



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Interorganizational management in the service sector

*A case study of how freight organizations manage interorganizational
relationships*

Master Thesis in Accounting

Supervisor: Baldvinsdottir, Gudrun

Author: Filipsson, Robert and Tahir, Naeem

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Abstract

This study seeks to investigate how the service sector functions in the context of interorganizational management. Researchers in the field of interorganizational management and supply management argue that there is a gap in the literature concerning how organizations manage services regarding methods and techniques in an interorganizational setting. There have also been shown that the service industry lacks in many regards concerning performance relative to the manufacturing sector due to the absence of established best practice methods and techniques. Hence, it is argued there is a need to fill this gap. In the manufacturing sector, there have been a considerable amount of research concerning interorganizational cost management (IOCM) techniques, which have shown to be efficient to reduce costs and improve quality. It has also been suggested that interorganizational cost management techniques are heavily dictated by three characteristics – relationship, component, and transactional characteristics. Though there is no evidence of this in the service sector and it is unknown whether these techniques even are suitable in the service sector and what dictates the usage of them. Furthermore, a suitable arena to study IOCM in the service sector is the freight industry. In this particular industry, third party logistics providers (3PL) are recognized to procure external services to carry out freights. Thus, the study aims to answer in what way does the IOCM characteristics dictate the way how 3PL organizations manage their outsourced services and what role has IOCM in these relationships?

To answer the research question, three 3PL organizations have been investigated by interviews and analysed through the notions of IOCM characteristics and transactional cost economics. Ultimately the findings suggest that the characteristic that dictates whether IOCM can be utilized in the manufacturing sector is usually recognized to carry the same effect in the service sector. However, there are exceptions. Interestingly we found that non-complex services sometimes are carried out as if they were complex. This is sometimes the case when an outsourcer manages a service for an important customer. Hence, the use of IOCM can be more flexible in the service sector, and one should consider that these types of services are managed in a triadic setting (i.e. where one also has to put emphasis on the outsourcers customers).

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During the spring of 2017 we have been able to combine our mutual interest in management accounting with the on-going evolving challenges in the service sector, specifically how the service sector functions from an interorganizational management perspective. However, the contributions from our research would not have been viable if it was not due to the support of certain actors. Thus, we would firstly like to give our sincere gratitude to all of the respondents that took their time to partake in our study.

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School of Business, Economics and Law

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Robert Filipsson

Naeem Tahir

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List of abbreviations

3PL	Third Party Logistics
CE	Concurrent Engineering
IOM	Inter-Organizational Management
IOCM	Inter-Organizational Cost Management
O1	Organization 1
O2	Organization 2
O3	Organization 3
OBA	Open Book Accounting
QFP	Quality-Function-Price Trade off
TC	Target Costing
TCE	Transaction Cost Economics

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1. Introduction

The introduction chapter will contain the background to the theme of the research. Consequently, the background will cross over to a problem statement, which discusses the identified gap that the study opts to examine, ending with a research question.

1.1 Background

In today's society services have become increasingly important for our economy. The importance of services has increased on behalf of the manufacturing sector, in Sweden, as of 2015, the service sector accounts for about 70 percent of the total BNP, whereas the manufacturing sector accounts for about the remaining 30 percent (SCB). According to Smith et al. (2007), this is a continuing phenomenon in industrialized economies. Along with the growth of the service sector, it has also become common that organizations are relying on externally supplied services, i.e. outsourcing (Smeltzer & Ogden, 2002). The purchase of services often accounts for half of what an organization spends (Ibid). This increase has created supply chains of services, often called services supply chains. Baltacioglu et al. (2007) define a service supply chain system as "a network of suppliers, service providers, consumers, and other supporting units that performs the functions of transactions of resources into supporting and core services; and the delivery of these services to customers." This phenomenon has been identified among freight organizations, where research have identified that 3PLs are buying external services to carry out freights (Stefansson, 2006). There are also examples of 3PLs establishing various strategic partnerships with external freight actors i.e. contractors (Large et al., 2011). Despite the importance of services, from an academically as well as a practical standpoint, there is significantly more emphasis towards the manufacturing sector (Ellram et al., 2004, 2007). According to Sampson (2010), the lack of service research can also be seen from various perspectives regarding the view of the supply chain. Specifically, the lack of research is especially apparent when it comes to understanding supply management from a business-to-business standpoint, i.e. where a business is buying a service from another business.

The lack of service research in the literature is more present in the management accounting area within the field of IOCM. This field involves various cost techniques and methods such as target costing and open book accounting. The main purpose of these techniques it is to find ways for buyers and suppliers to coordinate their operations to reduce shared costs and improve common operations (Cooper & Slagmulder, 1999). In the manufacturing sector, IOCM has been proven to decrease cost, enhance value, and develop trust. For example, Alenius et al. (2015) evidence that open book accounting plays a vital role when it comes utilizing collaborative activities, which led to decreased costs and enhanced value in the supply chain. In the service sector evidence like this have been limited and it is relatively unknown what impact IOCM has. Furthermore, the usage of IOCM in the manufacturing sector is being dictated by three characteristics, specifically: relationship, component, and transaction characteristics (Agndal & Nilsson, 2009). These characteristics contain elements that utilize IOCM and have been proven to dictate the usage of it totally. However, how these characteristics affect relationships in the service sector is unknown. Hence, it also unknown whether IOCM is even suitable in the service sector.

There are various reasons for the unbalance between the two sectors. Ellram et al. (2004, 2007) argue that the manufacturing sector has received more attention than the service sector since most economies are built on manufacturing, whereas the service sector has emerged over the past decades. Another reason is that services are harder to visualize and to measure

since human performance is unique. These difficulties have increased the difficulty to precisely manage and control many services. Ultimately this has led to a mystique regarding services and hence slowed down the progress of research of services (Van Ark et al. (2008). Organizations in the manufacturing sector have not faced this issue, and therefore they have adopted interorganizational techniques, like a best practice across the sector (Boonitt & Pongpanarat, 2011). Though, some argue that that best practices techniques and methods developed for the manufacturing sector be beneficially applied to the service sector as well. Although due to the differences between the two sectors, it is argued that the practices and methods have to be changed to fit the characteristics surrounding services (Cho et al., 2012; Ellram et al., 2004). Therefore, IOCM in the service sector might look differently, and the characteristics that dictate the usage of IOCM might work in a different way. The fact that there are differences concerning management between the two sectors can further be strengthened by Van der Valk & Rozemeijer (2009). They argue that the purchasing of services is seen as fundamentally differently compared to the procurement of products regarding how the services are procured. However, the research in this regard is nascent (Ellram & Tate, 2014).

