized interface is the best option for the customer. This means that the customer complies with market standards which makes it possible for the supplier to consolidate several customers' needs in order to benefit from economies of scale. However, Araujo et al. (1999) argue that sticking to a generic market standard may bring additional indirect cost elsewhere, for example increased supplier handling cost, administrative cost or storage cost. Gadde et al. (2010) argue that the costs not associated with actual price are sometimes even more important to focus on. There are no direct learning effects between the customer and the supplier in this type of interface. But, there may be some indirect effects due to the large-scale operations performed by the supplier, which will give the supplier an increased awareness due to the repetitive tasks. In accordance with van Weele (2014), these effects may be connected to the typical learning curve meaning that in the run, it can result in cost reductions made by the supplier.

Specified interface

Araujo et al. (1999) point out that the specified interface differs from the standardized interface in terms of specifications. In the case of a specified interface, the customer sets the requirements and the supplier design the offering there after. Gadde et al. (2010) further argue that the supplier in this case can be seen as an extension of the customer's own resources. As a result of the higher degree of customer specifications the supplier has limited opportunities to gain a high level of productivity. There are neither any direct nor indirect learning opportunities with the specified interface. The exception would be if the customer itself put up training sessions for the supplier, but since the knowledge from those trainings would be customer specific it will be limited use of this knowledge in other situations (MacDuffie and Helper, 1997).

Translation interface

The translation interface relates to functionality of the offering rather than specification. The requirements of the functionality are set by the customer(s). Araujo et al. (1999) mean that how it is going to be achieved depends on how the supplier wants to approach this. With the translation interface, there is room for both economies of scale and scope, which possibly can generate lower customer price. However, the direct learning effects from this interface are limited. Since this interface leaves room for freedom for the supplier, knowledge gained from other interfaces can be reused (Araujo et al., 1999). As previously mentioned, van Weele (2014) argues that specifications can either be set on technical basis or on functional basis. The translation interface can be related to the functional specifications, meaning that the outcome is specified rather how the actual operations should be carried out.

Interactive interface

According to Araujo et al. (1999), the interactive interface occurs when the customer and supplier together develop the requirements and specifications of the offerings. With this interface, both parties jointly work to affect the cost structure for both parties. This also means that there are increased possibilities to reduce indirect costs. Since the interactive interface relies on joint development, there are great possibilities to benefit from both direct and indirect learning.

3.2.4 Different types of relationships and collaborations

Supplier relationships have various economic consequences and can bring different economic benefits. According to Gadde et al. (2010), there are three economies that can be identified. The first economy mentioned is economy of scale and scope which is reached through a distributive collaboration. Distributive collaboration means that one is making use of the similarities by connecting to others with the same needs. It could for example concern transportation where several customers have the same need but not enough volumes to fill a whole truck or ship.

Economies of integration is the second economy mentioned by Gadde et al. (2010) that can be reached through collaboration. Economies of integration is related to the rationalization derived from the coordination of serially interlinked activities. The integration can take various forms and depends on the extent the activities performed by the buyer and supplier are adjusted. Adjustments are most likely to be coordinated over company borders, between customer and supplier, and this type of collaboration is therefore linking the companies together. These adjustments are changed through joint-planning where information sharing is important (Gadde et al., 2010). The linking can take several shapes and could for example concern information sharing regarding forecasts or market plans. Sharing this kind of information can help both customer and supplier to set up appropriate plans more efficient than without this kind of information. However, Gadde et al. (2010) argue that when attempting to reach economies of integrations, it is of great importance to consider economies of scale and scope since adjustments and configurations in serially dependent activities may affect the possibilities to gain benefits from similarities among other activities. This could impact the benefits reached from economies of scope and scale negatively.

The last economy mentioned by Gadde et al. (2010) is economies of innovation. The authors argue that when a relationship is growing stronger and becomes more intensive, the parties will get knowledge about each other's capabilities and needs. LP wants to better understand what in their specifications and requirements towards their carriers that drives costs. When striving for that kind of understanding, a step towards a problem-solving collaboration is taken. A problem-solving collaboration is characterized by mutual adjustments of activities, requirements and adaptations of resources and is economising through innovation (Gadde et al., 2010).

Economies of innovation is related to systemic collaboration (Gadde et al., 2010). The systemic collaboration can be divided into three different phases. Phase one, "transactional exchange", is mostly about price, volumes and margins. The buyer may try to exploit market mechanisms in order to push the prices. As previously mentioned, Kleinaltenkamp et al. (2015) present a spectrum that stretches from discrete transactions to relational transactions, where phase one has the same characteristics as discrete transactions. Also, it could be seen as a low-involvement relationship described by Ford et al. (2003). This kind of buying behaviour may result in huge price fluctuations which are not wishful for either the buyer nor the supplier.

The second phase of the systemic collaboration is what is called "the framework agreement" which is associated with coordination of processes and resources with a major focus on logistic performance. This kind of contract determines when, how and under what conditions the different parties should do business with each other. This

could decrease the transaction cost due to less research before each transaction (Gadde et al., 2010).

The last phase of systemic collaboration is referred to as “a partnership collaboration”. This form of relationship has a problem-solving approach where the aim is to exploit joint resources, to find innovative ways of working and ways of using resources when combining the resources from both parties. A problem-solving collaboration is initiated when the collaboration is influenced by information sharing, joint performance measurements and extensive interaction (Gadde et al. (2010). Again, the characteristics of partnership collaboration, phase three, have similarities to what Kleinaltenkamp et al. (2015) call relational transactions and the descriptions of Ford et al. (2003) regarding high-involvement relationships. The more interactive the problem-solving efforts are, the better solutions for both parties will be reached in terms of performance in relation to costs. The partnership collaboration requires a higher level of involvement compared to transactional exchange; it is however argued by Gadde et al. (2010) that the high involvement relationships is not without costs. A higher level of involvement raises the need of resources due to increased need of coordination of the activities within relationship. In Table 3 below, the three phases of systemic collaboration are presented.

Table 3. Describing the different phases and its relationships characteristics, adopted from Gadde et al. (2010).

Phase	Relationship Features
1	<u>Transactional exchange</u> Traditional purchasing approach. Focus on prices, volumes and margins.
2	<u>The framework agreement</u> Coordination of processes and resources. Focus on logistics performance.
3	<u>Partnership collaboration</u> Adaptations. Information sharing. Focus on exploitation of joint resources. Innovation through creative resource combining.

3.2.5 Relationship strategies

In order to benefit from suppliers' resources and capabilities, the buying firm has to decide what strategy is most beneficial. In order to benefit on the supplier, Gadde et al. (2010) mean that the buying company has to (1) determine what relationship approach to have with a specific supplier, (2) set the boundaries towards them, and (3) organizing the suppliers. The interconnection between these three topics are of importance to achieve benefits through the combination and reorganization among resources, activities and actors (Gadde et al., 2010). It is of importance to have a

proper strategy towards the suppliers, and Gadde et al. (2010) present three network strategy approaches; the conservative-, liberal-, and radical network strategy.

Conservative network strategy

If business relationships are characterized by low-involvement between the buyer and supplier, a conservative network strategy is applied where the exploitation of market exchange is used to reach benefits (Gadde et al., 2010). This means that companies use many suppliers to encourage competition among many with “thin” relationships in order to reach the lowest price possible. This is connected to Different types of relationships and collaborations where there is exploitation of economies of scale in order to reach profitability (Gadde et al., 2010). This requires standardization and commonality in Purchasing in order to gain potential benefits, where the efficiency and effectiveness comes through market exchange.

Liberal network strategy

The liberal network strategy relates to different interfaces towards different suppliers, thus having a mix of high- and low-involvement among suppliers which depends on the intention of each relationship (Gadde et al., 2010). Some relationships require more extensive collaborations in order to gain potential benefits, while other relationships are of more transactional nature where potential benefits are achieved from market exchange (ibid.). Depending on the unique capabilities of each supplier, potential benefits from market exchange (economies of scale) and complements through extensive interaction (economies of integration and innovation) have to be identified (Gadde et al., 2010). When there are both on high- and low-involvement relationships, there has to be a clear focus internally on how to configure activities and combine resources in order to determine how to apply the most appropriate interface towards the suppliers. Therefore, Gadde et al. (2010) mean that if the liberal network strategy is used, companies cannot systematically challenge the supplier base. *“Improvement efforts are primarily rooted in modifications of the mix of high- and low-involvement relationships and the interfaces with suppliers”* (Gadde et al., 2010, pp 233).

Radical network strategy

This strategy does not rely on economies of scale as main driver of performance, but from economizing on integration and innovation (Gadde et al., 2010). The strategy is applied when the opportunities for performance improvements come from enhanced collaboration between a buyer and supplier (ibid.). This will lead to a reduced supplier base with few close relationships characterized with high-involvement. With this strategy, the buyer must constantly challenge the suppliers in order to find potential benefits, which is resource demanding for both the buyer and supplier. Therefore, the potential benefits must be perceived as greater than the costs and effort associated with the high-involvement (Gadde et al., 2010). Therefore, Gadde et al. (2010) mean that it is of importance to mobilize and motivate suppliers in the strategizing efforts.

3.2.6 Uncertainties and abilities connected to business relationships

Business relationships develop and change over time (Ford et al., 1998). According to the authors, a customer (the buying company) brings its problems and uncertainties to a supplier. However, a supplier (the selling company) has their own problems and uncertainties. Therefore, the supplier has to provide their abilities as solutions, whereas the customer has to rely upon the skills of the supplier (Ford et al., 1998). This of course goes both ways, as the customer also has to provide their abilities towards the supplier. A categorization of abilities and uncertainties from both the customer and the seller is presented in Figure 10.

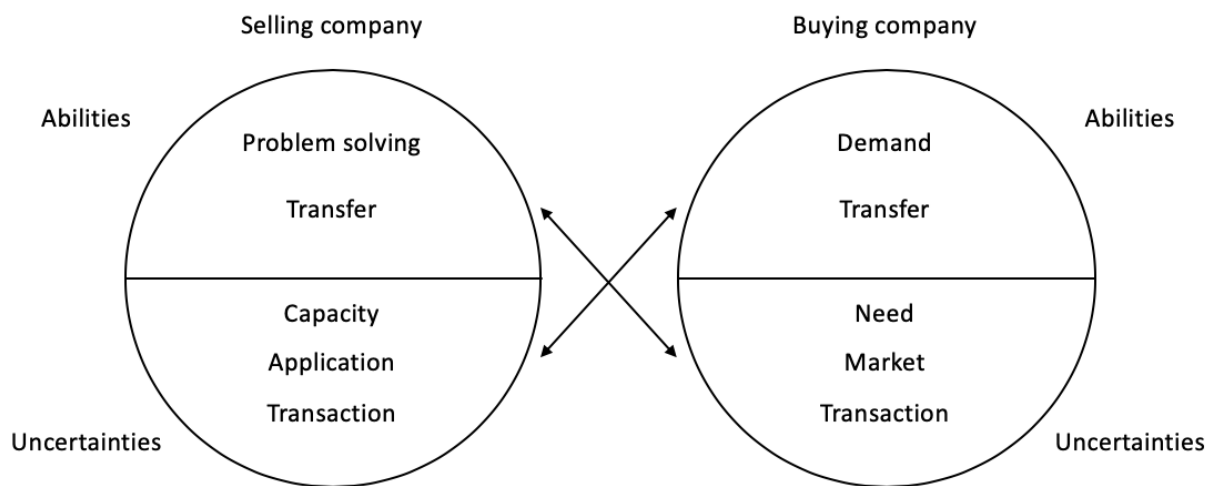


Figure 10. The uncertainties and abilities of buyers and sellers. Adapted from Ford et al. (1998).

Buyer's uncertainties and supplier's abilities

Ford et al. (1998) argue that when a customer has reliable suppliers to choose from and when a market (and therefore forecast) is stable, the buying company's situation is straightforward when its needs are known. This is however rarely the case, which according to Ford et al. (1998) leads to three uncertainties at the buying company that can be mitigated by two supplier abilities, which are presented below.

Need uncertainty for the buying company

"A buying company may have difficulties in specifying its requirements, especially when they are new or complicated..." (Ford et al., 1998, pp 18-19). Ford et al. (1998) argue that a customer would probably want to deepen their relationship with a supplier they already do business with or with one that has a strong reputation with strong abilities.

Market uncertainty for the buying company

There are also uncertainties connected to the company based on the nature of the supply market they operate in and that there are different ways of meeting a customer's requirements (Ford et al., 1998). In such a situation, the authors argue that a customer

cannot rely on a single supplier in that a supplier may become outdated in its offerings. The customer has to scan the supply market and make use of different suppliers in a more distant relationship.

Transaction uncertainty for the buying company

When a customer distrusts its suppliers or is concerned that the services which are provided in terms of quality or price is not delivered correctly, a customer faces transaction uncertainty (Ford et al., 1998). In this case, a customer has to "interact closely with a supplier to check its skills and resources and monitor such things as its deliveries, quality and price" (Ford et al., 1998, pp 19-20). Here the authors argue that a company either uses a number of parallel suppliers and changes more frequently when needed or develops the relationship with a single supplier where the customer aims to improve the suppliers' offering.

Problem solving ability at the selling company

Ford et al (1998) argue that a suppliers' problem-solving ability is most valuable to a customer when there is a high need- or market uncertainty for the customer. Here the customer relies on the supplier to provide a solution to the problem of what to buy. Problem solving ability often requires investments in both time and money, since it involves large sales and customer support (Ford et al., 1998).

Transfer ability at the selling company

When a customer's need- and market uncertainty declines and the transaction uncertainty for the customer increases, a supplier's transfer ability becomes important (Ford et al., 1998). Transfer ability is to provide quick and easy solutions at a low price and low long-term cost but requires strong investments in logistics and order handling to be able to handle these solutions (ibid.).

Supplier's uncertainties and buyer's abilities

The uncertainties at the supplier are similar to the buyers'; if the forecasts are stable and the requirements remain the same, the situation is straightforward for the supplier (Ford et al., 1998). Similar, this is rarely the case which leads to three uncertainties at the supplier, which can be mitigated with two customer abilities.

Capacity uncertainty for the supplier

A supplier is often uncertain of what the demand is for its services over a long period (Ford et al., 1998). The capacity uncertainty is high in markets where there is a large number of suppliers which more or less provide similar services and skills. In this situation, Ford et al. (1998) argue that a supplier seeks close relationships with some of its customers to ensure stable volumes, sometimes at the cost of offering lower price. This is often the case at shipping companies, who try to utilize their capacity, often at low margins (Ford et al., 1998).

Application uncertainty for the supplier

According to Ford et al. (1998), application uncertainty arises when the customers' perception and use of a product or service change which leads to the customer's requirements for it changes. A supplier with high application uncertainty has to be aware of the relationship with the customer along with the changes the customer face. Strong communication, both internally and externally is important in order to decrease this uncertainty (Ford et al., 1998).

Transaction uncertainty for the supplier

When a supplier distrust that volumes promised by the customer is provided and paid for, transaction uncertainty arises (Ford et al., 1998). Similar to a customer with high transaction uncertainty, Ford et al. (1998) mean that it is important to have close interaction with a customer in order to limit the dependency on a relationship for the supplier.

Demand ability at the buying company

A customer's demand ability is how well the provided volumes meet the promised volumes, thus being able to help with a supplier's capacity issues (Ford et al., 1998). The demand ability helps the supplier's application problem since it can be advised how the suppliers' offering can be adjusted to a customer's changing requirements (ibid.).

Transfer ability at the buying company

The transfer ability is how reliable and able the customer is in transferring information regarding volumes and timing (Ford et al., 1998). It is important for suppliers to get reliable information on volumes and timing, and they are therefore likely to focus on customers with strong transfer abilities (ibid.).

Developments in a changing business relationship

Ford et al. (1998) mean that the uncertainties and abilities buyers and suppliers have are similar and change over time. The development of a business relationship is not linear and is much about coping with different circumstances which varies in aims, expectations and how it is dealt with. Business relationships vary and depending on how keen a buyer and a supplier is to overcome uncertainties with their abilities, Ford et al. (1998) present below key components in order to deal with this.

Learning

"The way a relationship develops and the interaction between the individuals involved will relate closely to what the two companies *learn* about each other's uncertainties and abilities - what they need from the relationship and what they can offer to it" (Ford et al., 1998, pp 26). In order to reduce each other's uncertainties, Ford et al. (1998) mean that companies have to learn from each other. On the other hand, the learning is also about knowing about what uncertainties that cannot be reduced. Therefore,

relationships vary depending on the need, willingness and ability to learn (Ford et al., 1998).

Investment

A relationship needs investment in tangible and intangible resources from both the buyer and the supplier (Ford et al., 1998). Ford et al. (1998) mention investments in areas such as communication, processes, co-development of services and expertise (among others).

Adaptations

According to Ford et al. (1998), companies make similar investments for each customer or supplier, but some are treated uniquely. Adaptations that deviate from normal procedures mean that the companies have to rely on each other. There are both formal (contractual) and informal (ad hoc) adaptations, both which have to be assessed in order to evaluate the benefits that realistically can be expected from these investments (Ford et al., 1998).

Trust and commitment

Relationships are complicated, and in order to build a long-lasting (mutually beneficial) relationship, trust and commitment is required (Ford et al., 1998). This is however costly in both time and money, but both parties have to be prepared to invest in each other in order to benefit from it in the long term (ibid.). The degree of trust and commitment will affect “how the parties will act towards each other, how they handle cooperation opportunities and the degree to which they will wish to favour each other in the future” (Ford et al., 1998, pp 28).

Distance

There exist distances between companies' business relationship in different aspects, and Ford et al. (1998) present social- and cultural distances among others. Social distance is “a measure of the extent to which the individuals in the two organizations are familiar with each other's ways of thinking and working and are at ease with them” (Ford et al., 1998, pp 30). The cultural distance is “the degree to which the norms and values of two companies differ because of their place of origin” (Ford et al., 1998, pp 30). According to the author, social distance is the only aspects which can decrease the distance between companies; “No-one ever bought from a stranger” (Ford et al., 1998, pp 30).

3.3 Problem discussion

In this chapter, the theory behind the purchasing process, logistics purchasing, and business relationships is summarized, problematized, and discussed. Table 3.4 summarize the key takeaways from Purchasing process and Table 3.5 summarize the key takeaways from Business relationship. The problem discussion end with a presentation of the research questions.

3.3.1 Purchasing process

Specifications and requirements are set in the early stage of the purchasing process (van Weele, 2014), which can be compared to the preparation phase in the sourcing process used by LP. Gadde et al. (2010) argue that there is a need for challenging the traditional model and stop treating purchasing as isolated buying decisions. The underlying assumptions for the traditional model have according to the authors becoming increasingly unrealistic. Gadde et al. (2010) mean that the supply side of companies must be more involved with the reduction of the total costs, rather than focusing only on the direct cost - price. Therefore, Gadde et al. (2010) argue that there is a need to widen the view towards a more holistic approach, involving more stakeholders on the supply side. See Table 4 for key takeaways.

Table 4. Key takeaways of the literature findings for the purchasing process.

Purchasing process		References
Specifications	Technical specifications [A] Functional specifications [A]	(A) van Weele (2014) (B) Gadde et al. (2010)
Assumptions	Isolated purchasing events [B] Perspective of benefits [B] Unit of analysis considered [B]	
Challenges	Reconsider “ultimate performance” [B] Wider scope in time and space [B]	

3.3.2 Business relationship

To be able to challenge and adjust specifications and requirements in order to reduce costs, a fundamental part is to have an appropriate business relationship. Business relationships stretches between high and low levels of involvement, which impact the characteristics of the relationship. It is important for both the customer and the supplier to be aware of what different economic consequences different types of relationships and collaborations bring. To challenge the specifications and requirements, Araujo et al (1999) argue that an interface which enables this is needed between the customer and the supplier. An analysis of the current and potential contribution of suppliers is therefore a prerequisite for understanding what benefits the supplier relationships can bring, and how the relationship should be handled and developed (Ford et al. 2003). Araujo et al. (1999) present four different interfaces which mean different possibilities and hinders (i.e. preconditions), but also different costs and benefits, to access external resources. See Table 5 for key takeaways.