1.2 Problem discussion

Even though there is a gap in the literature concerning the meaning of IOCM and its driving characteristics in the service sector, it does not have to be a problem. However, there is literature suggesting that there is. According to Ellram et al. (2004, 2007), a general issue with the lack of service literature is that there are missed opportunities for improved management and control in interorganizational relationships. The limited research that is available shows that supplier management overall plays a little role, or at least a different role when it comes to purchasing outsourced services (Bals et al., 2009; Holma, 2012). Researchers suggest that this makes room for opportunities through cost and value improvements (cf. Bartoloni, 2012). Researchers further argue that these opportunities should be grasped to increase the performance that the service sector lacks in comparison to the manufacturing sector (Van Ark et al., 2008). Ellram and Tate (2015), exemplifies that these opportunities can be taken. They suggest that supply management involvement in service procurement can result in considerable cost saving. However, no such evidence has been found where IOCM have been used.

With these beneficial effects of supply management at hand, one could arguably expect IOCM techniques to enhance the collaborative manner of interorganizational relationships further. However, to utilize IOCM tools and techniques, one needs to understand how the IOCM characteristics work in the service sector. Hence, issues arise like; are the characteristics working in the same in the service sector as in the manufacturing sector? Thus, to draw any conclusion as to whether the techniques are viable in the service sector, further research in this field is necessary. Hence, a study that increases the understanding of how the service sector functions in an interorganizational setting would add to the nascent literature concerning the IOCM practice in the service sector.

Literature from the freight industry (e.g. Stefansson, 2005; Large et al., 2011), suggest that interorganizational collaboration is common within that industry. In these cases, it is usual that 3PL organizations contract a contractor to carry out a freight. Due to hard competition in the market and high demand from the customers of the 3PLs, it is vital that the quality of the freights is sufficient, and the cost of the freight is reasonable (Wieberneit, 2008; Anderson et al., 2011). To fit this environment, there is a need for the 3PLs and their contractors to work together, and thus, enhance their relationships. Therefore, it is possible that there is a use of

IOCM in these relationships, which would be interesting to record to understand what characteristics that dictate to use of IOCM in the service sector. Moreover, this makes the 3PL organizations and their contractors a suitable case to study.

Ultimately, the purpose of the study is to address how freight organizations manage their relationships with external freight suppliers. To address the purpose, the study opts to understand the relationship between underlying characteristics concerning how 3PL organizations purchase services as well as how and why they collaborate. Therefore, the research question of the study follows: *In what way do the IOCM characteristics dictate the way how 3PL organizations manage their outsourced services and what role has IOCM on these relationships?*

2. Theoretical framework

The theoretical framework chapter will start with a literature review of the interorganizational cost management techniques and the three IOCM characteristics. Lastly, we will present our grand theory – transactional cost economics.

2.1 Literature review

2.1.1 IOCM techniques

Research regarding interorganizational literature has largely been focused on IOCM. The purpose of IOCM is to find ways to coordinate buyers and supplier activities to reduce shared costs (Cooper & Slagmulder, 1999). Many studies about IOCM have been focused on how buyers apply various IOCM techniques along with what benefits the buyer can gain from them (Ellram, 2000). IOCM have shown to assist in collaborative relations by lowering the information asymmetry between the buyer and supplier, resulting in more transparency and reduced costs within the relationship. Cost management techniques such as TC and OBA are commonly used practices in the context of supply chain management (Uddin, 2013). Moreover, TC, OBA, and related techniques will be covered below, starting with OBA.

Open book accounting

OBA is often described as a method characterized by information sharing that ranges from quantitative financial to non-quantitative non-financial information, between buyers and suppliers (Alenius, 2015; Ellram 1996; Christopher, 1998). The purpose of it is to ensure that contractors act accordingly to outsourcers interests. It also works as a supporting tool for buyers and suppliers in decision-making processes, which have been proven to increase efficiency in supply chains (Agndal & Nilsson, 2008). Alenius (2015) suggests that OBA is a tool that both manages and creates interdependencies, which can take on different forms, for example, technical or organizational interdependency with social properties (Ibid). Agndal & Nilsson (2008) suggest that open book accounting supports how decisions arrive during different exchange process stages. The information gained by it is also often used in various cost management techniques, which often help to assist in these decision-making process (Ibid). In fact, OBA is not a cost management technique in itself. Open books are rather seen as a mean to utilize different cost techniques such as concurrent engineering (CE), interorganizational cost investigations (IOCI), target costing (TC), and quality-function-price trade off (QFP). These are used in the various exchange processes to support decision-making.

As mentioned, OBA can utilize many beneficial effects. Some of the benefits can further be seen by Alenius (2015). In the study by Alenius (2015), OBA was used to align the outsourcer's and the contractor's operations to enhance the durability of their products. This alignment did not only increase the quality of the product, but it did also reduce the workforce for both the actors, which decreased their costs. Further, joint investments were also made. For example, in joint production and logistics facilities. They also added educational sessions to increase the competence and the routines. Overall, the study highlights the various usage of OBA, in addition to managing and creating interdependencies; OBA is not solely usable for managing cost. In a high degree of interdependence, OBA makes it possible to identify and improve various interferences such as production, with the result being increased earnings. Thus, it is evident from the study that OBA identifies areas for improvements and consequently areas to learn how to use resources in efficient ways.

Even though there are many advantages of OBA, there are examples of situations where contractors have turned down proposals of OBA from outsourcers. Agndal and Nilsson (2008) observes that suppliers are often reluctant to share cost information because they are afraid of opportunistically behaviours from the outsourcers. These opportunistically behaviours will be discussed further in the section of transactional cost economics.