Table 5. Key takeaways of the literature findings related to relationships.

Theoretical concepts	Key areas	References
Level of involvement	Access to external resources [1, 2] Economic consequences [2] Cost benefits [1, 2, 3, 4] Revenue benefits [1, 2, 3, 4]	(1) Ford et al. (2003) (2) Gadde et al. (2010) (3) Gadde and Snehota (1998) (4) Kleinaltenkamp et al. (2015) (5) Araujo et al. (1999) (6) van Weele (2014) (7) MacDuffie and Helper (1997) (8) Ford et al. (1998) (9) Gadde and Håkansson (1993)
Interfaces	Awareness of context [5] Specifications & requirements [5] Learning effects [5, 6, 7] Best practices [5, 7] Economic consequences [2, 5] Joint development [5]	
Different types of collaboration	Economies of scale and scope [2] Economies of integration [2] Economies of innovation [1, 2, 4]	
Transaction uncertainties	Buyer's uncertainties [8] Seller's uncertainties [8]	
Complexity	Coordination [9]	

3.4 Research questions

The aim of this master thesis is to identify possibilities and hinders to adjust current specifications and/or requirements in order to reduce costs. This will be achieved by examining the purchasing process together with an analysis of LP's current relationships with Carrier A and Carrier B to identify the characteristics of the relationships. This leads to the following research questions:

RQ1: How are specifications and requirements set in LP's sourcing process?

RQ2: What are the characteristics in the relationship between LP and the two carriers?

- a) What is the level of involvement?
- b) What interface(s) are identified?
- c) What type of collaborations exist?
- d) What uncertainties are identified?

RQ3: Based on the answers to RQ1 and RQ2, what are the identified possibilities and hinders to reduce total cost?

4. Method

The chapter starts with a discussion on the choice of research strategy and research methodology. This is followed by a description of methods used for this master thesis and an outline of the research process. Lastly, quality criteria's and how these have been approached in the thesis is discussed. The aim of this chapter is to give the reader an understanding of what has been done and how.

4.1 Research strategy

A research strategy is the orientation of how research is conducted. Two ways of classifying different research methods within business research are quantitative and qualitative research. The quantitative research strategy emphasizes the quantitative part in the collection and analysis in data, whereas the qualitative strategy relies more on the words rather than numbers when collecting and analysing data (Bryman & Bell, 2015). This thesis has a qualitative approach, since the collection of data that is analysed comes from semi-structured interviews.

4.2 Research methodology

In order to answer the previously formulated research questions based on the aim and the literature framework, a case study with data collection through interviews will be made.

4.2.1 Case study

Bryman and Bell (2015) characterize a case study as a detailed and intensive analysis of a single case or multiple cases. A single case study can be associated with an organization or workplace, where for example a bounded situation is analysed. For this thesis, a case study of LP and two of their carriers has been conducted, which according to Yin (2003) is a single case study with embedded sub-cases. For this thesis, case studies of how the LP department works with their carriers as well as the carriers work with LP will be conducted. This will include how LP's personnel with different roles associated with setting specifications and requirements work during the purchasing process. This to create an understanding of how LP works when setting specifications and requirement during the purchasing process.

A case study of LP embedded with two subcases of currently contracted carriers has been conducted, see Figure 11. This was done to get LP's perspective of the supplier relationships as well as the carriers' perspective of LP as a customer, in order to investigate whether LP and the carriers have the same perception of the relationship characteristics to find possibilities and hinders for accessing external resources. The two carriers were chosen due to their differences in size and offering. Carrier A identify themselves as a niche carrier with the industry's most reliable container shipping delivery network. Carrier B says that they are the largest container shipping company in the world.

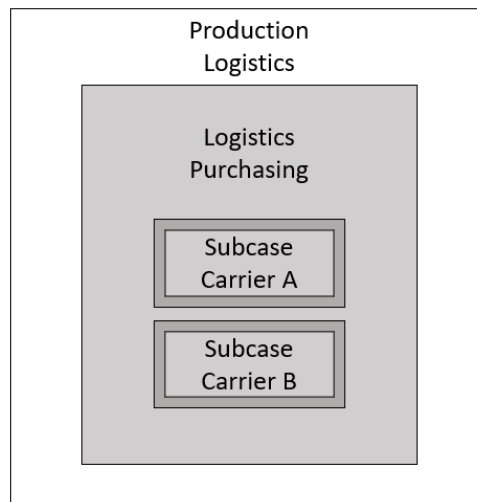


Figure 11. Visualization of the single case study of LP with two embedded sub-cases of Carrier A and Carrier B, influenced by Yin (2003)

4.2.2 Data collection

The source of primary data come from interviews, whereas secondary data comes from websites and published articles.

Primary data - interviews

Semi-structured interviews have been used for this thesis. What makes a semi-structured interview interesting for this thesis is that questions with a specific topic is covered, but the interview is flexible enough to let the interviewee go “off topic” which may result in answers that the interviewers did not think of and new question may be added along the way (Bryman & Bell, 2015). Interviews within LP (hereafter called internal) and two of their carriers (hereafter called external) were conducted, each over the course of one hour. A list of people was provided by a Sourcing Manager at Volvo. The list included people from various departments who are involved in the early stages of the sourcing process where the specifications and requirements are set towards the carriers. However, not everyone on this list was approached due to time constraints, which limits the thesis in terms of getting a totally holistic view from the empirical findings. Also, some of the approached interviewees recommended other people to approach instead, which they thought were more suitable for answering these questions. This is what is called snowball sampling. For the *purchasing process*, questions regarding what the interviewees role involves, their responsibility, and what they do during the sourcing process was discussed together with discussion around the assumptions and challenges in the purchasing process as argued by van Weele (2014). The discussion also identified touch points between Volvo and the carriers in order to identify the relationship characteristics in accordance with the theoretical framework. The two carriers that were approached were also suggested by the Sourcing Manager. The students came into contact with what can be called their respective Key Account Managers, who then suggested potential interviewees which were approached. See Figure 12 for visualization of the snowballing process.

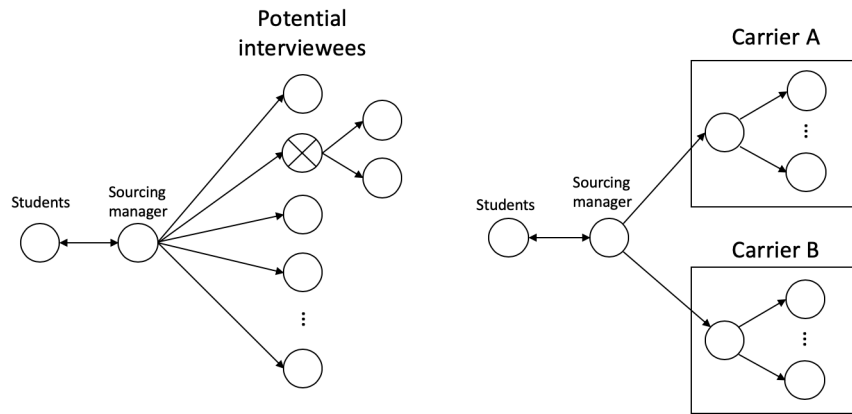


Figure 12. Visualization of the snowballing process.

Why there were two carriers was to get more than one carrier's input for the thesis but limited to two, due to time constraints. They have also different offerings (further explained in 5. Empirical findings), since this could include different and interesting input from the same questions. The Sourcing Manager initiated the contact with what can be called their respective Key Account Managers. When the intention of the interviews was explained to them, a list of potential interviewees was provided and contact with the majority of them was established. However, not everyone on these lists were approached due to time constraints, which limits the thesis in terms of getting a totally holistic view from the empirical findings. A total of 18 interviews were conducted; 11 with LP, 3 with Carrier A, and 4 with Carrier B. Their positions within their respective organization is shown, but their names are not disclosed on their request, see Table 6 for the internal interviewees, Table 7 for the external interviewees, Appendix A for the internal question framework and Appendix B for external question framework.

Table 6. Interviewees for the Master Thesis with department.

Reference	Department	Date
V1	ATLAS	28/3
V2	Transport Network Optimization	28/3
V3	Regional Purchasing	29/3
V4	ATLAS/Supplier Management	1/4
V5	Supplier Management	2/4
V6	Transport Coordinator	2/4
V7	Transport Network Optimization	2/4
V8	Receiver	4/4
V9	IM Logistics	5/4
V10	IM Logistics	5/4
V11	Packaging	12/4

Table 7. Interviewees for the Master Thesis with carriers including role and background.

Reference	Role	Background	Date
C1	Director	Carrier A	11/4
C2	Sales Manager	Carrier A	11/4
C3	Customer Support Manager	Carrier A	11/4
C4	Head of Scandinavia, SCM	Carrier B	26/4
C5	Key Client Manager	Carrier B	26/4
C6	Global Customer Service	Carrier B	26/4
C7	Customer Service Director Scandinavia	Carrier B	30/4

When the interviews had been conducted, key points from each interview were taken based on notes during the interview. All interviews were recorded with the interviewee's approval as back-up if any details needed to be clarified. When a summary of the interview was made it was sent back by email to respective interviewee to give them a chance to see if anything according to them was misinterpreted or put out of context. The email was clearly formulated that if there was no reply from them, they had no comments upon our interpretation of the interview. Eight out of eighteen interviewees replied with either minor comments or complete approval.

Presentation of the interviewees from Carrier A and Carrier B

The Director (C1) of Carrier A is based in Europe, which is a sub-office to the headquarter based in the US. The Director has the responsibility of their commercial area and intermodal operations, where the Director manages the customer service centre, intermodal transportation services as well as having a pricing overview. Towards Volvo as a customer, the Director has the internal ownership for the LP account. The Sourcing Manager at PLLP is the key contact which the Director work with. For the sourcing process, the Director and the Sourcing Manager run the discussions during the tender process.

The Sales Manager (C2) work with the mid-Atlantic trade at Carrier A. The Sales Manager work a lot with the LP team in North America, not regarding negotiations but a lot regarding operations; to help and manage questions towards different Volvo's production plants in that region – to provide solutions to solve challenges connected to shipping.

The Customer Support Manager (C3) at Carrier A's team arranges the booking, the transports and the documentation needed for Volvo on European side. Basically, everything until the vessels leaves for its end destination. It is mostly about exports,

but the Customer Support Manager is also responsible for the import department. The major part for LP however is about exports to the US.

C4 is Head of Scandinavia SCM and is working with key clients. C4 is responsible for the group that work with Key Clients, but also responsible for the development of the supply chain.

C5 is the Key Client Manager at Carrier B and is responsible for LP and Volvo globally. C5's team is working with processes, systems, and operations towards Volvo and have team members all over the world where LP has trade lanes with Carrier B.

C6 work with customer service towards Volvo and is responsible for the Carrier B's operations with LP on a global level. Volvo is considered as a key client for Carrier B, which is why C6 is working solely with them. LP's needs according to C6 requires long term engagement from both parts and has been for a long time.

C7 has the responsibility for the customer service within Scandinavia. For Volvo, this department is more known as operations or after sales. This role means that C7 is responsible for the total delivery after the contract has been signed, i.e. total coordination from departure to arrival.

4.3 Research process

The starting point in this master thesis was '*What are the cost drivers in logistics purchasing requirements from a supplier perspective?*'. The task according to LP was to identify and understand the cost driving requirements from a supplier perspective and to investigate how to challenge or adjust current requirements. The expected outcome was to directly impact how LP works with optimization of logistics costs. The scope of this task and expected outcome was very wide. Therefore, together with the supervisors at Volvo and the segment owners for Full Container Load (FCL) and Roll-on Roll-off (RoRo), the scope was narrowed down to two subjects to investigate for FCL exclusively; investigate how IMO 2020 will affect the FCL carriers which LP purchase services from and identify possibilities and hinders to adjust current specifications and requirements in order to reduce costs.

The first step in order to understand the situation and the context in which LP operates was to gather data for the empirical background. This includes information regarding the purchasing process, how LP works, and how IMO 2020 will affect the shipping industry. The gathering of information regarding LP and the sourcing process was done by searching for internal information available on Volvo's internal database and through interviews with the supervisors at Volvo. The information and structure of the empirical background was then validated through people working with the sourcing process as well as the supervisors at LP. Information regarding IMO 2020 and its effect on the shipping industry was collected by searching trade magazine websites as well as IMO's websites.

When the empirical background was in place and validated, interesting areas was identified with help from the supervisor at Chalmers, and theory for *purchasing* and *supplier relationships* was gathered. Therefore, the Theoretical framework is built around these two "pillars", which later came to be The Purchasing Process and

Business Relationships. When the foundation for the Theoretical framework was set, interviews with people within PL were conducted. General questions regarding findings from literature was used during these interviews. During the course of the thesis, the Theoretical framework was expanded with more theory regarding topics which was brought up during the interviews. When all the interviews with the contacted people within PL had been conducted, the two carriers were approached. This since the authors wanted to have knowledge about the industry and processes before approaching the carriers. All empirical findings were summarized and clustered together depending on what topic was discussed. This in order to get a clear overview of the interviewee's opinions on the same topic. The questions asked were based on the extended Theoretical framework, but also the carriers' perception of LP's sourcing process and general questions regarding difficulties working with PL. Similar, when new topics came up which had not been discussed earlier, the Theoretical framework was further expanded. Therefore, slight adjustments to the research questions has been made during the course of the thesis, since the research questions derive from the Problem discussion connected to the Theoretical framework. The final research question, as mentioned, is connected to both the first and second research question. The analysis and conclusions from these are used as input for the third research question. The research question topics and their connection can be seen in Figure 13 below.

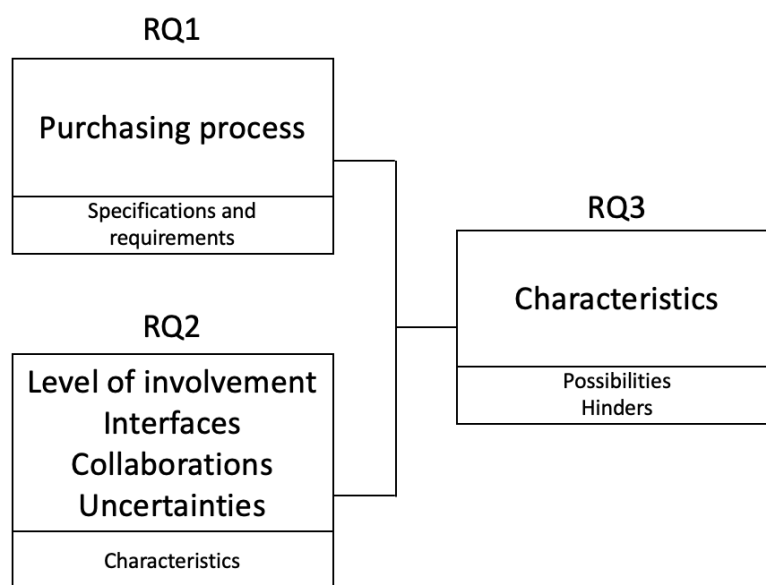


Figure 13. The final research question topics and their connection.

4.4 Quality criteria's in business research

When conducting business research, it is important that certain criteria regarding evaluation are met. Bryman and Bell (2015) mention several criteria's when assessing qualitative studies, where trustworthiness is presented below.

4.4.1 Trustworthiness

According to Lincoln and Guba (2013), the quality of an inquiry is referred to as *trustworthiness*. This is according to the authors if interpretations and findings are an outcome of a process and whether these interpretations and findings can be trusted or

not. Trustworthiness is divided into four categories, *credibility, transferability, dependability, and confirmability*. (Lincoln & Guba, 2013).

Credibility is an internal validation criterion which refers to “establishing confidence in the findings and interpretations of a research study” (Lincoln & Guba, 2013, pp. 104). Lincoln and Guba (2013) gives suggestions to techniques to assure credibility, such as peer debriefing and member checks. Bryman and Bell (2015) talk about respondent validation, where the credibility is checked with the people the study is performed with. This has been done by having a continuous dialogue with the supervisors at Volvo as well as all empirical data gathered is sent back to the interviewee for validation before using it. The thesis was also sent to the supervisors at both Volvo and Chalmers before publication in order to assure credibility.

Transferability is the external validation criteria which refers to “ensure that the findings will be applicable in different contexts or subjects” (Lincoln & Guba, 2013, pp. 104). Lincoln and Guba (2013) say that the aim in qualitative research is not to achieve generalizability regarding this criterion. Rather provide enough context through *thick description*, where the description of the context is provided so that the reader can decide whether the findings are applicable to his or her own context (Lincoln & Guba, 2013). This is done by providing empirical background together with a description of all involved interviewees, why these were approached, and their roles connected to the purchasing process, relationship with LP/carrier or both.

Dependability is the reliability criterion and refers to “how the findings and interpretations could be determined to be an outcome of a consistent and dependable process” (Lincoln & Guba, 2013, pp. 105). This can be done by having someone external with insight in the topic review data collection, analysis, and conclusions to assess the consistency (Lincoln & Guba, 2013). This is done by having the supervisors at both Volvo and Chalmers check and comment on the process of this thesis.

Conformability is the objective criterion and refers to “how the findings and interpretations are a result of a dependable process of inquiry as well as data collection” (Lincoln & Guba, 2013, pp. 105). One way to assess conformability is to perform audits (Lincoln & Guba, 2013). Since this thesis has qualitative research, it is important to stay objective with the findings from the analysis and discussion. The authors have throughout the thesis stayed as objective as possible and have had consultation with the supervisors throughout the thesis progression as support in this.

5. Empirical findings

In this section, the empirical findings from the interviews with PL, Carrier A, and Carrier B is presented. First, a presentation of empirical findings from interviews regarding LP's sourcing process and how specifications and requirements are set, see 5.1 Setting specifications and requirements in the Purchasing process. This in order to answer the first research question. Second, a presentation of empirical findings from the interviews regarding relationship characteristics from PL, Carrier A, and Carrier B, see 5.2, 5.3, and 5.4. This in order to answer the second research question.

5.1 Setting specifications and requirements in the purchasing process

Gate 0 represents the preparation of everything which is going to be included in the service. A *Request for Information* (RFI) is sent out to potential suppliers. Gate 1 represents the *Tender & Review*, which consists of sending out the specific requirements through a *Request for Quotation* (RFQ). When the quotations from different suppliers is analysed and compared, a short-list of potential suppliers is created, see Figure 14.

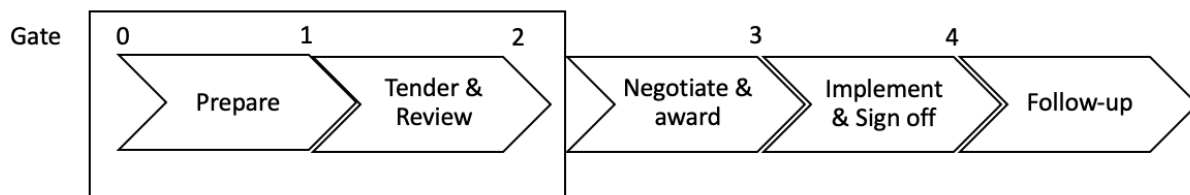


Figure 14. The Sourcing Process where specifications and requirements are set.

According to IM Logistics, there is a program process that collects information from internal stakeholders regarding what the Sales Department forecasts together with what Production think they can manage. IM Logistics check with the Purchasers how and when they want it delivered. Based on this information, the production is planned. The production planning concerns the markets which the specific plant manufactures towards. This information is then communicated back to the Purchaser who either comply with their requirements or suggests minor changes based on the decision from Production. This information is compiled and communicated for the RFQ-process – actual volumes shipped and customer feedback of carrier performance.