IOCM-techniques as supported by open book accounting

As mentioned previously, OBA is not a cost technique or method on its own. Usually, OBA is complemented with other techniques, such as Concurrent Engineering (CE). CE is a technique that is used to identify specific cost characteristics of a product, which take these into consideration towards what the customers are willing to pay (Cooper & Slagmulder, 2004). Hence, the core idea is to design a product that meets the requisites of a customer, at the lowest possible cost, while still maintaining a high level of quality (Agndal and Nilsson, 2008). Interorganizational cost investigations (IOCI) is a similar technique to CE. Though, design changes in IOCI are conducted to a greater degree, making it more likely that the contractor is rejecting the changes (Ibid). As the name suggest, Quality-function-price trade-off (QFP), is more about making trade-offs in the properties of a product (Cooper & Slagmulder, 1999). Evidently, the trade-off is between quality, function, and price. OBA becomes an important method combined with QFP due to its trade-off decision being based upon costs, in which OBA becomes a supporting tool (Agndal & Nilsson, 2008).

Target Costing (TC) is one of the most common techniques within IOCM. Askarany and Yazdifar (2012) define TC as "a systematic process of managing product costs during the design stage of a new product, establishing market sales prices and target profit margins, and reducing the overall cost of the products over their life cycles." This technique is used to identify at which level a product's manufacturing cost should withstand, through determination of expected market selling price instead of solely based on costs. TC considers the entire life cycle of a product; hence the cost determination is made during pre-production stages, i.e. before the development of a product (Agndal & Nilsson, 2009). Thus, TC uses two factors to calculate and identify the manufacturing cost for a product; expected selling price derived from the market before product development and expected profit (Ibid).

Sub-question 1: How does the implementation and usage of IOCM methods enhance the collaboration and interdependency in a service supply chain?

Sub-question 1 corresponds with interview questions: 9, 3.6, and 4.6

2.1.2 Characteristics as a function for collaboration

The previous section of the literature review covered some of the beneficial effects of IOCM. However, the question concerning what kind of circumstances or characteristics that utilize IOCM still stands. From the manufacturing sector, research has suggested that IOCM is a function of various characteristics, namely, relationship, component, and transaction characteristics (e.g. Kajuter & Kulmala, 2005; Ellram, 2006; Van der Meer-Kooistra and Vosselman, 2000). These can also be identified to some degree in the service literature (e.g. Holma, 2012; Beritelli, 2011; Doran et al., 2005). These characteristics dictate the way in which organizations procure products, but whether they dictate the way that organizations are procuring services are not clear. Hence, literature concerning these characteristics in an interorganizational setting should be covered. The review of these will start below with the relationship characteristics.

Relationship characteristics as a function of interorganizational management in a manufacturing setting

Kajuter and Kulmala (2005) describe IOCM as a function of relationship characteristics by examining the reason why open-book accounting is successful in some cases but fail in others. They argue that social factors surrounding relationships between actors in a network should be largely considered. This is especially the case when it comes to mutual trust, which has been evidenced to enhance relationships. Without mutual trust, it is argued that actors will not disclose their cost data in fear of opportunistic behaviour, making collaborative actions with IOCM techniques impossible.

As suggested by Kajuter and Kulmala (2005), trust is an aspect to consider in order enhancing a relationship. A slightly different perspective can be seen from Van der Meer-Kooistra and Vosselman (2000). They argue that trust can be used as a tool to decrease opportunism. They also suggest that in relationships where there is a high degree of trust, the involved parties will maintain a less risk estimation. This can, for example, be manifested by a confidence that provided information is complete and correct. Overall, trust in this regard will lead to less need for detailed contracts. Thus, there are fewer costs associated with bureaucracy issues, and hence, trust can be used instead of contracts to obtain control.

When trust is established between two actors, it is possible to receive control through it. Though, there is no guarantee that the trust will be maintained. There are also factors that could hurt trust. Velez et al. (2008) address trust issues concerning monitoring activities. They suggest that too much monitoring creates suspicions, which could damage trust, or even create distrust (Sitkin, 1995). However, as long as members in the supply chain perceive that there is much more coordination than monitoring, such suspicions could be avoided.

Additionally, to trust, research (e.g. Isbruch et al., 2011) suggests that the degree of members' commitment to the network (i.e. supply chain), as well as team thinking also has an effect on business relationships. To attain a high degree of these factors, it is suggested that a relationship needs to be beneficially for all actors. Though; the benefits do not have to be shared equally (Christopher, 1998). Additionally, to these rational factors, Kajuter and Kulmala (2005) also suggest that technical requirements affect relationships. The technical requirements refer to "the design of cost accounting systems and support for improvement or data collection in the case of deficiencies," i.e., technical viability to gather and disclose data jointly. This is of the essence when it comes to using OBA, without proper tools to gather useful data; there is simply no data that can be utilized.

Relationship characteristics as a function of interorganizational management in a service setting

In the service setting, there is a significant amount of research about informal communication. This can, for example, be seen by Holma (2012), who investigates how social capital develops in the traveling industry. The author's findings highlight the importance of interpersonal interaction between firms when it comes to maintaining or establishing a relationship. The study indicates that social bonds developed by individuals create and provides channels for information exchange. This information exchange is manifested through travel agency clerks, who were in contact with all actors in a triadic relationship (i.e. external actors of customers and suppliers). The travel agency clerks created strong ties between the actors, which enhanced information exchange concerning supplier performance. Due to a long and frequent interaction between the parties, it was apparent that the clerks also

served as a bridge between the strategic and the operational levels. The strategically level could, later on, use the information obtained at the operational level in the decision-making. The interaction by the travel agency clerks also created most trust. These relationships were long, enduring, and characterized by much interaction. The author stresses the importance of the interaction and claims that it is a large part trust building, because it contributes to a profound understanding of goals of cooperation. A similar stance can be seen from Beritelli (2011). Additionally, to Holma (2012), Beritelli (2011) argues that just information sharing is not sufficient to launch a successful collaboration. With other words, just exchange of information, neither leads to cooperation nor to trust and understanding. The point is that one should also exhibit kinship. Beritelli (2011) also highlight the need for reciprocal sympathy regarding resources, to understand interdependencies among the actors in the network. It is argued that this sympathy induces cooperative behaviour. In the manufacturing literature, resource commitment and trust, as well reciprocal sympathy, are often associated to IOCM (Cooper & Slagmulder, 2004).