Supplier Management (SM) has the responsibility to do follow-ups on the quality of the contracts as well as measure the carriers' performance on each service purchased. Performance is measured on delivery precision, the quality of equipment delivered, quality of information and communication provided (how correct it is, if it is late) etc. If a carrier doesn't perform, it is SM's responsibility to mitigate the effects of this. For LP's sourcing process SM provide input regarding previous carrier performance as foundation for decision making before the RFQ is sent out to the carriers - SM's view on a carriers' quality. A representative from SM says that *"It is always subjective how you perceive a 'good' carrier, how well you think they communicate and how well you get along with their Key Account. This in combination with their performance and is what we [SM] measure [and provide]"*

The Transport Network Optimization (TNO) department gathers information such as cargo terms and incoterms, expected volumes mentioned above etc., in preparation for the RFQ-process. They create what they call a package solution regarding above mentioned information (or material) and are the “middle men” between the internal stakeholders and the purchasers which they will use during the RFQ and the negotiations with the carriers on the shortlist. The TNO department also analyses the current set-up with carriers and checks whether the internal stakeholders are pleased with how the carriers perform, which is used as input. According to V7, the requirements from the internal stakeholders have to be applicable towards the systems used as well. Sometimes, some specifications and requirements have to be changed since the systems used are not that flexible.

Packaging gets connected to TNO, Purchasing, and other stakeholders with questions on how PL should set specifications and requirements towards carriers. Packaging provide input based on how PL's Operations work today, what information Operations need from the carriers, and how the services from the carriers has to be performed to comply with these requirements.

V11 who works with Packaging don't have full knowledge how all the requirements affect the carriers: *“We have our demands from Volvo's side. We don't necessarily know how everything works practically”*.

According to V1, all carriers who are to sign a contract with LP has to sign a Standard Operating Procedure (SOP). In the SOP, all specifications and requirements are described together with instructions of how LP wants the procedures performed by the carriers to look like. These specifications and requirements are supposed to be set in the preparation phase and should include all duties and to whom it applies, what flows that should be executed, how the booking procedures should be performed together with guidelines of how to perform loading/unloading, invoicing, documentation, availability etc. This is now supposed to be done through the ATLAS system which was previously communicated and performed manually. The ATLAS-system, which is Volvo's communication platform for Road and Deep-Sea transportation is a transport order management system which plans and optimize transport routes as well as monitor all transports. This system enables automatic connection to all contracted carriers with Electronic Data Interchange (EDI). This was previously done manually through email conversations. To be a carrier for Volvo, the carriers have to connect themselves to this system, and they are now gradually moving to another communication platform. ATLAS will connect to another program which communicates with the carriers' respective systems through a cloud solution. ATLAS provide a functional scope with:

- Trailer & Container booking
- Electronic shipping instructions
- Transport visibility
- E-VGM
- Bill of lading directly to Volvo from carriers
- Transport monitoring of road & ocean transports
- EDI invoicing

V3 work as a Regional Purchaser (RP). Based on the information package (what V3 calls a sourcing specification) that TNO has compiled for a specific trade lane, the RP send the tenders for the RFQ to the carriers.

Key takeaways

Specifying and setting specifications and requirements is connected to the first and second phase of the sourcing process. In the beginning of the Prepare phase when the expected volumes are determined, the internal stakeholders express desired lead time, how and when to send for the coming contract period. These internal stakeholders can be factories who are sending components or trucks, or Receivers such as another factory or a distribution center. When the internal stakeholders have provided their input, several departments start working in parallel. Each department provide input for various specifications and requirements such as lead time, previous carrier performance, operational setup, system adaptations etc. These specifications and requirements include all duties and to whom it applies, what flows that should be executed, how the booking procedures should be performed together with guidelines of how to perform different operations in a SOP which a carrier has to agree to. The input is then processed, compiled and communicated to the Purchasers who bring the input with them to the Negotiate & award phase. The process described is illustrated in Figure 15 below.

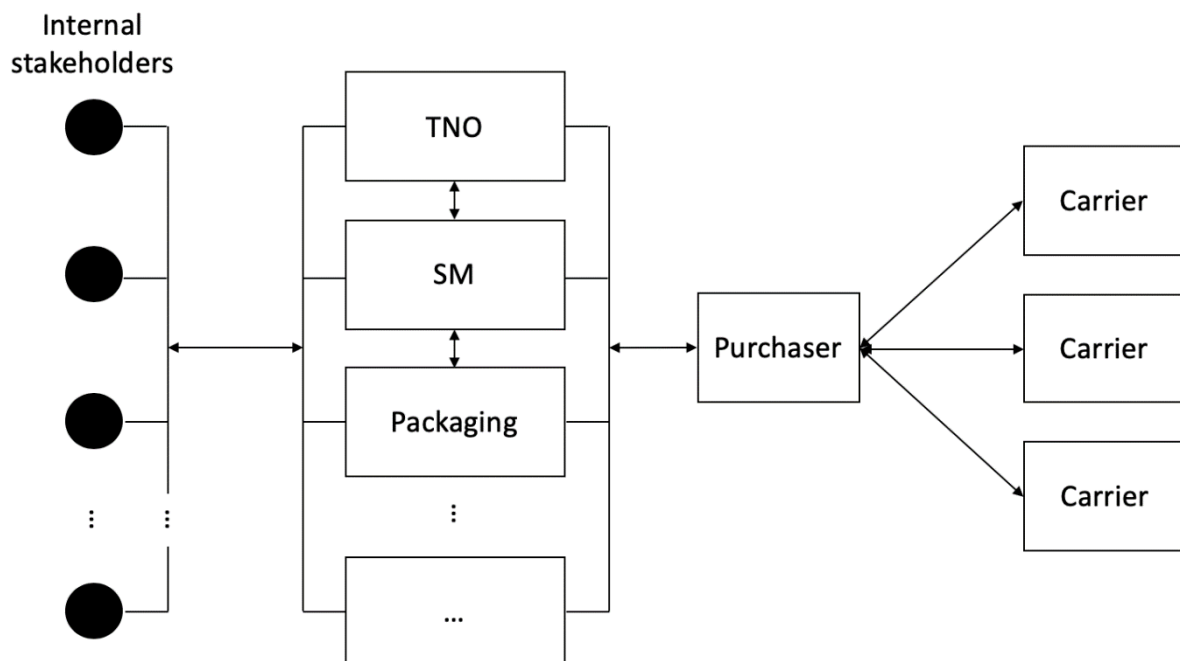


Figure 15. A simplified visualization of the process from the internal stakeholders to the Carriers.

5.2 Relationship characteristics, Production Logistics

Following sections consist of the finding from the interviews with PL. The findings are clustered around recurrent topics that have been discussed and brought up by the interviewees. Each topic is summarised with key takeaways.

5.2.1 Relationships and involvement

The relationships with carriers are experienced and described differently among the interviewees. Some interviewees describe the relationship as close, while others describe it as a distant relationship. V11 argues that for some relationships you may want to keep the relationship on a transactional level, but with other more than just transactional. Several interviewees describe the relationship as being very close on high level and distant on operational level. It is described as a close relationship due to investment in jointly used systems etc. PL means that the carriers have to integrate with Volvos systems in order to do business with Volvo, which they mean require big investments in time and money for both carriers and Volvo, but especially for the carriers. However, once the carrier has complied with those requirements, and the actual business is going to take place, the relationship turns into a pure transactional relationship. As a Purchaser states, it requires big investments in both time and money when implementing needed systems and it is a big commitment to become a supplier for Volvo. However, the Purchaser further states that once the implementation of the system is finished and the company has become a supplier, there is a big competition between the existing suppliers. From that point, price is the steering factor. It is stated that from the point where the purchaser gets connected to the sourcing process, the relationship become transactional.

Several interviewees argue that the personal relationship with a carrier is very important. How close the relationship becomes depends on the individuals who are involved. It is stated that if individuals on the carrier side is not performing good in terms of communication and information, it can affect Operations badly. It is also argued that how close the relationship is and how intense the communication depends on how well the operations work. Several interviewees state that those carriers that perform best are those who get least attention. V4 says:

“Those carriers that operate the worst are those you have a closer relationship with, since more contact is needed. We have less contact with carriers who perform good”

In general, a representative from TNO believes that a close relationship is needed for well-functioning operations. V8 argues that closer relationships can bring several benefits: *“With closer relationships with carriers, we could have better contact with them and we may see how the carrier is performing with other customers. They can share best practices and solutions, increase the information sharing. If we spend more time with the carrier, we can get an understanding of what they do outside Volvo and what they can bring us”*.

It is stated that the carriers sometimes invite to more informal meetings. A representative from Packaging argues that this type of interaction can bring benefits for both parties but do however mean that this is not supported by the processes PL have today. The same interviewee says that a carrier wanted to shadow PL in their daily work, which was considered as a positive action. However, PL did not know how to respond to that kind of request since it was a foreign concept and wasn't sure what that actually would mean. In line with this type of interaction, V8 argues that Volvo perhaps could involve the carriers earlier in the process in order to get their input on in the beginning. Also, the same interviewee believes that it is very important to take the carriers perspective regarding the operations to be performed:

“This is very important and could mean a better alignment, a better run of the flows and better solutions that could benefit both parties.”

Key takeaways

From what can be found from the internal interviews, they mean that the relationship is close at high level and distant on operational level. For the carriers to become a potential supplier, an adaptation to the systems used by Volvo is required. Once the carriers have fulfilled the requirements connected to systems, the carriers compete for the contracts. Some interviewees argue that closer relationships could bring benefits, and that an increased interaction could create a better understanding of what the carriers do outside LP to identify what alternative solutions may exist.

5.2.2 Communication and information

Several interviewees state that it is almost daily contact with the carriers and that the communication concerns booking, follow-ups, deviations and chasing for information. The communication is described as reactive rather than proactive. Another interviewee states that the communication mostly concerns problems and argues that it would be beneficial to have clear bullet point on the meeting agendas to discuss proactive actions. Both Packaging and IM Logistics have carrier meetings every three months, which consist of an evaluation based on previous performance, but alternative ways of working could also be discussed. However, these meetings are described as straightforward and informative. IM Logistics means that discussions with carriers are good, but the result from those discussions are poor. It is an open dialogue where both parties discuss shared problems and how to potentially solve them. According to SM, it is good communication and information sharing. A carriers' ability to work proactively is what differentiate a good carrier from a decent carrier.

It is stressed that there is a need for more information from the carriers, and V8 argues that it is difficult to get the information that is needed. The same interviewee creates KPI reports and states that it could be beneficial to get the carriers' view on the same KPIs in order to increase the context awareness:

“The carrier could maybe help us with other reports, or the same reports from their side. This could benefit both of us”.

However, V8 admits that this kind of information or reports are not asked for and states that it is their responsibility to ask for it and that PL need to improve in that area. Regarding information sharing, it is argued that PL is “equally bad” as the carriers. On the question if the interviewees have more useful information to share with the carriers, V8 says:

“I don't know. We need to understand what we can share or not. We need to understand what kind of information the carriers want”

Packaging states that more external contact should be encouraged. If the relation would be closer and the operations more integrated, it would be possible to have a more detailed information exchange. SM describes the current situation as that the

information sharing is general, and the information concerns what has already happened. V5 says:

“The carriers have all information, but for some reason it gets stuck somewhere. General information is sent out, but I wish for information that regards how Volvo will be impacted of changes or interruptions in the flow”

Key takeaways

Communication between PL and the carriers are frequent; often daily for operational matters and quarterly for performance reviews. The interviewees mean that the communication is of reactive- rather than proactive nature. What can be identified is that there are differences in how the interviewees perceive the extent of information sharing. Some mean that it is good while others mean that it could be improved, both from the carriers but also towards the carriers.

5.2.3 Incentives and driving forces

The general opinion among the interviewees regarding where the focus is put during the sourcing process is that it is about price, lead time and quality. Depending on which interviewee and their specific role, these factors are differently prioritized.

TNOs ultimate goal is according to V2 to provide Purchasers with the best and most reliable information regarding specifications and requirements. V2 underlines the importance of getting correct information from the internal stakeholders, since PL want to have the shortest lead times to the lowest possible price per transported product as possible. V2 says that “a good purchase is to push the rates during the time of negotiation”. However, V7 says that there is more focus on lead time and quality (delivery precision) than on price. A carrier can have higher rates and still be prioritized over carriers with lower rates, as long as the lead times are shorter. V2 means that a carrier has to be reliable and operate on a with good delivery precision. If there are delays, complementary containers have to be air freighted to the destination, which is very expensive.

Lead time and quality (performance) are important factors that SM value when giving their suggestions regarding carriers. V4 says that a short lead time was the most valued criterion some time ago, but more focus has been put on quality. However, V4 means that quality as a criterion is not always black or white. Information and communication, which is a part of quality, is hard to measure: “This is one thing that we struggle with, how do you measure this [information and communication] in a way to not make it subjective? We don’t have a way to measure this today”

IM Logistics receive a short-list of carriers which have the best offering in terms of price, lead time, free time in port etc. V10 says: “We get to have an opinion, but the final decision is for the Sourcing Manager”. V9 says that their opinions are based on what they and their customers think of the carriers, their perception of delivery performance. V10 wants to give all involved decision makers the preconditions to make the correct decision.

Decision factors which RP are primarily looking at depends on what stakeholders are receiving the containers. V3 says that the automotive industry is very lead time sensitive, so if the receiver is a factory or a distribution centre, a short lead time is of highest priority. If the flow regards packaging or similar, the focus is on the price. RP compares and suggest what carriers should be contracted after the RFQ-round based on input on carriers from the other departments and the receiver's requirements. V3 says that if a carrier already has a contract for a specific lane, it is likely that they get the contract again as long as they have performed OK: "A new implementation has to be made if a carrier is changed. A lot of time needs to be invested which induce costs".

Price is always a factor to consider, V4 says. PL has their way, and it often boils down to lead time and price, V5 means: "In general, we in SM think Purchasing sometimes focus too much on the price. We think that the quality would increase if carriers we think have a higher delivery precision would be chosen, but they are not chosen due to their higher rates".

Several interviewees state that price is the factor with most impact on which carrier that will get the contract, even though some interviewees argue that it is less focused on price today compared to how it has been. The experience of price as the most driving factor when contracting carriers is expressed differently and below in Table 8 is a selection of quotes summarized.

Table 8. Summary of quotes regarding price as a driving factor.

Quote	Interviewee
<i>"A good purchase is about negotiating and pushing rates. It is the rates it's about. As low price per product to succeed in creating the biggest possible profit for Volvo"</i>	V2
<i>"Volvo has in general a lot of the focus on price"</i>	V3
<i>"It has always been a focus on price"</i>	V5
<i>"Focus is on direct costs. We have contracts with struggling carriers and the reason behind is probably because they have the lowest rates"</i>	V11
<i>"I never received complaints from the carriers, but we push them a lot on prices"</i>	V8

It is however argued by several interviewees that the holistic picture is not taken into consideration and the focus on indirect costs are not sufficient. According to V9, the agreed lead time is not often kept, which affect factories badly. In those cases, V9 argues that perhaps the low price is not worth it. From V4 perspective, the experience is that price and lead time is that counts the most and argues that it is possible that the

carrier with best rates and lead time get the contract, even though it is a less performing carrier.

Key takeaways

As for incentives and deciding factors, it is stated that price, lead time, and quality are prioritized differently among the departments. Price, which is mentioned by the majority of the interviewees, is an important factor. Several interviewees mean that lead time and quality are important factors as well, but price is often the deciding factor. It is mentioned that there is no real way of measuring quality components.

5.2.4 Deciding upon specifications and requirements

Several interviewees mean that it is PL that decides specification and requirements, and that some are non-negotiable. However, V5 means that the carriers decide some specifications and requirements which Volvo has to follow. There are some cases where TNO has to adjust to what the carriers can offer, V2 says:

“The internal stakeholders can wish for whatever requirements they want. We have to adjust to whatever trades the carriers have. It is nothing that we can adjust. For example, we cannot have a requirement on a specific lead time”.

It is further argued that there are some discussions regarding specifications and requirements between PL and the carriers, but it is in general on PL's terms. V11 states that the requirements from PL are often considered standard requirements that are commonly used in the industry. V1 means that specifications and requirements are set on a detailed level towards the carriers, how PL want the procedures around the services to be performed:

“When the contracts are to be signed, the carriers need to comply with Volvo's demands, from A to B. In this SOP, all specifications and requirements are listed which they have to follow if they are to be signed as carrier [...] No discussion upon the principles, the SOP and the organizational setup must be respected since it the guidelines for purchasing”.

It is stated that the specifications and requirements are clear towards the carriers. However, representatives from TNO and SM believe that PL could be clearer on how to decide specifications and requirements internally. V7 says:

“Some specifications and requirements just continue to be used, just because these have been used before. I believe more work can be done with this”

V3 has similar experience, that stakeholders sometimes take previous requirements without motivating why: *“Not many stakeholders can exactly specify what they mean with previous requirements. When you ask what requirements they actually have, this is not always communicated”.* Also, V5 says that there can be a lack of understanding among the stakeholders of how the business at sea works today. The situation is not the same today as it once was. The carriers get fewer, the vessels become larger, and speed and rotations are frequently changed.

According to V3, it is common that many carriers do not even answer the tenders since the specifications and requirements set are too difficult to fulfil. V8 believes that price and free time in the ports are the most difficult requirements for the carriers to fulfil.

Key takeaways

A majority of the interviewees argue that it is PL that decide upon specifications and requirements, but that PL has to adapt to some requirements, such as lead time. The specifications and requirements are considered general.

There are some interviewees who mean that some stakeholders have certain requirements but cannot exactly specify why they want it in a certain way. Also, some believe that the internal stakeholders don't have full knowledge about how the business at sea has developed to what it is today.

5.2.5 Time frame of contracts

The contracts with the FCL carriers today are on a one-year basis. According to V7, it was more common with up to 2+1-year contracts before. The interviewee states that it is Volvo that force the contract to be one year. Several interviewees would like to see longer contract in order to create continuity, stability, and reduce uncertainties. It is argued that this could create the opportunity to work with better follow ups and evaluations of the carriers. V7 says:

"If we would have longer contracts, we would be able to work with improvements. Today, there is no support for this in the RFQ process."

V9 experiences that the culture of working proactively do not exist among the carriers and with a one-year contract, there may not exist any incentives for proactive work from the carrier side: *"Higher demands on the carrier and longer contracts could be beneficial for both parties"*.

V8 argues that one-year contracts enable revision each year, and that the 1-year contracts make it possible to more quickly implement new processes that could improve the operations. V9 refers to how Volvo is working with Kaizen and states that in accordance with that philosophy, it might be suitable with one-year contracts if PL wants to replace a carrier to improve Operations. According to V11, the one-year contract forces the carriers are continuously challenged and need to work in order to win the contract. At the same time, it is argued by V3 that once a carrier has been assigned the contract, it is likely that the same carrier will get contracted again due to the high expenses related to the switch carrier.

Key takeaways

The carriers are contracted on a one-year basis. This has according to several interviewees several benefits, such as encouraged competition between carriers as well as yearly revisions.

There are also some interviewees who mean that it is hard for the carriers to work with improvements during a one-year contract, and that it could create confidence and stability in having longer contract.

5.2.6 Differences between carriers

During the interviews, a topic that was frequently discussed were if the interviewees experienced any differences between different carriers, i.e. different treatment during the process, different routines or way of working. According to several interviewees, the carriers are treated and approached in the same way during the sourcing process. The interviewees do however experience differences when working with different carriers. V11 states that the treatment from carriers with different size could differ, where a smaller carrier is more customer focused compared to a bigger carrier:

“A big carrier has an appointed contact person, but you notice that you are just one of many customers”

Operation wise, several interviewees state that working with smaller carriers is more flexible. According to V5, a small carrier is more flexible and makes it easier to find manual processes that solve a potential problem fast:

“The big carriers have big systems. Therefore, you get more boxed in”

Key takeaways

According to interviewees, the carriers are treated the same during the sourcing process. For LP to evaluate the tenders and offers, these need to be standardized.