When it comes to differences concerning the two sectors, it is possible that there are differences regarding informal contact and communication. In the manufacturing sector research have shown situations where relationships are built upon a few individuals, making the relationship as well as the collaboration vulnerable (e.g. Agndal & Nilsson, working paper). In the service sector, as exemplified Holma (2012), contact is more intense, basically due to the fundamental characteristics of services. Personal interactions are frequent and therefore have the potential to create or maintain trust, which can be used to solve problems and difficulties in the collaboration (Bennett & Gabriel, 2001). Relationships in the service sector should, therefore, be less vulnerable, since more people are involved in the collaboration (Holma, 2012). However, in other branches in the service sector, relationships have been characterized as short, making trust building and development of relationships neglected. This is especially the case in situations where a service organization are buying a service from another service provider (Wang et al., 2015).

Sub-question 2: In what way are trust and personal interaction/communication a part of a collaboration and how does it dictate how and who to contract in a services supply chain?

Sub-question 2 corresponds with interview questions: 8.1-8.4

Component characteristics as a function of collaboration in a manufacturing setting

Component characteristics from the manufacturing sector have shown to dictate the way organizations choose to collaborate and how to buy components. Ellram (2006) suggest that if a purchased component is critical for the buyer (i.e. have a significant economic impact), more emphasis will be held on supplier selection as well as changes in materials and design. Hence, contractors who are selling less critical components are less likely to be involved in a collaboration. Instead, more distant approaches are being held to manage these relationships, e.g. competitive bidding. On the contrary, suppliers who are selling more critical components are more likely to be involved in collaborations, where IOCM techniques are used. In these cases, there is often an intense collaboration concerning joint product development. The components that are involved in this activity are usually seen as critical (Ibid).

The findings by Ellram (2006) can also be seen in Agndal and Nilsson (2009). Though, additionally to Ellram (2006), their findings indicate that management accounting plays a more important role at the beginning of a collaboration, such as in the early concept discussion as well as in the supplier selection. In these early stages, jointly shared data are

often used to undertake activities such as joint functional analysis to see if collaboration is viable. The buyer can then monitor the supplier during the concept development, reducing uncertainty and risk. In these cases, IOCM techniques such as TC and CE are often used. In later activities of a collaboration, the managerial accounting plays a lesser role. Agndal and Nilsson (2009) suggest that the reason for this is that there is no need to revisit the data due to the extensive use of it in the earlier stages. In cases where the component is inexpensive and less important, Agndal & Nilsson (2009) evidence that collaborative activities are rarely seen. It was also apparent that suppliers' managerial accounting was rarely used. When it was used, it was used as a negotiation tool to determine terms of the collaboration, especially in price revision activities.

Component characteristics as a function of collaboration in a service setting

Purchasing a service differs in comparison to buying a component. Evidently, a service cannot be stored. Instead, a service in this context is purchased by an organization to be performed for a customer (Holma, 2012). Though, as in manufacturing, there should be more and less important services, aligned with the notion of component characteristics from the manufacturing sector. Moreover, Doran et al. (2005) examine how an insurance company manages their relations with various service providers. The findings suggest that there is a gap between buyer and supplier expectations of how relationships should evolve. The buyer, in this case, were more positive towards collaborative activities than the suppliers. This pattern was especially evident regarding suppliers who provided complex and critical services. It was also apparent that the relationships with these suppliers were characterized by a lack of trust, evidenced by poor levels of communication, a general lack of information sharing, and a non-cooperative behaviour. Unlike much of the findings in the manufacturing sector, it was apparent that there was no difference in the way the buyer managed their supplier relationships, even if they were not equally important. Strangely, the suppliers who provided the most critical components for the buyer were not included in collaborative activities at all. This might be explained by fear of opportunistic behaviours since there is often more secrecy surrounding complex products (Dekker, 2004). On the contrary, the firms who provided less vital and complex services were more positive to a collaboration. It is possible that the operations involved in these services are well known for the buyer, making a collaboration through IOCM irrelevant, as exemplified in Agndal and Nilsson (2009).

Sub-question 3: How does procurement of components differ between the manufacturing and the service sector, and does this difference result in different effects regarding collaboration aspects and usage of IOCM methods?

Sub-question 3 corresponds with interview questions: 5-6

Transactional characteristics as a function of collaboration in a manufacturing setting

Lastly, the final characteristic addressed in the IOCM literature - the transactional characteristic. This characteristic is divided into three factors, specifically: the uncertainty surrounding transactions, asset specificity, and the frequency. Evidently, these are manifested in different ways (Williamson, 1979, 1991). Research has shown that high frequency often is associated with IOCM, while single purchases do not relate to collaborations overall (Ellram, 1996). Similar patterns can be found regarding uncertainty and asset specificity. Specifically, if there are high uncertainties, collaboration becomes more important to reduce risks (Anderson & Dekker, 2005). When it comes to asset specificity, studies have shown that high asset specificity creates interdependencies, which in turn creates incitements for collaboration (Speklé, 2001). On the whole, these characteristics dictate the way how organizations govern

a collaboration, as well as how they are buying products and components (Williamson, 1979, 1991). Issues surrounding these three characteristics will be discussed more in the section of transaction cost economics.

Based upon the factors described above, research within transactional cost indicates that transactions tend to follow three control patterns. Van der Meer-Kooistra and Vosselman (2000) argue that it is possible to identify these patterns in various transactions based on numerous contingency factors. These are called the market-based pattern, the bureaucracy based pattern, and the trust based pattern. An example of a contingent characteristic can be the degree and type of asset specification, the level of market risk, and bargaining power. If for example, a component in a transaction is characterized as unspecific, there are probably many suppliers, hence a low switching cost. These circumstances lead to the market-based pattern, where buyers often get involved in competitive bidding, and little effort is made to establish detailed contracts. The emphasis is basically on the price, which also can be seen by Agndal and Nilsson (2009). Hence, the low information asymmetry utilizes no need for collaboration. Furthermore, a relation distinguished as market-based, should not be likely to involve IOCM techniques. Unlike the market-based pattern, the bureaucracy based pattern and the trust-based pattern often involve more asset specific products or services. Although, regarding the bureaucracy based pattern, more emphasis is held on securing resources via contracts. The trust-based pattern, on the other hand, is more about establishing control through trust. No surprisingly, IOCM is foremost found in the trust-based pattern due to its collaborative characteristics.

Transactional characteristics as a function of collaboration in a service setting

From a service context, Ellram and Tate (2015) investigate how organizations manage procurement of services based on service complexity and on-going value. Service complexity may be a component characteristic, but it also involves the complexity of the purchase itself, hence making it both a transaction and a component characteristic. The on-going value, on the other hand, is about factors such as frequency, impact on the external customer, and dollar value of the purchase. Furthermore, the study suggests that services that are characterized by a low complexity and a low going on value, are being managed similarly to products with the same characteristics in the manufacturing sector. A typical trait for these transactions is that they are nearly not managed at all, which also can be seen in research regarding the component characteristics (e.g. Agndal & Nilsson, 2009; Ellram, 2006). Ellram and Tate (2015) also found evidence suggesting that some complex services are handled similarly to complex products. The purchase of these services is characterized by infrequency and a low on-going value. Though, they are necessary for the user but not in a sense where the cost of the service was a significant part of the total spending. These types of services are often one-time specialized consultancy services. Historically, services like this have just been bought when they are needed. Hence collaboration with these suppliers is not likely to emerge. All in all, IOCM should not be likely to be involved in these types of transaction.

Ellram and Tate (2015) also find services characterized as being highly complex, specific, and having a high on-going value. These services are essential from the component notion, where the services are a significant part of the total spending's, hence increasing the importance of control. Typically, services with these characteristics are specialized consultancy services that stretch over a longer time, e.g., various marketing services. However, even though these characteristics fit IOCM well, in this case, no sign of it could be found. Internally, the outsourcer used target costing, though, only in a non-cooperative way, where the contractor was not included.

Lastly, in addition to the service transactions above, Ellram and Tate (2015) find a fourth type of service transaction. The transactions of these are characterized by low complexity and high on-going value. These services are relatively straightforward and simple, though, once agreed upon they have a high on-going value. Services with these characteristics can, for example, be court reporter services. Moreover, these services are managed largely by contracts that are established by supply management functions. These contracts are often detailed and predetermined with terms dictating the forthcoming collaboration. It is easy to see similarities to the bureaucracy pattern here aligned with Van der Meer-Kooistra and Vosselman (2000), i.e. that both manufacturing, as well as service organizations, are securing "resources" that are important, but not essential for the overall operation through contracts.

Sub-question 4: Are transaction characteristics align or different in the manufacturing and service sector and can the alignment/difference be explained by the characteristics of the two different industries?

Sub-question 4 corresponds with interview questions: 5-7

2.1.3 Limitations of the current literature

Many of the articles that are included in the literature review have a contingency approach (e.g. Kajuter & Kulmala, 2005; Van der-Meer Kooistra & Vosselman, 2000). This approach has received some criticism. Otley (2016) argues that the contingency approach has produced little cumulative knowledge, making it hard to establish adequate relationships between contingency factors and accounting systems. Hence, an overall generalized framework about how certain contingencies affects an organization has not been established. Even though, if such a framework would be established, the framework would be irrelevant due to the continuously changing contingencies (Otley, 1980, 2016). This means that contingencies found in the literature review might be irrelevant now; it is also possible that they only are not applicable every setting.

A few studies in the literature review also takes a perspective based on transactional cost economics (TCE), e.g. Van der Meer-Kooistra & Vosselman (2000). The TCE-based approach has received critique for not being equipped to study processes (Vosselman & Van der Meer-Kooistra, 2006). This is because of the assumption of farsightedness (Minnaar & Vosselman, 2013). Williamson (1993) argues that the notion of farsightedness enables economic actors with the tool to look ahead to discern prospects and problems. In the sense of rationality, economic actors are going to make decisions based on prospects and problems in an efficiency-seeking manner (Ibid). However, critics (e.g. Roberts and Greenwood, 1997) argue that cognitive and institutional constraints often result in choices that are not efficient. For example, some choices might not be considered, or a management control structure might just be copied due to legitimacy reasons (Ibid). Therefore, TCE cannot explain processes of change. Instead, the TCE-based approach offers explanations of control structures that are observable, seemingly stable, and coherent (Vosselman & Van der Meer-Kooistra, 2006). Another limitation regarding TCE is the absence of the dimension of trust. Williamson (1993) argues that trust does not add anything to the calculation of risk that affects the choice of governance structure. Though, more modern studies that are applying a qualitative methodology suggest that trust plays an important role when it comes to theorizing about management control and governance (Nooteboom, 2004; Langfield-Smith, 2008; Van der Meer-Kooistra & Vosselman, 2000; Vosselman & Van der Meer-Kooistra, 2006).

As seen in the literature review, interorganizational research often address the importance of trust (e.g. Kajuter & Kulmala, 2005). In many of these, it is suggested that trust can be categorized into different categories. The problem with trust is that it can be hard to identify whether there is trust or if it only seems to be trust in the relationship. When it comes to the literature about services, research is relative niched towards certain branches, both Holma (2012) and Beritelli (2011) investigates the importance of relationship characteristics in an interorganizational setting. It is possible that relationship characteristics like trust work in a very specific way in that particular branch. This should be especially the case in the study by Beritelli (2011), which is taking place in a small and specific area, i.e. among tourism organizations in a specific geographical area.

2.2 Transaction Cost Economics

The aim of this study is to explain how freight organization manages their service relationships through underlying characteristics in a stable and coherent state. Hence, TCE suits this study well since it explains relations between trust, risk, and control in collaborative relationships and thereby involving relationship, component, and transactional characteristics (Das & Teng, 2001a, b). The theory also explains the choice of governance structure and control systems for controlling various transactions (Van der Meer-Kooistra & Vosselman, 2000; Speklé, 2001). Hence, TCE is the most common theoretical framework when it comes to studying collaborative relationships (Anderson & Sedated, 2003).