5.2.7 The use of best practices and shared expertise

When asking Packaging to what extent PL takes input and the carriers' expertise into account, the answer is that the discussion about how things could be done is not very common, and the carriers' perspective is not really considered. It is stated that Volvo do usually not invite for this kind of discussions, and V11 further argues that there are not so many alternatives in how things should be done. V11 stresses that if these discussions would be brought up it would be welcomed.

According to V2, there are no incentives in taking the carriers' perspective, trying to find cost reductions on the carriers' side: *“there is an agreed price and I chase cost reduction for Volvo's account”*.

Key takeaways

It is stated that it is uncommon that input from carriers is considered and that the carrier's perspective is often not taken.

5.3 Relationship characteristics, Carrier A

In this section, interviews with Carrier A has been conducted with questions regarding the relationship with PL and its characteristics. First a presentation of the carrier is

presented, which is followed by the empirical findings based on the same subheadings as used for the interviews with PL. Each topic is summarised with key takeaways.

Carrier A argues that they provide Volvo with one of the strongest transatlantic trades in terms of delivery precision and that Volvo provide Carrier A with good volumes. C3 states that LP comes to Carrier A when they need dedication and reliability, not for the major volumes. Carrier A is going that extra mile to reach that needed reliability, but it is of course connected to costs. C3 argues that the balance between cost and extra service is the key in the relationship between LP and Carrier A.

5.3.1 Relationship and involvement

The relationship between LP and Carrier A is described as a positive and beneficial relationship by all interviewees from Carrier A. Due to the good delivery precision, C1 argues that it is easier to jointly solve problems since they rarely have issues with deliveries and bookings are in line with what is contracted. On an operational level, C2 argues that they understand both the challenges and opportunities that exists for LP. However, all interviewees state that they know too little about LP as a customer. As for now, Carrier A can analyse the current setup and find supply chain benefits, but due to the fact they have too little insight into LP's operations, it is difficult to proactively come with suggestions. According to C2, LP have contacted Carrier A regarding problems which Carrier A could solve for them, but again, they know too little about how LP work and the problems they are facing. C2 says: *"We have come up with a few creative solutions over the years. I feel like there is probably some more if we had a deeper relationship with the operational team in Sweden for example"*. C3 argues that it could bring benefits of knowing more about LP and be involved earlier in the process, which is something that C3 claims for during meetings with LP: *"If we would have more knowledge on specific operational business flow, then of course we can bring more solutions. It would really be a merit if getting more knowledge on Volvo itself, on the Volvo flows"*.

It is argued by Carrier A that they need to increase their understanding of each other's context, this to be able to provide the best solutions. LP is not used to work with a niche carrier such as Carrier A who have solutions beyond port-to-port delivery. It is also stated that it should be more transparent between Carrier A and LP when trying to find better solutions. According to C1, they do try to provide cost solutions that benefit both parties. Where Carrier A find benefits, they will offer price incentive solution beneficial for both parties. C1 says:

"The more LP highlight to us the problems that they face in their supply chain, the better we are able to sit down and work on solutions"

However, the representatives from Carrier A do not believe that LP is interested in knowing more about Carrier A's operations and use of resources, unless there would be an obvious price benefit. From the perspective of Carrier A, the experience is that they sometimes lose business to carriers that can offer a lower price but argues that the customers then return back to them. It is argued that the reason behind this is that the customers know what they will get in terms of quality and reliability when contracting Carrier A, which C3 believes is valuable for the customer in the end and therefore willing to pay for. However, C3 argues that it is difficult to quantify the exact

value of their quality and reliability and it is therefore difficult to show the value of this for the customers.

Key takeaways

From the perspective of Carrier A, they are contracted due to their dedication and reliability and not for their major volumes. Carrier A argues that the relationship is positive and beneficial. Due to their stated high delivery precision there is rarely any issues with bookings and deliveries, thus making it easier to jointly solve problems. Carrier A means that they are aware of PL's challenges and opportunities but do however mean that they don't know enough about PL as a customer. Carrier A argues that PL is not that interested in their operations and resources unless it would bring obvious price benefits for PL.

5.3.2 Communication and information

The interviewees from Carrier A describes the communication with LP as reactive. It is argued that this is due to rapid changes in volumes and information within the supply chain. C3 argues that they would like to work more proactively, especially in terms of increased volumes. When Carrier A notices a forthcoming issue, they need to contact LP for information in order to act on the issue. Information sharing is of highest importance when it comes to working proactively with issues, but it is also important that the information is timely and accurate. C1 says:

“Communication flow for a smoother supply chain probably needs to be look into in order to be smoother and more efficient”

However, from the perspective of Carrier A, a proactive communication is not always easy. It is argued that an improved information sharing between the two parties would be beneficial, this could create a better understanding for each other's context and potential challenges and solutions for these could more easily be identified. If they can plan for increased volumes, a better solution could be found, and both rates and flexibility could be improved. According to C2, it would be beneficial with more information from LP, which Carrier A try to get and therefore ask for it.

The opinion from Carrier A is that it is difficult to propose new solutions for LP. The process is usually that the procurement department talk to sales, and operations talk to operations, and that the connection between these has to be aligned. C2 says:

“Procurement and operations sometimes have different needs, goals or measurements. Procurement is of course looking for the lowest rates for the services. This is necessarily not what operation needs”

On the question if the input from Carrier A is taken into consideration, C3 says that the will to do so is certainly there, but it is difficult with such a big organization:

“The will is there, but we have the feeling that the organization is so big and therefore it is difficult with direct or short-term changes “

During the tendering process, C1 is advised that the information communicated during the tendering process is indications rather than actual numbers. If there is more involvement in this stage, it would be easier to take actions sooner and from there work with cost reductions. This could require more cooperation and co-development, C1 says:

“We’d like to work more collaborative. Admittedly we are a small player. [...] But with greater trust with us, we can be a trusted partner [in this]”

According to C3, LP gets back to Carrier A and negotiate the price during the sourcing process. The case could be that LP tell Carrier A that they need to lower the rates to a certain level to get the contract. If Carrier A and LP cannot come to a compromise, then Carrier A choose to not accept to contract. It is described that it is LP in the driving seat in the beginning, but in the end, it is Carrier A that decides if it will be a deal or not. Their services come with a cost and if they are not sure that they can deliver what they promise they will not accept the contract. In an operational aspect, C3 means that they can only be flexible to a certain extent. If any problems Carriers A will raise the issue towards Volvo. In the case of operational issues and specifications on how things should be done could be impacted by both Carrier A and Volvo.

Key takeaways

From Carriers A perspective, it can be found that the communication is reactive rather than proactive. The reason behind can partly be explained by rapid changes in the supply chain, such as issues in ports, change in volumes or unexpected delays. Also, it is argued that there is a need of increased information sharing to understand the customer context better, this in order to create solutions that could benefit LP in terms of rates and flexibility.

It is argued by Carrier A that it is difficult to propose new solutions for LP since different departments on both sides have different incentives and goals. It is argued by C1 that there is a need of alignment between different departments on both sides since the best solution for Procurement is not necessarily the best solution for Operations.

5.3.3 Incentives and driving forces

C3 argues that the negotiations with LP and the Procurement team can be very tough, partly due to LP’s focus and main goals in cost control and financial benefits. It is further argued that the focus on LP’s side have change the last years as the discussions now instead is with people from the Procurement team instead of Logistics Managers. This have changed to focus from operational business needs, to numbers and rates. This makes it tough for Carrier A, since it is difficult to quantify the value of the extra services they are offering. Therefore, it is sometimes difficult to convince the procurement people in what value that they actually can bring to LP. The purchasers will in the end of the year show their result in term of savings connected to direct cost: *“The tendency of going from logistics people to procurement people is that they don’t see the indirect costs”*.

C1 says that Carrier A is a niche player focusing on high service, and they choose to not compete against the biggest competitors on price which according to C1 more or

less can influence the market and prices due to their volumes. Their unique selling point is that they offer a smooth and reliable door-to-door solution suitable for the customers' supply chain. This can come with a higher price: *"the customer has to decide if the price differential is worth the service that they want", and "we don't know how much that price-service gap can be as a carrier. We are never in the driving seat for this decision"*

Key takeaways

Carrier A means that the discussions between the companies have gone from operational level to procurement level, and that it is difficult for Carrier A to quantify the extra services they offer.

5.3.4 Deciding upon specifications and requirements

From the perspective of Carrier A, it is always the customers that decide the specifications and requirements. C1 states that carriers have to adapt to what the customers want, and the solutions are designed thereafter. However, it is argued that when deciding upon how operations should be performed, it is in cooperation with LP:

"It's a cooperation to get to the point where you can actually tender on the offering".

At the same time C1 says that it is LP that decides upon the specifications and requirements and that Carrier A then reply if they can fulfil or not fulfil their requirements. If they can fulfil the requirements they provide LP with rates and services, if not they will not offer any rates or services for LP. From the perspective of Carrier A, it would be beneficial if they as a carrier could be involved when setting the requirements.

It is argued that the tendering process is not the same anymore. According to C1, it was different in the 80's and early 90's. Then it was negotiated with logistics and supply chain managers, but it has now developed from a logistics manager perspective towards a more defined purchasing management structure:

"Shipping lines rarely negotiate with a business line manager; they negotiate with the procurement departments. It helps draw down the cost for the customers, we understand that. But a lot of the knowledge of the business is within the business units. [...] This has an impact which makes it more difficult, since decisions now appear more on procurement basis rather than on a supply chain basis".

Key takeaways

Carrier A means that it is the customer who is in the driver's seat when it comes deciding upon specifications and requirements and that the carriers have to adapt. Carrier A means that it would be beneficial if they could be involved when setting specifications and requirements, but this is difficult since the tender process is done towards the Procurement department instead of the Logistics department.

5.3.5 Time frame of contract

As for the contracts, C1 see no issues with them. If there were longer contracts, that would be OK, but if the contract would remain on yearly review that would be OK as well. C3 see both hinders and opportunities with current contract as long as there are no surprises along the way, such as inaccurate forecasts. It is argued that the fluctuation in demand and the precision in forecasting from LP is a problem that will exist both with long term contracts, as well as short term contract. What is good with the short-term contract is that the discussions get more intense compared to a long-term contract - more details are discussed. C2 says that multi-year contracts could lead to more stability in the supply chain. But this requires commitment, and commitment requires trust and flexibility to make it work if changes would occur:

“When you got this commitment instead of renegotiating the contract every year, you start to get into the details of their business and the challenges they face, and you can look at finding solutions to some of these challenges. You don’t worry about competing on that RFQ all the time. Instead you can focus on the supply chain and make the supply chain better”.

When it comes to long term contracts, C3 states that the change in fuel price are one hinder but that this can be handled by a separate part in the contract. The long-term contract would mean that Volvo commit to a certain number and that Carrier A could communicate with their subcontractors as well. The biggest advantage with long term contracts would be the guarantee of space and volume for both sides which could reduce some uncertainties.

Key takeaways

Regarding the time frame of contract, it is argued that there are both opportunities and hinders that follows with 1-year contracts, but also that some things will remain the same, e.g. fluctuation in demand and the precision in forecasts provided by LP. However, it is stated that due to the length of current contract, the discussions get more intense and more details are discussed. It is argued that longer contracts could create more stability along the supply chain, but this would require commitment, trust and flexibility. According to C3, longer contract would mean that LP would commit to a certain volume and therefore, Carrier A could communicate this to their subcontractors.

5.3.6 The use of best practices and shared expertise

The opinions on to what extent Carrier A is sharing best practices and expertise with LP diverse. According to C2, they try to share best practices and expertise with LP. Carrier A has been invited to share their portfolio with LP in order to catch potential benefits from their solutions in the US plants:

“We are definitely not the cheapest ocean carrier. But there are solutions which we can offer that can solve a larger problem. Per container cost it might be the most expensive, but on a total cost of ownership, supply chain level, we might be solving a different problem”

C3 states that their best practices and expertise is shared and that these solutions are put in their proposals to LP:

“Since we are a niche carrier with a limited scope we need to differentiate and have a lot of solutions to offer. For example, our heavy load program, which requires a heavy load permit, enables the customer to load more weight on each container which results in a lower price per tonne”

However, C1 doesn't recall doing this with LP at all and it hasn't been brought up by neither LP or Carrier A. It is argued that the reason behind this is that the customer decides what they want, and the carrier try to comply and the fact that companies have different focus and different philosophies:

“It depends on how well different companies integrate the supply chain requirements into their procurement requirements”

When it comes to problems solving and joint efforts, it is argued that it depends on which level in the organisational it concerns. C3 states that day-to-day problems are handled by the booking desks but if there are more structural problems these are handled by C3, which happens on average once a month. It seems to be different between how Europe and the US work with best practices and sharing expertise. C2 argues that in the US they have been able to come up with some creative solutions whereas the relationship has been at a procurement level in Europe.

With other customers within the automotive industry, Carrier A work with best practices and shares expertise. They regularly do transfers and optimizations of cargo and containers, looking into their customers' flows to see if it is possible to change from one setup to another in order to reach benefits. According to C3, discussions about potential solutions is something that Carrier A could be better with when meeting LP.

According to C2, it is challenging with co-investments since everything is very segmented and it might be difficult to keep the holistic view all the time. Carrier A offer solutions which are spread across the whole supply chain, but when purchasing and operations is separated the incentives for each department might clash and co-investments are therefore difficult to commit to.

Key takeaways

Carrier A argues that they try to share their expertise and best practices and that it has been done with some Volvo plants in the US, but not to the same extent in Europe. Carrier A means that the reason why it is difficult to succeed in proposing alternative solutions is due to the fact that the customer decides what they want, and then carriers try to comply and adapt to this.

Carriers A states that they have solutions that stretches beyond cost per container which could be beneficial on supply chain level and impact the total cost of ownership. Carrier A means that how well the procurement requirements are integrated into the supply chain requirements differs among companies, which could affect the how requirements are set, by who and where the focus is put.

5.3.7 Experienced difficulties

C3 says that the most difficult part when working with Volvo is forecasting and late cancellations. If there are late cancellations, Carrier A loose business, and if there are higher volumes than it was forecasted, additional work trying to find a solution is needed. A good forecast and late cancellations have been a topic with Volvo for some time and according to C3 it would help them a lot in their operations. Fluctuating volumes and bad forecasting are big cost drivers for Carrier A. According to C3, rules that control this needs to be put in place.

From the perspective of Carrier A, the documentation is a big cost driver for them, for example chasing the bill of lading from PL. C3 says that this drives indirect cost and people will have to follow up and invest time in documentation issue. On the question how PL affect the cost connected to documentation, C3 answers that firstly EDI are not set in place all over the organization which result in some manual processes. Secondly, anything that has to do with extra cost, e.g. waiting time or correction of documentation, drives cost for Carrier A. It is further stated that everything that is out of the contract requires a complex process handled by PL. According to C3, there is no problem with the acceptance of these extra costs, it is just the process itself that takes time and sometimes it is a burden for Carrier A.

Difficulties working with LP are according to C2 the fluctuation in volumes; the forecasts are not always reliable. A lot of work is put on managing these fluctuations which is time consuming and expensive due to the issues which exists on the driver side of the trucking services in the US. Carrier A procures space on both their ships and the trucks based on volumes in the tender from LP. When these volumes are incorrect, it is argued that it is difficult to stay within the promised lead time without increasing costs to acquire more capacity.

One thing C1 believes is difficult to handle is last minute cancellations from LP's side. Bookings tend to be set to high and then lowered closer to the actual date. Another issue mentioned is the forecasts provided by LP, which are considered inaccurate at times resulting in volumes sometimes not planned for. Connected to this, there are haulage difficulties on the American side, leading to shortage in trucks. With unplanned increase in volumes, trucks and truck drivers has to be found, which is both difficult and expensive. C1 mentions below four reasons as opportunities for improvement when working with LP:

- Inaccurate forecasting
- Fluctuating volumes
- Late cancellation
- Delivery requirements

When working with these difficulties, C1 argues that it is difficult to be a part of the supply chain and achieve total cost reductions. It is believed that Volvo needs improvement in the supply chain organization in order to work with the difficulties mentioned, since these deviations induce cost increases for Carrier A. Also, since LP's purchasing process is a procurement driven (and therefore price driven) process, it is difficult for Carrier A to be part of the supply chain. C3 argues that incorrect numbers,

both increases and decreases, is expensive no matter if it is a long-term or short-term contract.

Key takeaways

Carrier A means that the most difficult parts when working with Volvo is forecasting and late cancellations, and that documentation is a big cost driver for Carrier A due to lack of system alignment. Also, everything that is out of the contract requires a complex process.

Carrier A mentions inaccurate forecasting, fluctuating volumes, late cancellations and delivery requirements as improvement opportunities. Carrier A argues that it is due to these difficulties, it is hard to be a part of the supply chain and achieve total cost reductions and could require improvements within the supply chain organization in order to improve these. Also, Carrier A believes that since LP's purchasing process is procurement driven, it is hard for Carrier A to be part of the supply chain.

5.4 Relationship characteristics, Carrier B

In this section, the empirical findings from the interviews with Carrier B will be presented. The interviewees have been conducted with questions regarding the relationship with PL and the characteristics of this relationship. Similar to Carrier A, first a presentation of Carrier B, which is followed by a presentation of the empirical findings that are based on the same subheadings as used for the PL and Carrier A. Each topic is summarised with key takeaways.

Carrier B is one of the largest container shipping companies in the world with added solutions for integrated container logistics. Carrier B has started a journey of transformation, a repositioning of the company and their offerings. Carrier B has been segmented in the thought of selling a commodity, and that is not what they want. The reason why the company is seen as a carrier selling a commodity is a result of the bigger ships and the economies of scale those vessels bring; focus has been put on maximize the capacity. Historically, Carrier B could compete on transit time and price, but the market has changed. Today, several carriers are competing on those factors. It is stressed by the interviewees that with the new position that the company is aiming for, a closer interaction with customers is needed. C4 stresses that knowing the customers context will be of highest importance and that the customers are mature enough to let the carriers closer to their business. C4 says: "*There are no companies that can do everything on their own*".

5.4.1 Relationship and involvement

C5 argues that it is a close and strategic relationship with Volvo. It is explained that it is not common within the industry to value partnership as Volvo does. C6 says that it is a professional and tight relationship with LP and states that Carrier B is aware of the context and the needs LP has. According to C6, they ask themselves questions to put themselves into LP's position:

“What is the company doing? What is their position on the market? What is important for them? They have end customers, it doesn’t end with Volvo. The goods are ending up at a customer somewhere”.

However, C7 states that the relationship is less close than C7 thought it would be. Volvo is a huge customer for Carrier B, but still the relationship is kept very professional. It is argued that due to fewer issues compared to other customers, less work and involvement from C7’s side is needed both operationally and strategically. With customers with more issues, a tighter relationship is needed.

All interviewees state that focus and effort have been put on getting to know more about the customers context in order to be able to create solutions based on LP’s end experience and current issues. According to C5, they try to do this as much as possible in order to make the daily operations between Carrier B and LP work as smooth and efficient as possible. C7 argues that Carrier B has a quite clear picture of what LP need and what challenges they face when it comes to sea transportation, but outside that the knowledge is insufficient. This view is separated and related to the knowledge about sea transportation, C6 says:

“We have had one visit at LP so far where we met with some representatives from different departments. We got to see how they work with their systems and what is required along their supply chain. That was a real eye-opener”

It is argued that a greater focus should be placed on solutions that the customers ask for. Carrier B should listen to the market and create supply chain solutions that is suitable in terms of price and need. When shipping containers, it is described that it is a pushing mechanism behind, trying to push their capacity to the market. With supply chain solutions, it should instead be a pulling mechanism. However, it is argued by C4 that supply chain solutions have to be more consistent and long term. As the supply chains are getting more and more complex, C7 argues that the solutions will be custom made and very customer oriented.

Key takeaways

Carrier B states that they are in a transformation towards being more customer oriented and that would require more customer interaction since they mean that supply chains become more complex.