TCE is a reaction to neoclassical economic theory, which assumes that costs are interpreted economically as opportunity costs, i.e. foregone gains that could have been received if the best of the non-chosen alternatives were chosen (Gietzmann, 1996). In the context of interorganizational management, this is manifested through buy versus produce questions. With other words, economic theory assumes that buyers compare the cost of purchasing a service or a product from an external part, with the cost of producing the product or service on their own. In turn, the economic theory assumes that all information can be found in the price/cost (Ibid). Issues such as risk and control then become irrelevant according to the theory. However, this is hardly the case in reality, which is evidenced by various studies (e.g. Van der Meer-Kooistra & Vosselman, 2000; Agndal & Nilsson, 2009). These studies have instead shown that a purchase or a collaboration between firms are being dictated by various factors and characteristics. Unlike the neoclassical economic theory, these factors and characteristics can be explained through TCE, starting with the role of transactional characteristics below.

2.2.1 Transactional characteristics

TCE largely answer why some transactions are conducted on the market, while others take place within the boundaries of firms (Vosselman & Van der Meer-Kooistra, 2006). The answer for that can be found through the creation of market-related transaction costs. These costs are a result of activities like supplier selection, contract establishment, monitoring as well as controlling activities (Ibid). These costs will not occur if organizations choose to produce products or services within the boundaries of the organization since the buyer do not have to establish control over the suppliers. Hence, high cost resulting from market-related transactional costs gives incitement to produce in-house, i.e. within the boundaries of the firm.

Uncertainty driving market-related transaction costs

The market-related transaction costs, in turn, is driven by uncertainty (Speklé, 2001). Uncertainty in this regard refers to the degree of specificity of desired predictability and performance under the specific circumstances the act takes place (Ibid). When it comes to decision making in these uncertain situations, TCE assumes that human actors act by the concept of bounded rationality (Vosselman & Van der Meer-Kooistra, 2006). This concept undertakes the notion that human actors intend to be rational but fail due to their inability to foresee all possible events of a transaction. This weakened form of rationality increases with the level of uncertainty. In the end, decisions drawn through the bounded rationality concept is manifested by incomplete contracts, hence, increasing the transaction costs (Ibid).

Uncertainty is not the only factor to entail transaction costs. TCE research also suggest that there are possibilities that economic actors behave opportunistically, i.e. exploiting the relationship through forms of trickery and deceit (Groot & Merchant, 2000; Dekker, 2004). There are examples of situations where actors use their suppliers cost information as a negotiation tool to pressure price and squeeze their suppliers of money (Dekker, 2004). Risks like these are types of behavioural risks and may entail costs through security, prevention, and conflict-solving activities (Vosselman & Van der Meer-Kooistra, 2006).

The effect of asset specificity

Additionally, to uncertainty, TCE assumes that the degree of asset specification affects the risks of a transaction. Asset specificity refers to the extent to which an asset that is dedicated to a specific relationship can be diverted to alternative use without a decrease in productive value. The asset, in the alternative use, should also be of particular significance when it comes to explaining governance arrangements (Geyskens et al., 2006). This concept is manifested in various forms: physical assets specificity, site specificity, human assets specificity (i.e. knowledge and training), declined capacity, and brand name or reputational capital (Williamson, 1991; Nooteboom, 2004).

Research has shown (e.g. Speklé, 2001) that when asset specificity is high, while the transactional environment is characterized as uncertain and complex, it is often common to see high market-based transaction costs. The reason for this is that asset specific products and services create a fertile soil for opportunism, because they often have limited or non-value in other relationships. Potential opportunism due to asset specificity can both be seen from buyers as well as suppliers (Vosselman & Van der Meer-Kooistra, 2006). If for example, a supplier has invested in particular assets, the buyer may take advantages of the situation and dishonestly force down the price. However, the supplier can also take unfair advantages of such a situation, since the supplier knows that buyer have to find and train a new supplier, which entails high switching costs (Speklé, 2001). The actor that will get the most out of such a situation depends on who has to most power when it comes to other relationships. Power differences will reflect the switching costs, where the actor with the most power will experience lower switching costs (Ibid). These kinds of risk are being referred to as relational risk (Das & Teng, 1996). TCE also acknowledges performance risks, which relates to the risk of not achieving objectives within the collaboration (Das & Tang, 2001a). This is about environmental uncertainties, like market volatility and lack of partner competency. However, these types of risks are present in all kinds of business operations (Ibid).

The effect of frequency

TCE also suggest that transactional frequency, as a transactional characteristic, has an impact on how a transaction is managed. Frequency in this regard concerns the extent of buyer activity (Williamson, 2002). It is assumed that high transaction frequency can lead to high transaction costs due to an intensification of risks, i.e., relationship risks and performance risks (Geyskens et al., 2006). Therefore, it is not surprisingly that high frequency is often associated with IOCM (Ellram, 1996).

2.2.2 Governance structures

The number of problems entailing transactional costs can, however, be managed by governance structures. Under TCE, there are three forms of structures - hierarchies, hybrids, and markets. Based upon the three transactional characteristics (uncertainty, asset specification, and frequency) it is possible to establish an appropriate mode of governance (Williamson, 1979, 1991).

Hierarchy mode of governance

A hierarchy mode of governance means that a transaction is placed under the umbrella of an organization (Vosselman & Van der Meer-Kooistra, 2006). The dominant control mechanism in this structure is the bureaucratic mechanism, manifested by authority and regulation (Ouchi, 1979). The emphasis here is on information processing, coordination, and control, where the goal is to overcome information asymmetry and ultimately to prevent opportunism (Vosselman & Van der Meer-Kooistra, 2006). However, the extensive control entailed with the hierarchy structure comes with high costs, and there are also risks of becoming inefficient due to over-bureaucratization. Furthermore, studies have shown that high transaction frequency may encourage organizations to adopt hierarchical forms of governance, rather than establishing contracts with contractors to collaborate due to the intensification of risks entailing frequency (Geyskens et al., 2006)

Market mode of governance

Unlike the hierarchical mode of governance, the market mode of governance is not about control and bureaucracy. Instead, the dominant mechanism in the market mode of governance is the market mechanism. This mechanism involves contractual arrangements regarding rewards, punishments and exit threats (Ouchi, 1979). These arrangements often reflect the actors' commitment to the relationship (Vosselman & Van der Meer-Kooistra, 2006). For example, agreeing to a use of exit threats indicates small intentions of a future collaborative relationship. Moreover, these types of relationships often involve competitive bidding (Ibid), which can be seen in Agndal and Nilsson (2009) as well as in Ellram (2006).

Hybrid mode of governance

Neither the hierarchy nor the market mode of governance is associated with collaboration; this brings us to the last mode - the hybrid mode of governance. This mode of governance is included in most collaborative relationships (Langfield-Smith, 2008). A hybrid mode is about creating governance structures within the context of a market, with the aim to coordinate activities and prevent opportunism (Williamson, 1991). With other words, bureaucracy control mechanism (from a hierarchy mode of governance) are being created in a market setting. Hence it is possible to establish control in interorganizational relationships. In this way, organizations can prevent the risk of becoming over-bureaucratized and thus also avoid inefficiencies. Since an interorganizational relationship between independent actors is not based on a hierarchical relationship, the bureaucratic control in a hybrid relationship is being

established through contracts (Ibid). The hybrid mode of governance, therefore, consists both of market mechanisms and bureaucratic mechanisms, creating a mixture of governance.

2.2.3 Trust in terms of TCE

In the initial TCE framework by Williamson, it is argued that trust cannot be used as a means to reduce opportunism as long as social embeddedness is treated as an environmental factor (Williamson, 1993). However, in relatively recent years several researchers have extended TCE by showing that trust can be used as a control mechanism (Van der Meer-Kooistra & Vosselman, 2000; Nooteboom, 2004; Langfield-Smith, 2008). They argue that since trust is interdependent with risk, it should be considered as a social control (Langfield-Smith, 2008). In this regard, trust is about having confidence that one's expectations towards the contractors will be realized in uncertain situations (Gambetta, 1988). It is also about taking decisions without having full information that can confirm that the made decision is right (Tomkins, 2001). Moreover, trust can be divided into three categories - contractual trust, competence trust, and goodwill trust. All of them are interdependent with risk and hence important in their way. However, when it comes to avoiding opportunistic collaborative relationships, the most important type is goodwill trust. This type of trust influences the relational risk. If goodwill trust is high, there should be a low risk for opportunistic behaviour. The competence trust instead affects the performance risk (Ibid), while the contractual trust is about whether the parties are honouring the contracted agreements. Hence a high contractual trust is often associated with a lower risk of contractual breakage (Van der Meer-Kooistra & Vosselman, 2000).

The presence of trust as a control mechanism is especially important in situations characterized by uncertainty and where there are strong dependencies between actors (Nooteboom, 2004). Research suggest that by implementing social controls in such situations, it is possible to reduce the likelihood of opportunistic behaviour (Langfield-Smith, 2008). Thus, avoiding transactional costs. Due to the transactional costs, trust is imperative in longer relationships. Establishing detailed and extensive contracts in these situations is often pointless, due to fast changes in relationships that have to be made because of the high uncertainties. Hence, one would be required to revise contracts and negotiate agreements frequently as long as the relationship exists, costing time and money. Therefore, it can often be cheaper to establish trust as a control mechanism, instead of a bureaucracy mechanism (Ibid).

Trust does not however come immediately. Instead, trust may stem from previous contractual relationships. It is likely that trust grows during a transactional relationship, i.e. created from experience (Gulati, 1995). When it comes specifically to goodwill trust, research suggests that it can be developed and strengthened over time by developing mutual interests (Das & Teng, 2001a). It is also possible to establish goodwill trust by constructing institutional trust (Ibid), which can be developed through joint memberships of formal social structures. Being a member of such a social structure can reduce the likelihood of opportunism since rumours and reputation often spread more easily within the structures (Zucker, 1986). Such a formal structure can, for example, be a professional trade association. Moreover, overall, the establishment of goodwill trust is about creating dependencies and understanding of each other (Das & Teng, 2001a).

3. Methodology

This chapter will present how the research was conducted in regard to the collected literature, research design, data collection, and analysis. We will also present the limitations of our methodology.

3.1 Literature search

The gap identified in the study was found by extensive reading of academic articles, and from these, it was apparent that this gap was a problem of interest. To establish an existing body of knowledge concerning interorganizational management, various keywords were used in search of articles. These were words that seemed relevant to the topic, like IOCM, IOM, service sector, service relationship, and interorganizational relationship. Synonyms to the keywords were also used to find as much literature as possible. To first understand how this particular phenomenon works, the first part of the search was to find literature that was conducted in a manufacturing setting. Thereafter we searched for literature that was explaining the phenomenon from the service sector. However, literature was scarce in that regard, hence, the search for articles extended to specific journals based on sectors and branches, e.g. service, procurement, and tourism/travel journals (e.g. Journal of Service Science and International Journal of Tourism Management). However, most of the articles could be found by databases like ScienceDirect and Emerald Insight. Many articles could also be found through other articles, which also gave us some indications whether the articles were relevant. Additionally, regarding relevance, the emphasis was held on newer articles that were answering the major questions and issues in the field (e.g. suggested by Gill & Johnson, 2010).

From the collected material, a literature review was established, which was build based on the thematic of the literature. Specifically, IOCM is divided into three characteristics; hence, the review was written in that way. Since the literature of IOCM characteristics in the service sector is scarce, the literature review also contains literature about IOCM characteristics from the manufacturing sector. This literature was useful to explain and compare whether the characteristics works in the same way in the service sector. It was also useful the see whether factors surrounding the 3PL organizations could utilize IOCM. Furthermore, from the literature review, it was possible to identify a theory that could explain the phenomenon in the service sector. The chosen theory - TCE, is used in Van der Meer-Kooistra and Vosselman (2000), but it can also be identified in Ellram and Tate (2015) from a service perspective where somewhat of a TCE-based approach are used.