As mentioned by Carrier B when shipping containers today, it can be described as a pushing mechanism where their capacity is pushed to the markets making container shipping a commodity in order to compete on prices and transit times. Carrier B means that this has led to bigger ships and the focus has been on maximizing capacity.

Carrier B argues that the relationship today is close, strategic and seen as a partnership where they are aware of PL’s context and needs and that this is of importance in order to make operations run smoothly.

5.4.2 Communication and information

The communication between Carrier B and LP is experienced differently among the interviewees. However, it is described as open communication and almost all information can be asked for and shared between the two companies, except from when it regards confidential information. C5 argues that the reason behind the open communication landscape is due to the fact that it is rather about a partnership than a customer relationship. Some interviewees would say that the communication is of proactive nature, while others would describe it as a mix of proactive and reactive communication. C5 states that the operation team constantly look for potential issues in order to handle those as soon as possible. It is argued that unforeseen events have to be reacted upon while planned events are approached as proactively as possible.

C7 states that it is of highest importance that issues are brought up to the surface in the daily contact with LP. It is explained that since the operations between LP and Carrier B runs smoothly, less contact is needed from C7's side. This result in that the communication is instead more proactive than reactive. If the less needed contact is seen as positive, C7 says:

"Absolutely. My 'motto' within customer service is that the less contact that is needed, the better."

C7 argues that the receiving the information proactively is often more important than to provide an alternative solution when issues occur. It is argued that it is better to immediately contact the customer and give the information, rather than waiting until the exact impact is determined. It is stated that waiting 3-4 days in order to know the exact impact is limiting the possibilities for the customer to change their plans and their own processes. To give the customer the information timely and work with continuous improvements is something C7 is pushing to the customer service department.

Among the interviewee from Carrier B, there is a shared view upon that there is information within both companies that would be valuable for the other party to get. The reasons behind why this information is not shared is however separated. Some interviewees mean that the reason behind why information not is shared depends on the fact that they do not know what the other party need and want. It is argued that they don't know the customers context good enough and that it is difficult to share information that you don't know that the customer wants. Another view is also presented, C4 says:

"It's a classic purchasing technique, to not provide the carrier with more information than what is necessary, this in order to achieve a good negotiation. With a more strategic mindset, more information will follow, you will open up to each other."

C4 further states that the reason behind the low-quality forecasting from customers probably depends on the fact that the correct information doesn't reach the purchasers. The information is probably within the organisation somewhere, but for some reason it doesn't reach the people who needs it. The problem is not the fluctuating volumes itself, it is rather the lack of information. According to C6, they need to know what the customer does with the information they have, how they process it. Interviewees argue that if the relationship is characterized by partnership, it would probably be less

problematic to get information and easier to initiate constructive discussions regarding information sharing.

It is stated that the information that Carrier B receive from LP is of varying quality. According to C6, the internal stakeholders at LP could improve when it comes to asking for information, but also in terms of what information they need. Also, some information gets stuck along the way, which creates problems when an issue arises. It is further argued that the information needs to be communicated correctly from start in order to create the best possible prerequisites for Carrier B to come up with a solution.

Key takeaways

As mentioned during the interviews, the communication between the parties is open and information is shared. It is also argued that there is less communication between the parties when the operations run smoothly. However, it is a shared view among the interviewees that there probably is valuable information that is not shared within both parties. It is argued that the reason behind why this information is not shared is because it is difficult to know what kind of information the other party wants. According to C4, it is a classic purchasing technique to not share all information, this in order to achieve a good result from negotiations.

It is argued the reason behind the low-quality forecast provided from LP could come from the use of incorrect information or that the needed information gets stuck along the way to the receiver. The low-quality forecasts are an issue for Carrier B.

5.4.3 Incentives and driving forces

C4 argues that Volvo is a customer with a long-term mindset. The reason behind is that LP do not change their carriers very often, and therefore the relationships become long. However, Carrier B means that due to the fact that the contracts are on a one-year basis, like most of the customers have, it creates a natural focus on price. C4 describes the industry as very transactional.

5.4.4 Deciding upon specifications and requirements

According to C4, it is always the customers that set the specifications and requirements and the level details and on how things should be carried out cannot be dictated by the carriers. It is argued that PL have specific routines and standards that Carrier B has to comply with which tend to be on an even more detailed level as the relationships becomes closer. C4 says: *"From previous experiences, I would say that the level of integration decides on which level the specific details can be set."*

It is explained that that both parties can have their own plan on how things in theory would work the best. But in the reality, this is not always the case and the solutions then need some adaptations. However, C7 states that since Volvo is an important customer with big volumes, they as a carrier are more flexible in finding solutions. C7 brings up an example that concerns handling of Volvos bills, a setup that is very specific for Volvo. This solution has required a lot of effort for Carrier B and has been achieved step by step.

Key takeaways

Carrier B means that it is the customer that set specifications and requirements and some adaptations are made due to differences in opinion on how things should be performed.

5.4.5 Time frame of contract

C6 argues that consistency is one of the most important aspects when dealing with a relationship and one year is not a long period of time. A lot of people are involved in this and you want to be able to build trust and develop this. It is stated that one-year contract is too short in order to be 'safe' and care for it fully. The opinion from Carrier B is that the workload to perform a tender is extensive and doing this every year is time consuming. C4 prefers to put focus on other things than those details and have a different approach to the contract - if there would be a 24- or 36-month long contract, a greater focus can be put on questions that regards sustainability or quality. C5 says: *"When we talk port-to-port services, make it a two- or three-year contract and spend the time currently put on the tenders on something that develops instead. This is my personal opinion"*

It is argued by Carrier B that they rather would like to work more with contracts with index solutions, which means that you instead agree on e.g. a 5-year contract and the price is flexible. With that kind of contract with indexes, it is possible to compare the price continuously against other customers. C4 states: *"Working with indexes instead means that you can have a better relationship with the buying company over time, but it is also much more time efficient for all parties involved"*

C6 understand that it is important for LP to assess their suppliers and how they perform, but it is still a huge apparatus to change a supplier. However, it is argued that a set contract should not be ignored, and it is not possible to feel safe just because the contract is in place. You have to care for the services and the relationship, C6 says.

Key takeaways

From what can be found in the interviews, it is difficult to develop the relationship and build trust when the contract is on a one-year basis. It is further argued that consistency is one of the most important aspect when dealing with relationships. It is also argued that the workload connected to the tenders each year are time consuming, time that instead could be put on important areas like sustainability or quality.

5.4.6 The use of best practices and shared expertise

Regarding sharing expertise and best practices, it is not a shared picture among the interviewees to what extent this is done. According to two interviewees it is argued that Carrier B does this. Regarding best practices that concerns operations, process and routines, it is stressed that well-functioning processes is wishful to implement at other customers as well. How adoptive the customers are depending on what level in the organisation it concerns, transit times and rates could be very specific for a customer, while the use of equipment and pick up destinations are more easily adopted by other customers. However, it is also stated that Carriers B need to be better by show the customers what they can bring to the customers in terms of value. Other interviewees

say that sharing best practices externally is not common. According to C5, they design solution based on the requirements decided by Volvo and that Carriers B then will deliver accordingly. C6 states that it is not certain that the same solution fits two different companies but sharing ideas and bring up the discussion is always possible. However, the same interviewee says:

“The more customer oriented the solution is, the more locked in and less flexible you become. But if this solution is applicable to the majority of your customer, then it is great”

From the perspective of Carrier B, co-investments and co-development is not common. C6 argues that if doing co-investments, it comes with investments in both time and money. When co-investing or adapting to another solution, a return on this investment is needed. System-wise, it is not co-invested, and both parties are having their own legacy systems. The investment related to this is to get the different system able to communicate efficiently with each other. The investment is rather related to communication and information sharing rather of the systems themselves. C5 says:

“We like to run our business on our own. Volvo is doing this themselves as well”

It is argued that co-investments and co-development could bring great possibilities though, especially when discussing upon end-to-end solutions. To look into strategic possibilities in order to improve communication would be of great interest. To make co-investments and co-development possible, it is stressed that the time frame in current contract has to be changed. Some problems are however jointly solved between the parties. From Carrier B's point of view, it is certainly important in some cases, like with Volvo, to solve specific problems together. This to ensure that all information needed is set in place correctly in order to find a suitable solution. The reason behind why it is important in the case of Volvo is due to that the relation with Volvo is seen as a partnership, not just as an ordinary customer relation.

Key takeaways

The picture among the interviewees from Carrier B is not shared when it comes to sharing best practices and expertise. On one hand, it is argued that Carrier B, when suitable, try to implement well-functioning routines in other business relationships and that some specifications and requirement decided by LP is changeable, e.g. use of equipment. On the other hand, other interviewees argue that it is not common to share best practices and state that it is LP that decides what and how to perform where Carrier B has to adapt to the decided requirements and design their solution based on these. It is also argued that the more customer-oriented Carrier B is, the more locked and the less flexible they become.

Carrier B means that it is difficult with co-investments and it is not common, even though it could be beneficial. Regarding the use of systems for example, it is argued that each party run their own business, which is the way they want it to be. One interviewee argues that one of the reasons why it is not common with co-investments is that the lengths of the contracts limits this. If co-investments and are initiated, it is important that an expected return is achieved.

5.4.7 Experienced difficulties

C4 brings up the example of the low-quality forecasting from customers. The information needed is there somewhere within the organization, but for some reason this does not reach the purchaser. On the other hand, it is further stated that Carrier B has historically had a low quality in terms of performance among the customers. This need to be changed and a new decision making need to be put in place with the repositioning of Carrier B.

As for working with LP as a customer, the difficulties involved is on a detailed level due to some of LP's requirements are not always compatible with Carrier B's systems, C5 says:

"We are very dependent on our systems and how they work. We are very digitized. It is a challenge when you get the list of specifications and requirements and the 'solutions' to it when communicating with each other. This is what we struggle with the most internally. The issues are not on 'the soft side' so to speak, with the relationship or where we want to go. The problem is to align what they want with what we can provide – it is within the systems that are supposed to talk"

This of course leads to a lot of administrative work in order to get it to work, C5 says and that it has become an annoying thing to handle. One booking made by LP in their system is split up and has to be compatible with Carrier B's systems through different systems and EDI's:

"The administration around this is our pain point, I would say"

C5 states that when trying to fix these issues, they try to do this together with PL to the largest extent possible. A lot of this is on Carrier B's side, where PL really cannot aid. In the same time, it is argued that it is the other way around. The operational teams communicate with the operational teams, and the commercial team communicates with the commercial teams. However, it is argued that the problems are most often on the operational side. C5 means, that the teams try to communicate between each other in order to get the holistic view of the problems.

The view on increased co-investments and co-development from C5's side is that it is always good, but how is a more difficult question to answer. As for their port-to-port business, only so much can be invested in. But for end-to-end solutions, much can be achieved with co-investments and co-development. At the same time, it is argued that it is difficult to know how far an end-to-end solution provider should go.

"Then the question regarding we as a supplier, how far do we dare to go into a production line for example?"

But at the same time, Carrier B wants to be part of their customers' supply chain, where they can be a partner, to find and solve the supply chain bottlenecks, C5 says. As for hinders within Volvo and LP to achieve this, C5 believes there are two major challenges:

“The first challenge is the administration. We (Volvo and Carrier B) are two giants when it comes to systems. It is a challenge to get these to communicate properly. The second challenge is the shipping industry in general. The lines constantly change throughout all carriers and this is a big problem for Volvo and others”

Connected to the second challenge, this is according to C5 done because Carrier B's operations within their network needs to be synchronized and this is then made on their terms. This is done in order to optimize their operations, and Volvo (among others) has to accept this.

The most difficult thing when working with Volvo is the complexity of the company in the sense of their internal ownership of costs differs from other customers, C6 means. How the tenders are communicated, the stakeholders and how they want information to be communicated is complex and very specified. It is stated that to get this in line with their respective systems is complicated and time consuming and it is very strict in how Volvo want the information and the output from it. Carrier B then try to adapt and get their systems in order for this to work the way Volvo wants it. But this is not unique for Volvo and LP, other companies want this as well, C6 add.

According to C7, the most difficult part to solve for the customers is the reliability and having a continuity. Carrier B can plan their operations, do forecasts and push in different direction, but once a typhoon hits the Philippines or a strike is in a port there is nothing they can do. However, C7 states that when working with big customers like Volvo, it is of highest importance to actually give the information proactively and present an alternative solution. The big customers have an understanding of what the carrier can do and not do. However, the consequences for the customer may still be the same and these can be very costly, C7 adds.

In short term, the biggest hinders according to C4 is to show the customers what the “new” Carriers B stands for and what potential in creating value they have, but also create a trust. It is stated that Carrier B is an important carrier for the customers, but they are not interchangeable. Today, Carrier B is not seen as a strategic carrier, which C4 says that they want to be seen as. For this to happen, C4 believes that one-year contracts are not possible for efficient supply chain solutions, it is not suitable for neither the carrier nor the customers.

C4 mentions that as a carrier, you commit to a certain capacity that is allocated for a customer which the carriers plan its operations from. The compliance from customer are poor though, which force the carriers to create short term solutions with no profit. This creates an uncertainty. For Carrier B, it is a question on how they best possible use their capacity. According to C4, there are no consequences or sanctions for the customers for not complying with the volumes that is contracted. The carrier cannot charge potential loss with e.g. higher rates afterwards. However, it is argued that it is not the fluctuation in volumes itself that is the problem, it is rather the lack of information. With a relationship that is characterized by partnership, C4 states that there would probably be less problematic and easier to get the needed information. According to C4, the reason why Volvo has problems with their quality on forecasting is probably connected to the use incorrect data. C7 summarizes the problematics accordingly:

“The fundamentals in the problems that may arise is the fact that two big companies are collaborating with their own standardized processes. When it works, it is fantastic, and it does 95% of the time. But with the few exceptions, it is difficult.”

Key takeaways

The most difficult thing when working with Volvo according to Carrier B is the complexity of the company in the sense of their internal ownership of costs differs from other customers, how the tenders are communicated and how stakeholders want information is both complex and very specified. This makes it hard to align their respective systems.

Carrier B means that low quality forecasting is common problem among customers, and that the information needed is there somewhere within the organization, but for some reason this does not reach the Purchaser.

Carrier B experiences that some of LP's requirements are not always compatible with their systems, which lead to a lot of administrative work. When trying to fix these issues, they try to do this together to the largest extent possible. The problems however are most often on the operational side.

The view on increased co-investments and co-development from Carrier B's perspective is that it is always good to have, but how is a harder question to answer. As for their port-to-port business, only so much can be invested in. But for end-to-end solutions, much can be achieved with co-investments and co-development. But on the same time, it is hard to know how far an end-to-end solution provider should go. Carrier B see two challenges connected to this: administration in order to align systems, but also how the shipping industry works today with a lot of changing lines etc. Connected to how the industry works today is that operations need to align in order to benefit both parties.

The most difficult things for Carrier B to provide for customers are reliability and having continuity. Since *force majeure* often affect the shipping industry due to weather etc., it is of highest importance to provide proactive information and present an alternative solution.

Due to the transformation that Carrier B is going through, it is a challenge for them to rebrand themselves, since they mean that they are not seen as a strategic carrier today, but this is what they want themselves to be considered as.

Carrier B also means that the compliance from customers are poor and that they are not communicating this enough which creates uncertainty when there was an initial commitment to certain capacity.

6. Analysis

This chapter analyses the empirical findings with the theoretical framework developed in 3. Theoretical framework. The analysis gathers information and answers for RQ 1 and RQ 2 and creates a foundation for 7. Discussion.

6.1 The purchasing process

The Sourcing process used by LP is similar to the Purchasing process presented by van Weele (2014), which, in turn, is called the Traditional purchasing model by Gadde et al. (2010). This model builds upon the assumptions that the focus is on price based on a standardized offering for suppliers to provide. Therefore, Gadde et al. (2010) state that one challenge is to reconsider the “ultimate performance”, which is to understand that a tender with the lowest price may not be the best solution if there are major cost- or revenue consequences connected to the purchase, since purchasing events are often interdependent with each other.

Another challenge brought up by Gadde et al. (2010) is to have a wider scope in space and time. A buyer's unique transaction in one specific situation affects and is affected by other transactions at the same time. Gadde et al. (2010) mean that capabilities need to be coordinated and strategic roles from both the buyer and supplier have to be defined. In order to make use of capabilities and set strategic roles, long-term relationships are required (ibid.). In order to challenge this, both the “perspective of benefits” and “unit of analysis” have to be considered. In order to approach this, Gadde et al. (2010) mean that the supplier's perspective has to be included and that the traditional view does not invoke the suppliers to make use of their unique capabilities and resources since the purchasing process focuses on standardized tenders and offers. When the supplier's perspective is overlooked it is difficult to let both parties benefit on each other's strengths in order to reduce costs. From the perspective of PL, the carriers are treated the same during the sourcing process. The tenders and offers need to be standardized in order for LP to evaluate these. Carrier A means that input from them is considered, but it depends on how far the purchasing process has proceeded. They do however state that it would be beneficial for them to be included earlier in the process when specifications and requirements are determined. Carrier B says that Volvo as a customer has a long-term mindset since they don't change their carriers very often and that they have been doing business for a long time. But the contracts as they are designed today are on a one-year basis. This brings up the discussion whether it is a long time- or a long-term mindset. Gadde et al. (2010) state that suppliers not qualified for the short-list also induce costs, since they have to be handled administratively. This means that time has to be put on deciding that these suppliers are not qualified. But since contracts are negotiated on a yearly basis, both contracted and uncontracted suppliers induce costs since they have to go through this process with RFIs and RFQs every year. Carrier B argues that since the contracts are on a one-year basis, it puts a natural focus on price.

The other challenges are to gain understanding of a suppliers' competences and capabilities, improve the information exchange, provide the supplier with degrees of freedom, and to setting clear strategic roles for both the buyer and supplier which then can result in a more effective and efficient purchasing performance, thus lowering the

costs. This relates to how aware the parties are of each other's context, as explained by Araujo (1999), in order to fully utilize information exchange, find opportunities for where to provide the supplier with degrees of freedom, or decide upon what strategic roles the buyer and supplier should have.

The requirements determined in the first step, the Prepare phase, come from the internal stakeholders (e.g. factories). When the expected volumes are determined, and desired lead times are expressed, specifications for how to send the containers and when to deliver them are expressed. This scope is extended when TNO, SM and Packaging (among others) are included to match the internal stakeholders wishes with respective departments' input with what can be offered from the carriers. These are specifications and requirements which include all duties and to whom it applies, what flows that should be executed, how the booking procedures should be performed together with guidelines of how to perform different operations in a SOP which a carrier has to agree to. It can be said that the SOP is similar to the POS presented by van Weele (2014), which includes quality-, and logistics specifications among other things. The POS is supposed to include both technical- and functional specification, but from what is described, there are more indications on that it is technical specifications - characteristics and technical properties of an offering as well as what activities to be performed and that the specifications described are on PL's terms, how it should be compatible with *their* systems, with *their* operations etc. Both Carrier A and Carrier B mean that it is the customer who decide upon how specifications and requirements are set. This limits the suppliers' opportunities to use their expertise in the most efficient way and to make use of best practices or use of new technology. This can according to van Weele (2014) be achieved with functional specifications, see Table 9 for comments on specifications and requirements connected to theory.

There are indications that this scope is not extended wide enough and that requirements are set based on previous contracts. As stated, there could be a lack of understanding among the internal stakeholders of how the business at sea work today, or that the internal stakeholders sometimes cannot motivate why they have some specific requirements. Another aspect is that stakeholders do not have full knowledge in how specific requirements affect the carriers' operations. As stated by Carrier A, there are room for improvements when working with LP regarding delivery requirements (among others). Since C1 believes that it would be beneficial if a carrier could be involved when setting requirements, it is an indication that the supplier's perspective is not fully included. Gadde et al. (2010) argue that when the specifications and requirements are set by the customers, it could affect the price. Since logistics is highly related to economic gains within a company, clear goals towards what is important for a company are needed. By having clear goals and knowing what to measure, Jonsson and Mattson (2011) mean that it is easier to align the business with the company's strategy.

Table 9. Findings connected to specifications.

Specifications	Findings
Technical: characteristics and technical properties of an offering, as well as what activities to be performed (van Weele, 2014)	In the SOP, all specifications and requirements are described together with instructions of how LP wants the procedures performed by the carriers to look like (V1)
Functional: what functionality the offering needs to have (van Weele, 2014)	<p>Requirements from the internal stakeholders have to be applicable towards the systems used (V7)</p> <p>Input regarding practical questions for the sourcing process – how things work operationally today within Volvo and what kind of information that is needed from the carriers (V11)</p> <p>It is always the customers who decide the specifications and requirements. The carriers have to adapt to what the customers want (Carrier A)</p> <p>It is always the customers that set the specifications and requirements. How activities should be performed cannot be dictated by the carriers (Carrier B)</p>

6.2 Level of involvement

Business relationships can be of great importance in many aspects (Gadde et al., 2010; Ford et al., 2003). At the same time, it is difficult to determine the exact value of a specific relationship since it can be hard to quantify indirect costs associated with a relationship (Gadde et al., 2010). It is therefore important to understand in what way a relationship can bring benefits and how the relationship should be handled and developed (Ford et al., 2003). However, it is also important to be aware of the multiple factors that affect the relationship and the potential economic consequences from these (Gadde et al., 2010). The costs and benefits that a business relationship can bring is highly dependent on the level of involvement (Gadde & Snehota, 1998). The degree of interaction between two parties is according to Ford et al (2003) the difference between a relationship with high and low involvement

From the interviews, there are several similarities with what Ford et al. (2003) mean is related to both high and low levels of involvement. From the perspective of PL, the carriers are treated the same during the sourcing process, and the relationships are distant on an operational level. For the carriers to become a potential supplier, adaptations to the systems used by Volvo is required. Once the carriers have fulfilled the requirements connected to systems, the carriers compete against other carriers for the contracts. The need of adaptation to PL's system is an indication which according to Ford et al. (2003) is a characteristic of high involvement relationships since it requires time and effort from the carriers, while the forced competition among the carriers is a characteristic of having a low involvement relationship.

The carriers are contracted on a one-year basis which creates benefits such as encouraged competition between carriers as well as yearly revisions. This is what Ford et al. (2003) argue is an advantage with a low-level relationship, which encourage competition among suppliers. The fact that there is a price orientation at PL is confirmed by both carriers. Carrier B argues that the one-year contracts create a natural focus on price and that the industry is “very transactional” where there is competition for each tender. As a result, some information is not shared between the parties. According to Carrier B, it’s a classic purchasing technique to not share all information, this in order to achieve a good result from negotiations. This is in line with what Gadde et al. (2010) state about low involvement relationships, where the focus is on optimization of each transaction rather than long term optimization of operations.

Carrier A states that PL has focus on price, volumes and margins and argues that the discussions between companies have gone from operational level to procurement level. This makes it difficult for Carrier A to quantify the value of the extra services they offer, services that stretches beyond cost per container that instead could impact the total cost of ownership. Carrier A argues that PL is not interested in Carrier A’s resources and operations unless there is an obvious price benefit. This is in line what Gadde et al. (2010) and Ford et al (2003) argue is associated with a relationship characterized by a low-level involvement.

Both carriers mean that it is PL that is deciding upon specifications and requirements, and that they have to adapt to the solutions specified by PL. In line with what Ford et al (2003) state, it can be argued that there is a limited degree of adaptation from PL and a low level of involvement, while there is a higher level of involvement from the carriers’ side due to the need of adaptations. However, regarding the use of separate systems, it is argued by Carrier B that it is the way they want it to be.

From what has been analysed, the relationships are characterised by low level of involvement, see Table 10 for summary. The advantages mentioned by Ford et al. (2003) from this are that the relationships are cheap to operate, and the handling costs are kept low. By using a larger number of suppliers, short term transaction uncertainty is decreased, and PL avoids being “locked in” to a specific supplier. Also, having several suppliers encourage competition among them.

Table 10. Summary of high- and low-involvement characteristics.

Topic	Findings	Characteristics
Price orientation	Encouraged competition among suppliers Short term contracts Discussion moved from operational level to procurement level	Low involvement
Adaptation	PL decides upon specifications and requirements Required adaptation to PL's systems The use of separate systems	High involvement (Carriers) Low involvement (PL)
Optimization of transactions	Focus on transaction, rather than long-term optimization of operations. Lack of information sharing	Low involvement

However, some interviewees within LP argue that closer relationships could bring benefits and that an increased interaction could create a better understanding of what the carriers are able to do. Also, it is argued by Carrier A that there is a need of increased information sharing to understand the customer context better in order to create solutions that could benefit LP in terms of rates and flexibility, and that it would be beneficial if they as a carrier could be involved when setting specifications and requirements. As previously stated by Carrier A, they have solution that could solve problems that stretches beyond cost per container. Carrier B means that they are in a transformation towards being more customer oriented and this would require more customer interaction, since they mean that supply chains become more complex. These are all indications of that it could be beneficial to have a higher level of involvement in the relationship.

High-involvement relationships are based on an alternative idea of purchasing efficiency where the focus is not on optimizing each transaction but rather improving operations in the long term (Ford et al., 2010). A high-involvement relationship requires substantial coordination, adaptation, and interaction between two companies which increase the handling cost of the relationship. Gadde et al. (2010) do however mean that the increased handling cost can lead to cost benefits related to the relationship with the supplier. By increasing the level of involvement, Gadde et al. (2010) mean that it is possible to improve service levels and flexibility and reduce costs in processes or physical flows. There could be reduced costs due to changes in customer requirements. This can result in that the supplier can operate more efficiently, but also improve quality through a better use of the suppliers' resources and capabilities.

Gadde and Snehota (1998) state that benefits which could be reached from a business relationship are dependent on the level of involvement. A higher degree of involvement would mean that PL will have to rely on external resources controlled by suppliers and activities must therefore be coordinated. This would require an increased level of coordination and adaptation between the parties, which Ford et al. (2003) describe as characteristics of a relationship with high involvement and would require an alternative idea of purchasing efficiency. This can be connected to what Gadde et al. (2010) state about a high involvement relationship, where the focus is not only on the optimization of each transaction but the long-term optimization of operations instead.

Carrier B means that they are in a transformation towards being more customer oriented. That would require more customer interaction since they argue that supply chains become more complex. With a higher customer orientation and -interaction, Ford et al. (2003) state that it would require a higher level of involvement between the buyer and supplier. From what can be found in the interviews, Carrier B means that it is difficult to develop the relationship and build trust when the contracts are on a one-year basis. If having longer term contracts, Carrier B argues that the time put on RFIs and RFQs every year could instead be put on important areas such as sustainability or quality. The experience that the focus is put on the transaction rather than on long term optimization is what Gadde et al. (2010) state is connected low involvement relationships. In Table 11 below, a summary of expressed needs from the carriers are presented.

Table 11. Expressed needs stated by the carriers.

Expressed needs	Reason	Potential effect
Increased need of information sharing (Carrier A)	Insufficient context awareness	Create beneficial solutions
Earlier involvement when setting specification and require (Carrier A)	Insufficient context awareness	Potential cost reductions due to more efficient supplier operations
Increased customer interaction and longer contract (Carrier B)	Difficult to develop the relationship and build trust when the contracts are on a one-year basis	Customer oriented solutions

6.3 Interfaces

How and to what extent the customer can get access to the suppliers' resources is related to the characteristics of the relationship and the interface between the two parties (Araujo et al., 1999). To efficiently access the suppliers' resources, it is of great importance for both the buyer and the supplier to be aware of each other's context, which is the most important distinction between the different interfaces (Araujo et al., 1999). According to Araujo et al. (1999), different degrees of collaborations bring different benefits, e.g. cost rationalizations or improved quality on the final offering, while Ford et al. (2003) argue that the involvement of an external part can be about finding best practices and new ideas. According to the ADG-model, presented by

Araujo et al. (1999), there are four different interfaces that exist in a business relationship. These are the standardized-, the specified-, the translation- and the interactive interface.

From what can be found from the interviews with LP, they believe that LP has information that probably would be useful for the carriers to take part of. But since they are not aware of what information this could be, the information is therefore not shared. Araujo et al. (1999) stress the importance of context awareness. However, since the information is not shared is an indication of that PL do not know enough about the carriers. In addition, from the perspective of LP, an increased interaction could create a better understanding of what capabilities the carriers' have. There are several factors that indicate that there is a lack of awareness of the carriers' context. According to Araujo et al. (1999), to be aware of each other's context is of highest importance when determining the most beneficial interface.

Regarding setting the specifications and requirements, the majority of the interviewees argue that it is LP that decide upon these, both regarding what to be performed, but also how. It is also stated by LP that it is not common to consider the carriers' input when determining the specification and requirement, which can also be related to context awareness and their interests of getting external input. In accordance with how Araujo et al. (1999) describe the specified interface, similarities in both subcases can be identified. However, one interviewee states the opposite, that it is the carriers that decides the specification and requirements, which regards e.g. lead time. This is more in line with what Araujo et al. (1999) argue is the standardized interface, meaning that LP has to adapt to standardized solutions decided by the carrier.

From the perspective of Carrier A, it is argued that they are aware of the challenges that exist for LP, but at the same time they do not know enough about LP as a customer. Also, it is stressed by Carrier A that there is a need of increased information sharing in order to get a better understanding of LP as a customer and that this could lead to the creation of better solutions. Again, this can be related to what Araujo et al. (1999) stresses about context awareness. The need of information and a better understanding indicates that there is a lack of customer context awareness.

Carrier A means that due to that LP decides how the requirements and specifications are to be set, it is difficult to propose alternative solutions. This is also in line with what Araujo et al. (1999) state about the specified interface. However, according to Carrier A they try to share their expertise and their best practices but has not succeed with this in Europe as good as in the US. Sharing expertise and proposing alternative solutions is rather how Araujo et al. (1999) describe the translation interface.

Similar to Carrier A, Carrier B states that they are aware of LP's context and that this is important in order the make the operations run smoothly. However, it is argued that additional useful information for LP probably exist, but that they do not know what kind of information LP wants. As described by Araujo et al. (1999), it is important to be aware of the others party context to access external resources, e.g. information. In the relationship between Carrier B, the lack of context awareness limits the information sharing.

From the perspective of Carrier B, it is argued that the more adaptive and customer-oriented they are in terms of specifications and requirements, the more locked in to a specific relationship they get. This affects Carrier B's flexibility negatively, which according to Araujo et al (1999) is a consequence of the specified interface. According to the one interviewee from Carrier B, they try to implement best practices that concerns routines and processes, but that they do also try to influence the specifications and requirements decided by LP. The same interviewee stresses that some specifications and requirements are changeable, e.g. the use of specific equipment. This is in line with what Araujo et al. (1999) describe as the translation interface and mean that some space of freedom exists for the carrier. On the other hand, it is argued by other interviewees from Carrier B that it is not common to share best practices, this due to that PL decides what and how to operate and perform activities. This can be related to what Araujo et al. (1999) describe as a specified interface.

From what have been analysed, characteristics of a specified interface are more prominent than other interfaces. The specified interface means that LP only has to make limited investments in the relationship which counteract the situation of getting locked in to a specific supplier but also keeps down costs associated with the relationship. When having the specified interface, the carriers can be seen as an extension of LP's own resources, and the need of external input is therefore limited. However, LP can still benefit from economies of scale and scope since the carriers will be trying to pool together similar orders (Araujo et al., 1999). A presentation of interface characteristics is shown in Table 12 below.

Table 12. Summary of interface characteristics.

Topic	Findings	Interface
Setting specifications and requirements	Decided by PL (Carrier A, Carrier B, PL)	Specified interface
The use of best practices	Not common since PL decide what and how (Carrier A, Carrier B, PL)	Specified interface
The use of best practices	Possible to influence (Carrier B)	Translation interface
Information sharing	Lack of understanding regarding each other's' operations (Carrier A, Carrier B, PL)	General

6.4 Collaboration

Various economic benefits and -consequences are associated with relationships and collaborations. Gadde et al. (2010) present three economies connected to this. Economies of scale and scope through distributive collaboration means that parties benefit from connecting others with similar needs connected to volume. Economies of integration reached through collaboration is to coordinate interlinked activities and depends on how activities are adjusted between a buyer and supplier over company borders through joint planning. Economies of innovation occur when a relationship is strong and intensive, where the parties have knowledge about each other's capabilities

and needs, and problem-solving collaboration is reached through the mutual adjustments of activities, requirements and adaptation of resources. Economies of innovation have three phases; *Transactional exchange*, *The Framework Agreement*, and *Partnership collaboration*.

As previously described, from the point where the purchaser gets connected to the sourcing process, the relationship goes from being close to transactional. Also, since the contracts are on one-year basis, some interviewees mean that this encourage competition between carriers as well as yearly revisions are done. This is in line with what Gadde et al. (2010) explain as the first phase of economies of innovation, transactional exchange, where the buyer tries to exploit the market mechanisms in order to push prices and margins. This is also characteristics of a distributive collaboration which occur when trying to economize though scale and scope (Gadde et al., 2010). As for information and communication, there are differences in perception among the interviewees in how information is shared, what is really needed from it, and that there is a lack of awareness of each other context. This is what Gadde et al. (2010) mean are indications of lack of adjustments connected to economies of innovation, where information sharing is important in order to understand each other's needs and capabilities.

Carrier A describes themselves as a niche carrier and are chosen due to their dedication and reliability, but perhaps not for their volumes. This could mean that they are working more towards economies of innovation through what Gadde et al. (2010) mean is systemic collaboration. In this type of collaboration, the focus is on coordination of processes and resources rather than economising on scale and scope which is the second phase in economies of innovation. This however does not mean that Carrier A is not trying to economize on scale and scope. They have many customers with similar needs and they still want to fill their vessels with containers. Their focus, as previously stated, can however be interpreted as having more focus on economies of innovation.

Carrier B states that container shipping today can be described as a pushing mechanism where capacity is pushed to the markets, making container shipping a commodity in order to compete on prices and lead times. This has led to bigger ships where the focus has been on maximizing capacity, which is what Gadde et al. (2010) mean is a focus on economising on scale and scope. Carrier B also argues that since contracts are on a one-year basis, it creates a natural focus on price and that the industry is "very transactional". By pushing capacity and focus on price, which several carriers compete on, is what Gadde et al. (2010) say may lead to transaction exchange, as explained earlier.

Characteristics of economies of integration has not explicitly been discussed during interviews, but according to Gadde et al. (2010) it is to coordinate interlinked activities over company borders. Since the carriers' operations are based on PL's forecasts and the specifications and requirements towards delivery conditions etc, it can be argued that characteristics of economies of integration can be identified. Therefore, it can be stated that economies of integration are reached, but there is too little empirical data to identify to what extent. Gadde et al. (2010) mean that actors, such as PL and the carriers, can plan more efficiently when information regarding forecasting and market plans are shared. A summary of collaboration characteristics can be seen in Table 13.

Table 13. Summary of collaboration characteristics.

Economy	Findings	Type of collaboration
Economies of scale, scope, and innovation	One-year contracts encourage competition (PL)	Distributive collaboration Transactional exchange
	Container shipping as a commodity (Carrier B)	Distributive collaboration Transactional exchange
Economies of integration	Operations are based on joint planning (forecasts)	Coordination over company borders
Economies of innovation	Carrier A chosen due to dedication and reliability	Systemic collaboration

6.5 Uncertainties and abilities

Business relationships change and develop over time which create uncertainties for both the buyer and supplier (Ford et al., 1998). The buyer's uncertainties can be lowered by the supplier's abilities, and the buyer's abilities could lower the supplier's uncertainties (if they want to).

As mentioned, the one-year contracts encourage competition and yearly revisions. This is what Ford et al. (1998) mean is one way to lower the buyer's transaction uncertainties by e.g. having a number of parallel suppliers and change more frequently when needed. This however increases the capacity- and transaction uncertainty for the supplier, since they are aware that they can be replaced after the yearly revision (Ford et al., 1998). Some interviewees mean that it is difficult for the carriers to work with improvements during a one-year contract which is also connected to supplier uncertainty.

Carrier A means that due to their high delivery precision, there are rarely any issues with bookings and deliveries. This is one example of how the supplier's problem solving- and transfer ability helps lower uncertainties for the buyer (Ford et al., 1993). However, Carrier A means that the lack of information exchange from LP regarding e.g. changes in volumes create uncertainties for them, since they have to adapt and change activities due to difference in provided volumes compared to what is forecasted. Carrier B also mean that they suffer from changes in volumes compared to what is forecasted. One interviewee thinks that the reasons behind the low-quality forecast provided from LP depends on the use of incorrect information or that the needed information get stuck along the way to the receiver. This, as previously mentioned, creates uncertainties for the supplier, since adaptations have to be made (Ford et al., 1998).

Ford et al. (1993) mean that the development of a business relationship is not linear and is much about coping with different circumstances which vary in aims, expectations and how this is dealt with. In order to overcome uncertainties, Ford et al. (1998) mean that the key is that both the buyer and supplier want to help reduce uncertainties with

their abilities. Ford et al. (1993) also mean that if this is what they want, five components are of importance; learning, investments, adaptations, trust and commitment, and distance.

Carrier A also means that longer contracts could create more stability along the supply chain. If LP would commit to a certain volume over longer time, Carrier A could communicate this to their subcontractors. This would according to Carrier A require commitment, trust and flexibility. One interviewee from Carrier B means that one of the reasons why it is not common with co-investments is that the lengths of the contracts limits this. If co-investments are initiated, it is important that an expected return is achieved. Another interviewee means that it is difficult to develop the relationship and build trust when the contract is on a one-year basis. It is further argued that consistency is one of the most important aspect when dealing with relationships. At the same time, the same interviewee means that it is only so much you can invest in when it comes to port-to-port services. But when it comes to end-to-end solutions, there are many opportunities when it comes to co-investments and cooperation.

Uncertainties are created from e.g. the length of the contracts. This brings up the discussion regarding Carrier B's statement that they believe Volvo is a customer with a long-term mindset since they do not change carriers very often. However, there is a difference with long-term and long-time. If PL has a long-term mindset but still have contracts on one-year basis, it can be discussed whether this is long-term or not. A summary of identified uncertainties is shown in Table 14.

Table 14. Summary of identified uncertainties.

Topic	Findings	Potential effects
Uncertainties	Short-term contracts	Lower buyer's transaction uncertainty Increase suppliers' transaction- and capacity uncertainties
	Difference between actual volumes and forecast	Increase suppliers' capacity uncertainty
Abilities	High delivery precision (Carrier A)	Lower buyer's transaction uncertainty

6.6 Complexity

Complexity arises when a lot of people and departments interact with each other (Gadde & Håkansson, 1993). According to Gadde and Håkansson (1993), extensive relationships are often complex, and this requires coordination of the buying company's operations, which increases the dependency between the buyer and the supplier but also the complexity of personal contact. The buying firm's problems are often interconnected with the supplier's problems, and therefore it is argued by Gadde and Håkansson (1993) that good contact between the buyer and supplier is important.

It is argued by Carrier A that it is difficult to propose new solutions for LP and that the reason behind is that different departments have different incentives and goals. According to Carrier A, alignment between departments on both sides is needed in order to find the most beneficial solution. The best solution for Procurement is not necessarily the most suitable solution from the perspective of Operations. Gadde and Håkansson (1993) argue that business relationships need coordination both internally and externally in order to find beneficial solutions. Carrier A means that the value of some their additional services is difficult to quantify and here, the interaction between different departments, both internally and externally, plays an important role.

A representative from Carrier B argues that it is hard to communicate both information and tenders, since there are many different stakeholders involved within PL. This is what Gadde and Håkansson (1993) mean is one reason why business complexity arises, and that interaction, coordination, and personal contact is of great importance in complex business relationships.

7. Discussion

In this chapter, the major findings from the analysis are discussed. First, the current situation is discussed with its identified possibilities and hinders. Second, a different strategy is discussed on how to potentially capture different possibilities deriving from different relationship approaches. This in order to answer the third research question.

7.1 Current situation: a conservative network strategy

There seem to be a lack of context awareness among PL and the carriers. Regardless of what interface is applied, Araujo et al. (1999) mean that context awareness is one of the most important aspects to consider in any relationship, no matter if it involves high- or low-involvement (Gadde et al., 2010). It has been identified that PL works similarly with carriers with a specified interface characterized by low involvement.

The current situation indicates that PL relies on two different strategies. On the one hand, there is a focus on price. This is manifested in the use of one-year contracts, but also in the use of a traditional purchasing process' which in its own nature creates a natural focus on price (Gadde et al., 2010). These are all factors in line with what Ford et al. (2003) mean encourage competition among suppliers. The purchasing process used today builds, according to Gadde et al. (2010), on assumptions making it suitable to focus on price with standardized tenders. Internal stakeholders, e.g. factories etc., have their wishes on specific specifications and requirements. Several departments, e.g. SM and Packaging, collect and adjust these wishes in order to fit systems, quality requirements, and lead times the carriers can provide etc. These specifications and requirements are then sent to purchasers who start the negotiation with a potential carrier. The standardized tenders give no room for suppliers to integrate their unique capabilities or resources in the offering, which Gadde et al. (2010) mean is one challenge with this traditional purchasing process.

However, as stated, it is only so much you can do when it comes to port-to-port services since it according to Carrier B can be seen as a commodity. It can be argued if you really need to consider the carrier's input for such a tender. With this said, there are however indications that actors in the container industry are transforming towards more advanced solutions. Carrier A, being a niche carrier with solutions beyond container shipping port-to-port, and Carrier B who are in a transformation towards end-to-end solutions could mean that the industry will look different in a near future. This would require increased interaction, coordination of activities, long term contracts and a higher involvement compared to the situation today. Therefore, PL needs to be aware of these changes and re-evaluate the current sourcing process if it is suitable when evaluating more advanced offerings than those sourced today.

On the other hand, the most prominent interface in the relationships between LP and the carriers is the specified interface, which means that the carriers have to comply with specifications decided by PL. The adaptation to e.g. PL's systems requires high involvement and effort from the carriers. This system, for example, could be seen as a barrier for other potential carriers, and therefore the competition among the carriers is not used to its full potential. It is also stated in the interviews, from both LP and the carriers, that changing from one carrier to another is a big apparatus. The fact that

carriers are having long-time relationships can be seen as a result of this. The need of adaptation and commitment from carriers, e.g. system integration, specifications and requirements, can be seen as a barrier for those who are not yet a carrier. Therefore, the selection of carriers is limited to those who already have complied with the requirements. This is illustrated in Figure 16 below. Again, this limits LP in its potential ambition to exploit the market mechanisms connected to competition.

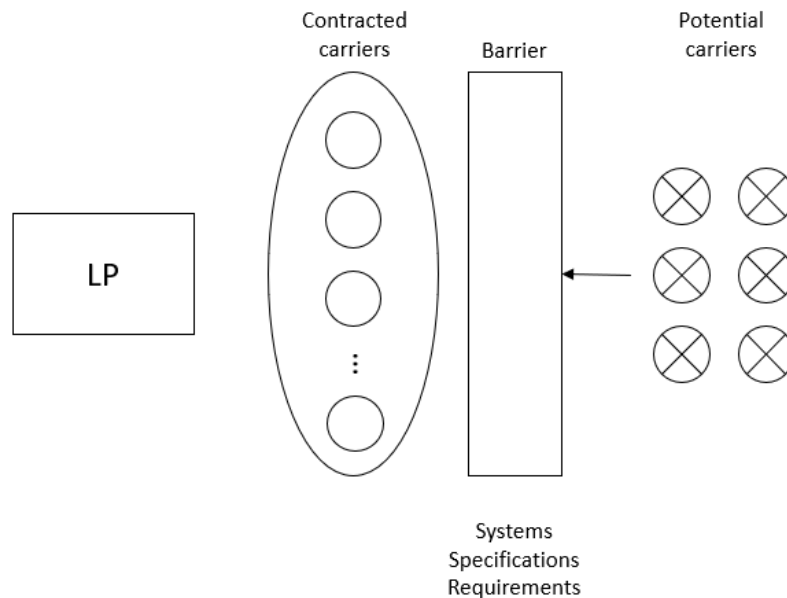


Figure 16. The need of adaptations, such as system integration, specifications and requirements as a barrier for potential carriers.

The specified interface limits the carriers in terms of productivity (Araujo et al. 1999), which ultimately could affect the price offered to LP. The reason behind this is that the carriers need to adapt to how PL wants to operate and perform activities, where the carriers have limited possibilities to influence. Both Carrier A and Carrier B try to share best practices and alternative ways of working but with limited success, since PL decides what and how activities are to be executed. Carrier B does however mean that some specifications and requirements are adjustable, such as the use of equipment. This is an example of how the translation interface could work, where Araujo et al. (1999) argue that directions are given from the customer based on functionality, in what van Weele (2014) mean is functional specifications. This means that some specifications and requirements are changeable and influenced by the carrier, but not radically due to the lack of context awareness. The specified interface also limits the direct and indirect learning effects for the carrier (Araujo et al., 1999), this since it could be difficult to apply the knowledge gained from experiences with other customers directly to PL. For the carriers, this mean that the development of their own resources may suffer (Araujo et al., 1999).

As stated by Gadde et al. (2010), a traditional purchasing model creates a natural focus on price. Therefore, it is important to create possibilities for stakeholders and departments to give input for desired output. From what has been found from the internal interviews, several departments are involved and give input. This indicates that a wider scope is taken into consideration. The deciding factors for carrier nomination are price, lead time and quality. How these are prioritized varies among the

interviewees. However, several interviewees say that price is commonly the deciding factor. The reconsideration of “ultimate performance”, where other aspects than only the price is considered, can to some extent be argued for in LP’s sourcing process. The fact that SM and IM Logistics are part of setting specifications and requirements towards carriers is an indication of this. There are interviewees who mean that some underperforming carriers are currently contracted probably due to that they have a lower price. It can be questioned if the nature of the purchasing process has bigger influence over the wider scope considered when contracting a carrier. One reason to this could be connected that negotiations have gone from a supply chain perspective to a procurement perspective, and that they have different incentives connected to the purchase.

As stated by the interviewees, it is common with long-term relationships since the carriers are often contracted again. However, there are differences between having a long-term relationship and a long-time relationship. Even if a carrier gets contracted again, it does not necessarily mean that the relationship is long-term. Due to the short-term contracts used today, the relationships are rather considered long-time, see Figure 17 below. It could be argued that the yearly revisions are performed in order to decrease PL’s uncertainties connected to performance, cost, and price, which is in line with what Ford et al. (1998) mean reduce transaction uncertainties. Ford et al. (1998) state that this could either be approached by the use of several parallel carriers and change more frequently or develop few relationships with the aim to continuously improve the carriers’ offering. It has been identified that PL use several carriers, creating the possibility to change more often. This, however, creates uncertainties for the supplier (Ford et al., 1998).

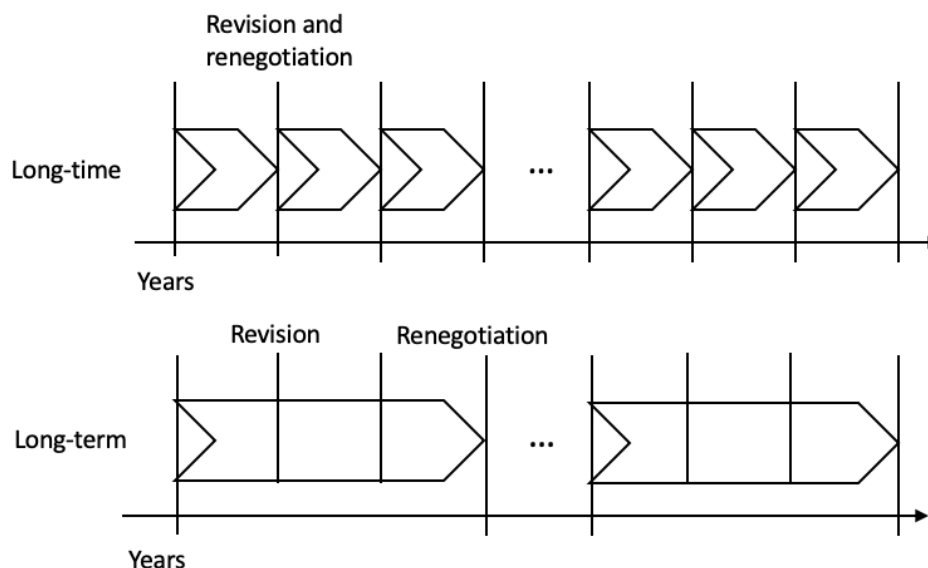


Figure 17. Difference between long-lasting and long-term relationships.

It is argued by Carrier B that the renegotiation processes each year is time consuming, and the administrative time it takes could instead be put on working with quality- or sustainability issues. This process is not only driving costs for those who reply to the RFIs and RFQs every year. Gadde et al. (2010) argue that it also induces costs for the buyer, in this case PL. This since administrative time from all involved departments has to be put on carriers who do not qualify for the short-list. PL has to decide whether this

investment in time and effort is worth the uncertainties it create for the carriers, as well as the costs it induces for the work connected to it. Longer contracts could lead to reduced uncertainties for both PL and the carriers. There are also indications that it could create incentives to co-invest in improvements connected to operations and sustainability. Improvements like these could mean that PL could challenge the suppliers in order to improve the current offerings.

A yearly revision would still be suitable, but instead of seeking price benefits from switching carrier, focus should rather be put on areas that could improve. From the perspective of several interviewees, this could create stability and continuity within the supply chain, but also create a better environment for building strong relationships where trust and commitment is important (Ford et al., 1998). This would however require a higher level of involvement, resulting in increased relationship handling costs (Ford et al., 2003).

There are indications from both PL and the carriers that there sometimes is a lack of understanding why specific specifications and requirements are used, and that some specifications and requirements are not always motivated. These specifications and requirement should be identified and questioned since these affect the carriers and potentially bring additional costs and could limit the carriers' operational efficiency.

From what could be found from the interviews conducted with Carrier A and Carrier B, they both try to share best practices and alternatives way of working, but this is met with some resistance due to the fact that LP decides what and how activities are to be executed. It is further argued by Carrier B that to some extent, some specifications and requirements are changeable, e.g. the use of equipment. This is an example of how the translation interface could work, meaning that some specifications and requirements are changeable and influenced by the carrier, but due to the fact that there is a lack of customer context awareness, it is not possible to innovate radically.

As stated, the relationship with the two carriers is characterized by low-involvement where PL use the Purchasing process to reach efficiency and effectiveness through market exchange. This is what Gadde et al. (2010) mean is having a conservative network strategy where economies of scale are reached. But since there are indications that carriers could provide additional value if they were involved earlier in the purchasing process or understood the context of PL as a customer better, other potential benefits could be reached.

7.2 Alternative approach: a liberal network strategy

A buyer like LP could work differently with different suppliers, and therefore have different interfaces. In the case of LP, it has been stated that they work similar with all carriers, which could mean that opportunities could be missed or that the specified interface is not the most beneficial. An alternative approach towards PL's carriers would be to have a different network strategy, which could invite PL to access carriers' unique solutions and capabilities in different ways. This could be done through the liberal network strategy (Gadde et al., 2010). This means that Carrier A, who economize through innovation, and Carrier B, who economize through scale and scope, would have different interface approaches. Different interfaces require different levels of involvement which affect the buyers' and the suppliers' uncertainties positively

and negatively but do also affect how the collaborations look like and what economies are reached. All concepts connected to relationship seem interconnected. Changing an aspect in one end will have consequences in another. Therefore, a segmentation of the carriers would be required, with the aim to create a clear internal focus on how to combine resources and configure activities in the most efficient way. This to determine the most appropriate interface depending on whether the carrier requires high- or low involvement (Gadde et al., 2010).

7.2.1 Identifying benefits from low involvement

Given the situation, it has been identified that neither PL nor the carriers have enough context awareness of each other in order to beneficially access external resources from the current relationships. Regardless what the main focus is for LP, they need to get a better understanding of the carriers' contexts and what the carriers could bring to LP. It would be possible to increase the focus on price if this is wishful, this by having more standardized specifications and requirements that are easier for the carrier to comply with. From the carriers' perspectives, less adaptations to PL's systems and requirements could increase their cost benefits connected to economies of scale and scope. This could ultimately affect the price, and investments in the relationship and the relationship handling costs would be kept minimal. Since the specified interface used today requires a lot of adaptations from the carriers, these can be seen as barriers for carriers who are not yet a supplier for LP. Lowering the barriers could create possibilities for other carriers to enter the purchasing process, which was previously illustrated in Figure 7.1. This could result in an increased number of potential carriers, and the competition among these would be increased. With more standardized specifications and requirements, the carriers could potentially increase their productivity due to a reduced need of adaptation. This could affect the final price. As mentioned by several interviewees from both PL and the carriers, it is a huge apparatus today. However, more standardized specifications and requirements would increase the indirect cost for LP (Araujo et al., 1999), this due to a higher degree of adaptation for LP and cost connected to this. The indirect costs have to be considered since these are often bigger than the direct costs (Gadde et al., 2010). A low-level involvement relationship could bring several benefits and consequences, but also requirements, these are presented in Table 15 below.

In order to find out if this would be suitable for LP, it would require a better understanding and context awareness of how this would affect LP and the carriers. It would require LP to find which carrier(s) this interface would be suitable for. Also, it would require LP to identify which specifications and requirements that is crucial for them, since these will have to be modified if using the standardized interface. Again, an internal revision of the current specifications and requirement would be one action for this.

Table 15. A summary of possibilities and consequences with a low-involvement relationship.

What?	How/why?
Increased price focus	Lower barriers in order to increase competition
Relationship cost kept low	No need of extensive carrier interaction (Ford et al., 2003; Gadde et al., 2010)
Increased indirect costs	Less customer oriented, creating costs elsewhere (Araujo et al., 1999; Gadde et al., 2010)
Increase understanding of unique capabilities and resources at the carriers (Araujo et al., 1999)	Find carriers suitable for low-involvement relationships

7.2.2 Identifying benefits from high involvement

Another approach would be to have more joint activities and set specifications and requirements together and increase the use of best practices from both LP and the carriers into the specifications and requirements. This would mean that the specified interface today used would instead be changed to a translation- or an interactive interface. The translation interface is not as extensive as the interactive interface, but the carriers would still have the possibility to influence specifications and requirement to some extent, but not radically. The fact that this interface focuses on the functionality that is required means that the carriers would have a higher degree of freedom to perform the operations compared to the specified interface. With a higher degree of freedom, it could create possibilities for the carriers to influence with their best practices and the use of their unique capabilities and resources to a greater extent. Ultimately, this could result in other solutions that could improve the productivity and quality for both LP's and the carriers (Araujo et al., 1999) As an example, Carrier A argues that with increased degree of information sharing between them and LP, they would be able to create solutions that could affect the flexibility and rates positively. From what can be found from the interviewees from both carriers, it seems to be a will of sharing best practices to a greater extent than today and therefore it can be argued that the carriers are ready to commit to that higher involvement it would require.

An interface that allows the use of best practices, innovation, and the influence from carriers that concerns specifications and requirements would require a higher context awareness of the other party. This kind of interfaces would require high involvement from both parties and an increased interaction between them. Since the current contracts are on a one-year basis, the carriers mean that there is lack of incentives to work with improvements. This would probably have to be changed with an interface that requires a higher level of involvement. Longer contracts would create incentives for the carrier to be more involved with LP and work with improvements that impact not only in the short term, but in the long term as well. As a result, from the increased commitment needed, LP would have increased possibilities to work with the carriers even more when it comes to improvements over time. Yearly revision would still be

possible and suitable, but it would concern improvements within the existing relationship rather than seeking for alternative carriers. The suppliers' capacity- and transaction uncertainties could be reduced through a longer commitment on volumes, but also application uncertainties to some extent if PL and the carriers work together when creating the solutions. This could ultimately impact the price offered by the carriers positively (Ford et al., 1998). With the reduced uncertainties for the suppliers, their problem solving- and transfer ability could help PL to reduce their need-, market-, and transaction uncertainty. Working jointly in the creation of the specifications and requirements could impact both the carriers and LP and the total cost could be reduced.

However, with increased involvement with a specific carrier LP would be more "locked in" and changing from one supplier to another could therefore be more difficult. There would be less focus on the actual price paid, and increased focus on the indirect costs and a wider scope has to be considered. Increased involvement and more extensive relationships come with additional relationship costs, both relationships investment cost and relationship handling costs (Gadde et al., 2010; Ford et al., 2003). It is important for LP to be aware of these costs and be clear on what is expected from the increased interaction and involvement in terms of desired output. In addition, it would increase the relationship complexity and the communication and personal contact would be of greatest importance (Gadde & Håkansson, 1993). A relationship with a high level of involvement could bring several benefits and consequences. These are presented in Table 16 below.

Table 16. A summary of possibilities and consequences from a high involvement relationship.

What?	How/why?
Increased focus on long term optimization	Longer contracts and higher level of involvement (Ford et al., 2003)
Reduce total cost	Working jointly with creation of specifications and requirements (Gadde et al., 2010)
Jointly developed specifications and requirements	Need of increased context awareness in order to create beneficial solutions (Araujo et al., 1999)
Find carriers suitable for higher level of involvement relationships	Increase understanding of unique capabilities and resources at the carriers (Araujo et al., 1999)

7.2.3 Benefits from the combination of high and low involvement

As mentioned, different interfaces could be used for different relationship and serve different purposes. As described earlier, LP works the same with all carriers but a potential scenario for LP could be to work differently with different carriers. If LP would increase their awareness of the different carriers' unique capabilities, resources and strengths, a segmentation among these would be possible. Some carriers could be more suitable for high-involvement relationships with increased interaction and where specifications and requirements could be jointly developed. This could be carriers that

are not only focusing on economies of scale and scope and the cost benefits that follows, but rather economies of innovation and integration. This would mean that their unique capabilities and strengths could be more efficiently used, which could improve the overall quality of the offering and reduce the total costs. Other carriers are probably more suitable for low-involvement relationships where focus is put on optimizing each transaction and where the carriers' strengths are in their abilities to benefits from economies of scale and scope. This kind of relationship requires less investments related to relationship and the relationship handling cost are kept lower compared to the high-involvement relationships. With the combination of different types of relationships, the unique capabilities and resources from each carrier will more efficiently be used. With a mix of several interfaces, and therefore also a mix of high- and low-involvement relationships, LP could reach the benefits from both types. In Table 17 below, different possibilities for each level of involvement are presented.

Table 17. A summary of different possibilities with different level of involvement.

Possibilities	Level of involvement
Increased price focus	Low involvement
Relationship cost kept low	Low involvement
Increased indirect costs	Low involvement
Find crucial specifications and requirements reduce the number	Low involvement
Increased focus on long term optimization	High involvement
Reduce total cost	High involvement
Increased interaction with carriers	High involvement
Jointly developed specifications and requirements in order to create mutually beneficial solutions.	High involvement
Find carriers suitable for each type of relationship	High/low involvement

When finding the most suitable interface, it has to be done together with the carrier in order to find strengths and capabilities for the specific carriers. This would require LP to carefully consider which carriers that are most suitable for what type of interface and level of involvement. Some carriers may have their major strengths connected to their capacity and the economies of scale that could be reach. In those cases, a standardized interface and a transactional relationship may be suitable. In other cases, where a carrier has its strengths in the economies of innovation or integration, a higher level of involvement may be suitable. In those relationships, more joint effort could be placed on operational improvements and work on potential issues connected to quality and sustainability. Due to the long-term contracts these relationships require, uncertainties at both the carrier and LP could be reduced and incentives for this created. It's the combination and balance between several interfaces and types of

relationships that creates value and makes the access to external resources efficient, in what Gadde et al (2010) mean come from a liberal network strategy.

7.3 An industry facing changes

As identified from the background, the shipping industry face major changes due to IMO 2020. It will have a big impact on the shipping industry and the costs for the carriers will inevitably increase. This type of regulation is however necessary in order to lower sulphur emissions from ships in order to reach a more sustainable industry as well as future. It is of importance that the carriers address the changes necessary in order to comply with the sulphur emission regulation. Depending on how the carriers economize, the carriers' unique capabilities and resources should be put on meeting the regulation in the best way possible. For carriers who economize through innovation, their capabilities and resources should be put on finding solutions connected to e.g. mutual adjustments and adaptations of activities, specifications and requirements in order to make operations as efficient as possible. For carriers who economize through scale and scope, their capabilities and resources should be put on e.g. maximizing capacity and optimize the routing to be as efficient as possible. For the customers, they have to adapt to how the carriers choose to address the changes connected to the regulation and be prepared to face the increased costs it brings. Customers should also make sure that the carriers' vessels comply with the new sulphur limits, as it could be argued that they as a customer are responsible for choosing sustainable carriers. Depending on what kind of collaboration the carriers strive for, different types of relationships and collaborations have to be considered in order to create a beneficial and sustainable business for the buyers, the suppliers, and the future.

8. Conclusion

In this chapter, the findings for each research questions are summarized and presented as conclusions. The research questions are stated and followed by the answers provided from the findings in the thesis. RQ 2 is divided into four sub-research questions, and therefore answered separately.

RQ1: How are specifications and requirements set in LP's sourcing process?

It is concluded that the sourcing process used by LP has similarities with a traditional purchasing model, where the specifications and requirements are set in the first two phases, Prepare phase and Tender & review phase. The internal stakeholders communicate their wishes to different departments, which provide input and adaptations, setting the specifications and requirements toward the carriers for a specific trade. This is then communicated to the Purchasers who bring this with them for the Negotiate & award phase.

RQ2: What are the characteristics in the relationship between LP and the two carriers?

The conclusions regarding level of involvement, interfaces, collaborations, and uncertainties are separately presented below.

a) What is the level of involvement?

What have been identified through the analysis regarding the level of involvement, the experiences among the interviewees from LP are to some extent different. This can partly be explained by the fact that different interviewees have different roles and responsibilities.

From the analysis of LP and their relationship involvement with Carrier A and Carrier B, the relationships can to a high degree be described as the same. LP, Carrier A and Carrier B all describe the relationship as transactional, and that the adaptations are mostly one sided, meaning that the carriers are adapting to LP's specifications and requirements rather than the opposite. It is also argued by all three parties that the information sharing could be improved and increased, meaning that it probably exists more information that could be valuable for the other parties. However, this information is not shared and all three parties' state that they are not aware of what kind of information the other party would like. This is a result of the lack of context awareness. From the analysis, characteristics of low-involvement relationships have been identified to greater extent than characteristics of high-involvement relationships between LP and the carriers. Therefore, it is concluded that both relationships are low-involvement relationships.

b) What interface(s) are identified?

Several characteristics of different interfaces have been found during the analysis. A majority of the interviewees from PL argues that it is PL that decides the specifications and requirements towards the carrier, rather than the opposite. This is in line with what both Carrier A and Carrier B describe. Characteristics from the translation interface

have been found in both relationships. Both Carrier A and Carrier B mean that they to some extent can propose other solutions that could be beneficial for both the carrier and LP. However, since some of the specifications and requirements cannot be influenced by LP, e.g. lead time, it can be argued that LP adapts to the carriers' standardized solutions in order to benefit from the carriers' large-scale operations, which is in line with the characteristics of the standardized interface.

Characteristics of the standardized- and translation interface are not as prominent as the characteristics for the specified interface. The lack of context awareness, how specifications and requirements are decided, and the carriers' limited possibilities to influence the specifications are all characteristics of the specified interface. Therefore, it is concluded that the most prominent interface is the specified interface in both relationships.

c) What type of collaborations exist?

When the collaborations between the LP and the two carriers have been analysed, differences have been identified. From what can be found from LP, the collaborations are transactional. The traditional purchasing approach identified in combination with the one-year contracts creates a natural focus on price and it is an indication of that the collaborations are transactional. It is argued that the one-year contracts create possibilities for revision of the contract, but it does also force the carriers to yearly compete for the contracts. This is similar to the first phase of the systemic collaboration, the transactional exchange, where focus is on price, volumes and margins. However, it is not inevitable to connect the use of the carriers and their large-scale operations to the distributive collaboration, where the main goal is to gather several customers' needs in order to benefit from economies of scale and scope.

Carrier A means that LP does not contract them for the major volumes, rather for reliability and dedication. This is indicating that Carrier A is focusing less on the price, volumes and margins, but instead on coordination of processes, resources and the logistic performance. It can be argued that Carrier A strive for another type of collaboration that stretches beyond the first phase of the systemic collaboration, meaning a higher involvement and increased focus on combining resources and capabilities in order to create beneficial solutions.

From what can be identified from the analysis of Carrier B, it is in line with what LP describes. Carrier B is pushing their capacity onto the market, trying to maximize the capacity of their vessels in order to benefit from economies of scale. It is also argued that they compete on price, which is different in comparison with Carrier A. The focus on volumes, prices and margins are well in line with the first phase of economies of innovation.

The collaborations that are mainly identified are either distributive collaboration and economies of scale and scope, or systemic collaboration and economies of innovation. The focus on volumes and price are less in the case of LP and Carrier A compared to the case of LP and Carrier B. In conclusion, the relationship between LP and Carrier A is more characterized by a systemic collaboration with economies of innovation, this due to that focus is not on price, but rather on logistics performance and reliability. In the case of Carrier B, the relationship is characterized by distributive collaboration with

economies of scale and scope, and the first phase of economies of innovation, this due to the fact that the focus is put on price, margins and volumes.

d) What uncertainties are identified?

From the analysis, several uncertainties have been identified among LP and its carriers. In the analysis of LP, it can be found that each year, competition among the carriers takes place. From LP's perspective, this can be seen as an action to decrease their transaction uncertainties connected to price and quality. In contrast, this creates an insecure environment for the carriers and supplier uncertainties occur. Due to the length of the contracts and the uncertainties this creates, it is difficult to work with extensive improvement programs together.

What can be found from the analysis of Carrier A and Carrier B, there is a lack of information from LP that regards change in volumes, but also that they are provided with low quality forecasts. This is described as problematic by both carriers, and it can be argued that it creates supplier uncertainties. Also, since no longer commitment exist from LP, it limits the carriers in what they can communicate to their subcontractors.

It is concluded that transaction uncertainties exist on LP's side, which are counteracted by the use of several carriers and one-year contracts. This however creates uncertainties for the carriers instead. Capacity- and transaction uncertainties exist for both carriers which is connected to the use of short-term contract and the lack of information from LP.

RQ 3: Based on the answers to RQ 1 and RQ 2, what are the identified possibilities and hinders?

From what have been found from the analysis and discussion, it is concluded that PL has a conservative network strategy. This results in low-involvement relationships where competition among the carriers is encouraged in order to reach benefits in terms of price.

It is concluded that there is a lack of context awareness between PL and the carriers, which limits the possibilities to lower costs by challenging the specifications and requirements. In order to find what specifications to challenge and how to challenge them, the context awareness has to be increased. With increased context awareness, resources and capabilities from both the supplier and the customer can be identified, and specifications and requirements could be designed accordingly. It has also been identified that there is a lack of information sharing between LP and the carriers. With an increased context awareness and a higher degree of information sharing, this could impact how specifications and requirements are set, but also other identified issues, such as forecasting.

With the low-involvement relationships, the traditional purchasing model and the findings from the interviews, it is concluded that PL has a price-oriented approach. However, the specified interface limits the possibilities to push the prices. Some specifications and requirements can be considered as barriers for other potential carriers. If the specifications and requirements would be more standardized, more carriers could be involved which in the end would encourage competition even more.

Also, with more standardized specifications and requirements, the carriers could be able to increase their productivity, which ultimately could affect the price.

It is stated that negotiations have gone from an operational level to a procurement level, and this makes it difficult to get a holistic view. This since Operations often have incentives connected to operational optimization while Procurement often has incentives connected to direct costs. These incentives have to be aligned in order to reach the overall goals of the organization. Therefore, it can be argued that information sharing between departments in a complex supply chain is of importance. From what have been found from the analysis and the interviews, an alignment of the incentives could be improved by increasing the understanding between different departments and stakeholders. It has been found that some specifications and requirements are unmotivated and used because they have been used before. An internal revision of the currently used specifications and requirements could possibly lead to a reduced number of specifications and requirements, but also making these more standardized. This could increase the carriers' operational efficiency since less adaptations are required, which ultimately could decrease both direct- and indirect costs.

A potential scenario would be to apply a liberal network strategy. This would mean that PL would not treat all carriers the same and have a combination of high- and low-involvement relationships, where benefits from both types of relationships could be reached. The liberal network strategy would allow PL to make use of their carriers' strengths and capabilities more efficiently. Some carriers are more suitable for low-involvement relationships where benefits from economies of scale and scope is their biggest advantage, while other carriers have their strengths connected to economies of innovation or integration. This requires long-term relationships and long-term contracts. By treating carriers differently depending on their resources, capabilities and needs, uncertainties could be reduced for both the carriers and PL, which could impact on the actual price and total cost.

The liberal network strategy would require different interfaces with different carriers. The low involvement relationships would require a standardized- or specified interface in order to benefit from economies of scale and scope, while long term relationships would require a translation- or interactive interface in order to benefit from economies of innovation or integration. It is of greatest importance for PL to find out which carrier that is more suitable for one type of relationship rather than another. In order to find out, again, the context awareness needs to be increased.

9. Recommendations

In this chapter, recommendations and possible future investigations are presented.

9.1 Revision of specification and requirements with joint workshops

From the analysis it has been found that there is a perceived price focus, that specification and requirements tend to be reused since these have been used before, but also that there is a lack of context awareness. These findings can be considered as hinders when trying to reduce total costs by challenging specifications and requirements. When having a perceived price focus, the holistic perspective is affected, and the scope is limited to some extent. Since specifications and requirements are reused just because these have been used before, it indicates that there is a potential in finding cost driving specifications and requirements that are not necessary at all or can be revised. Lastly, that there is a lack of context awareness from both the carriers' side as well as from LP's side result in that LP is not utilizing the external resources to their full potential. If knowing the carriers' potentials and abilities even better, solutions that is more beneficial for all parties can be created. For example, specifications and requirement can be challenged, developed and improved to decrease the total costs.

A recommendation is to have a revision of the currently used specifications and requirements. This revision would aim to find *what* specific specification and requirements that are used, but also to answer the question *why* specific specifications or requirements are used. The recommendation is to perform this revision in three different steps. These steps are presented below.

Each stakeholder independently

It is important for each stakeholder to be aware of what specific specifications and requirements that they are using, but also why they are using those specific specifications and requirements. Therefore, during this revision the stakeholder that set the specifications and requirements should independently ask themselves the question *what* and *why*. This will make each stakeholder aware of what specifications that they use, what they need as well as why they need those.

Stakeholders together

The same exercise should be performed between the involved stakeholders that set specifications and requirements and again, ask themselves the question *what* and *why*. The reason why this should be performed together with other stakeholders is that it will create a better understanding of what the other departments need, but also why certain specifications and requirements are used. This could also mean that other opinions and ways of working with specifications and requirements could be found, since others perspectives are taken into consideration. Also, how certain specifications and requirements could impact other stakeholders' operations.

Stakeholders together with carriers

The last step of this revision is to do the same exercise together with the carriers. This is of importance since the specifications and requirements decided by LP impact on how the carriers can operate. When doing this revision jointly with the carriers, the perspective is widened even more and is stretching beyond the company borders. It would create an understanding of how specific specifications and requirements impact the carriers but would also create an opportunity for the carriers to challenge the specifications and requirements as well as sharing their perspective, expertise and best practices.

One suitable method for this revision of specifications and requirements would be to have workshops for the three steps. An internal revision of specifications and requirements with the use of workshops would be suitable from two different aspects when trying to reduce the total costs. Firstly, the specifications and requirements would be challenged in three different steps, with different stakeholders involved and their perspectives. This could result in that unmotivated specifications are identified and revised or removed, which ultimately can impact the total cost. Secondly, it would increase the context awareness internally as well as externally. Increasing the context awareness and know what the carriers are able to do could create possibilities in finding more beneficial solutions for LP as well as for the carriers. Better solutions and efficient use of external resources could impact on the total cost.

9.2 Investigate the potential of a liberal network approach

Another recommendation is to shift from the conservative network strategy currently used to a liberal network strategy. A liberal network strategy would benefit from the carrier's unique capabilities and resources. Carriers who economize on innovation require a more extensive collaboration in order to gain potential benefits, and carriers who economize on scale and scope benefit from having a more transactional collaboration, where market exchange is exploited/used. In order to benefit from a liberal network strategy which involves both high- and low-involvement relationships, an alternative view on purchasing is also required. This would mean that in order to reach the benefits from a more extensive collaboration, other aspects than only price has to be considered to an even higher degree. As concluded, Carrier A, who economize on innovation do not compete on price to the same extent as Carrier B, who economize on scale and scope. If actors such as Carrier A goes through the same sourcing process with actors such as Carrier B, these have to be evaluated on the total cost associated with the service rather than focusing on the direct cost, i.e. price. If the liberal network strategy is applied, it would also require a segmentation of the current and potentially new carriers based on their unique capabilities and resources. This requires an increased context awareness of each other's businesses and operations. As concluded, this is however not the case today, which means that the workshops recommended in the previous chapter is a good starting point. The liberal network strategy would also require a different way of working with carriers. The more extensive collaborations would require more time and effort in aligning activities, thus increasing the handling costs towards the carriers. But as stated, if the carriers' resources and abilities are more efficiently utilized, this could decrease the total costs. The liberal network strategy could potentially be a beneficial strategy for PL in terms of accessing external resources efficiently. However, this area needs further investigation.

As concluded, the relationships are commonly on a transactional basis. With the need for more sustainable solutions in order to reduce sulphur emissions from ships due to IMO2020, it can be argued that the customers have to take their responsibility and support the carriers which have to comply with these emission regulations. PL is dependent on the resources that the carriers have, and therefore it should be in PL's interest to make sure that the carriers can survive the already pressured industry environment the carriers are facing. When having pure transactional relationship, the collaboration is focusing on best price rather than finding solutions beneficial for both parties. In a transactional relationship, one parties gains is a loss for another. It is of importance that a customer, in this case LP, sees the sulphur emission regulation as something valuable for the environment and not only as something that increases prices for shipping services. With the identified possibilities and hinders in research question three, a liberal network strategy is one strategy to consider. When trying to mitigate total cost in an already price- and margin pressured industry, there might be an increased need for the mix of different types of relationships with varying level of involvement and different interfaces. This to be able to benefit from existing capabilities and resources more efficiently, making business at sea more sustainable in the future.

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Appendix A

1. Presentation of ourselves and the thesis
2. Tell us about yourself and your role
 - a. How does a typical day look like?
 - b. How does a typical day look like when you work with the sourcing process?
 - c. What is your role during the sourcing process?
 - d. Who is in charge?
3. What are your incentives when working with the sourcing process?
4. What is the best possible outcome?
5. How much external contact do you have in your daily work?
 - a. Are you involved with the carriers after the sourcing process is finished?
 - b. If yes, what type of contact and regarding what?
6. From your perspective, how would you describe the relationship with the carriers?
 - a. Comparing Carrier A and Carrier B, is it different?
7. Is the contact informative or is it like a forum for discussion?
8. Is there any time you take the carriers' perspective?
9. Are there room for the carriers to provide input regarding e.g. activities to be performed?
10. How does it work when you set your specifications and requirements?
 - a. Are spec & req set depending on technical terms or functional terms?
 - b. What kind of spec & req are there?
 - c. Are the carriers involved when setting these? To what extent and what way?
11. Are all carriers treated the same during the sourcing process?
12. How does the "horizon" look like when spec & req are set? Are up- or downstream considered?
13. Would you say that the directions for how operations are going to be done is set by you or by the carriers?
 - a. Is it in cooperation with the carriers?
 - b. If so, to what extent do you share your knowledge and expertise?
 - c. If you, would you say that you know enough about the carriers to know what the impact would be?
 - d. If you, do you consider the carrier context when setting the specifications and requirements?
 - e. If you, would you say that you are involved and interested in how the carriers develop their resources?
14. Do you try to optimize the price, or do you try to find solutions together with the carriers that impact the indirect costs as well?
 - a. If so, how?
15. Do the carriers adapt to you or vice versa?
16. Are there any joint developments when finding a suitable solution?
17. To what extent do the carriers propose alternative solutions?

Appendix B

External interviews

1. Presentation about ourselves and our thesis
2. Presentation of carrier and his/her role connected to Volvo

Character of current customer relationships (with Volvo and how it compares to other customer relationships)

3. Describe how you experience the relationship to Volvo
 - a. Close relationship or arm's length? Why?
4. To what extent do you have contact with Volvo?
5. In what type of situations do you have contact with Volvo?
6. Describe the communication that you have with Volvo
 - a. Reactive?
 - b. Proactive?
7. What kind of information do you get from Volvo today?
 - a. What kind of information would you like to have?
 - b. Do you experience that you get the information that you need in order to operate efficiently?
8. What kind of information do you share with Volvo as a customer?
 - a. Do you believe that you have information that would be useful for Volvo, but for some reason is not communicated?
 - b. Why do you think this information is not shared?
9. When you are facing an issue, do you have informative meetings or forums where you can discuss and elaborate potential solutions?
10. To what extent do you solve problems together?
11. Would you say that you are setting the specifications and requirements or Volvo?
 - a. Do Volvo adapt to your offerings or vice versa?
 - b. Is there a joint development when setting the specifications and requirements?
12. Do you experience that your input is considered by Volvo when setting the specifications and requirements?
13. Do you consider the input from Volvo when setting up a solution?
 - a. Why/Why not?

Opportunities for (co)development in relation to the customer relationship with Volvo

14. Do you find it reasonable with increased cooperation and co-development?
 - a. What would that mean?
 - b. In what areas would you like to see an increased cooperation between you and Volvo?
15. What are the biggest hindrances for increased co-development and cooperation?

Challenges in/with the current customer relationship with Volvo

16. What is the most difficult when working with Volvo?

17. What is your opinion about how the contracts are designed today?
 - a. What are the possibilities?
 - b. What are the hinders?
 - c. If different, what opportunities would be created?
18. The specifications and requirements are set by Volvo, which are the most difficult to fulfil?
 - a. To what extent do you work together when setting in setting these up together?
19. Do you see any difficulties in how Volvo work in their sourcing today?
 - a. How could these difficulties be mitigated by Volvo?
 - b. How do you communicate this today?
20. Do you work differently with Volvo compared to other customers?
 - a. To what extent do you share your expertise and best practices?
21. Do you think that you have better arrangement with other customers that both you and Volvo could benefit from?
 - a. To what extent do you propose new solution?
 - b. Are you taking the customer perspective, trying to learn and create offerings according to their context?
 - c. How do you communicate this?
 - d. Is there a formal process to follow to have this kind of discussions?
 - e. Do you experience that Volvo is listening to you and considers your suggestions?
 - f. Would you say that you know enough about Volvo as a customer to create new solutions that would benefit both parts (in terms of spec & req)?
 - g. Would you say that Volvo is interested in the development in how you use your resources? How?
 - h. What kind of feedback from Volvo do you get?

The historical development of the shipping business in general and the business with Volvo from your point of view

22. How has the shipping business changed over time?

Your current offerings

23. What would you say is the most important for the customer?
 - a. How do you receive that?
 - b. Same for all customers?
 - c. Has this been changing over time?
 - d. What do you experience as the most important for Volvo?