3.2 Research design

Since the field of interorganizational management within the service sector is relatively unexplored, it was suitable to approach the issue with a case study, explanatory at that, where existing theory is used to explain and understand the phenomenon. The case study design made it possible for us, to in-depth, investigate the phenomenon of IOCM in freight organizations (Collis & Hussey, 2014). In-depth knowledge often makes it possible to theorize when a field is unexplored (Ibid).

There are, however, some problems with the case study design, most notably, the generalization issue (Labaree, 1998; Collis & Hussey, 2014). To handle this issue, we have sought to obtain a theoretical generalization, where we suggest that theory applied in one setting of circumstances can be generalized to another setting with similar circumstances.

This has been managed by comparing evidence and findings in the study to existing theory. Through this comparison, we have sought to come to a conclusion. Moreover, to make the evidence and the findings comparable we have also sought for an analytical generalization. To establish such a generalization, we sorted the findings into social forms and relations. To make the whole generalization process easier, we have used a multiple case design, consisting of three cases. Similar findings between these cases have helped to show if the findings have some merit. This approach can, for example, be seen by Agndal and Nilsson (2009).

Even though methods of seeking some form of generalization (e.g. a theoretical generalization) are common and established amongst case studies, there is still criticism towards it. DiMaggio (1995) for example, argues that case studies should be more inspirational rather than exacting, meaning that a deductive approach where theory is used is not applicable (Kuhn, 1996). This directly concerns this study since it has a TCE approach. Though, Ahrens and Chapman (2006) argues that this should not be the case, because case studies still need to be rooted in some knowledge of the field to be relevant and even inspirational. There are a number of studies that apply this type of stance, for example, Van der Meer-Kooistra and Vosselman (2000), as well as Langfield-Smith (2008), whom also has a TCE approach. Ahrens and Chapman (2006) further argues that this is necessary in order to keep the case study design relevant and to prevent the qualitative management accounting field from becoming "the exclusive preserve of creative mavericks." Instead, they argue that one should question issues such as whether the researcher says valid and reliable things about the field (Ibid). Therefore, we have sought extensively to find relevant theoretical content that we can relate our findings to. The theoretical content has thereafter been continuously linked to the findings, which should increase the reliability (Ahrens & Chapman, 2006).

When it comes to perspectives of the study, we approach the phenomenon through the three 3PLs point of view. Mostly, this provides the study with a buyer perspective, where the 3PLs are buying external services from a contractor. Though, the 3PLs are also suppliers to their customers. Hence, the study also includes a supplier perspective.

3.3 Data collection

To capture the phenomenon in a natural setting we needed to find a suitable case where the phenomenon was manifested. 3PL organizations were chosen in this regard since it has been evidenced that 3PL organizations are working extensively with various external actors to provide different kinds of transport solutions. Recent research implies that 3PL organizations are exposed to externalities in how it functions, affecting the value creation. They, therefore, have to work with their contractors to create value for their customers. This suggesting that the 3PLs need an in-depth knowledge of different forms of collaborations, to become successful (Huemer et al., 2016). Liang et al. (2016) suggest that during preferable conditions, a collaboration between two logistic providers should result in reduced costs and higher interdependency. In summary, collaboration is of the essence in this branch, which should give incitement for using IOCM techniques to manage collaborations.

Organizations within the freight branch were also accessible since many of these firms are located in the Gothenburg region. When it comes to the specific organizations, the three 3PLs were selected based on their size and their willingness to participate in the study. Regarding size, it was important that the organizations were large enough to be involved in the outsourcing of freight services. Otherwise, there would be hard to catch the phenomenon of IOCM. Two of the chosen organization can be considered to be medium sized, while one of the organizations can be regarded small. Additionally, to size, no other limitations were used.

Emphasis was made on whether the phenomenon could be captured. In that sense; limitations towards specific freight methods such as carrier, air, or road freight were irrelevant.

When it comes to the gathering of the primary data, interviews were conducted. To get in contact with relevant respondents, we used the snowball sampling method. This meant that the companies were first asked if they could connect us to someone in the organization that had in-depth knowledge about how their interorganizational relationships were managed. During the interview, this person was asked if he or she could connect us further to other employees in the organization with vast knowledge about the matter. Hence the method was also used to extend the sample of respondents. In the end, the snowball sampling method led to a total of nine interviews - three each firm.

Two of the three original interviewees worked as CEO for their respective organizations, and the remaining one worked as supply chain manager. The other six interviewees worked as coordinators, which involves coordination and hiring of external freight providers. Moreover, two of the interviews were held face-to-face, and the remaining seven were made through the telephone. Each interview was about one hour long. Additionally, several follow-up interviews were conducted to ensure that relevant information was not missed. These were mostly made by telephone, but some of them, only involving short and precise questions were made through e-mail. Regarding the phone interviews, an emphasis was held on making clear questions. These were also sent to the respondents before the interview. In this way, the respondents could prepare for the interview, and hence we decrease the risk of misunderstandings. Furthermore, all the interviews had the form of two-to-one, i.e. two interviewees and one respondent. To make sure that everything in the interviews was grasped, they were all recorded. The recorded material was then transcribed to make use of it.

When it comes to the type of interview method, we used the semi-structured method. This approach allowed us to prepare specific questions about a particular subject, but also to question follow-up questions freely during the interviews (Collis & Hussey, 2014). This approach suited us well because specific issues concerning various characteristics had to be answered. Though, to deeply understand what impact they had on each specific firm, more freely questioning about each specific organization had to be made. Semi-structured interviews also utilized the possibility to compare the answers from the respondents, which made it possible to compare the organizations in the study. This led to an improved generalization. Furthermore, the interview questions were designed based previous TCE and IOCM literature in a way where it was possible to classify the question to particular topics, issues, and assumptions. Evidently, we wanted to receive as much information as possible; therefore, the respondents were asked to elaborate on their answer. To achieve a clear understanding of their replies, we also questioned whether the respondents could exemplify and put their answers in context. Lastly, when it comes to ethical issues, all respondents were told that they and their company were going to be anonymous in the study. We also told them that their answers were only going to be used by the authors and the authors' supervisor.

3.4 Data analysis

To analyse the received answers from the interviews, we have applied the general analytical procedure. The procedure consists three processes - reducing data, displaying data, and drawing conclusions and verifying the validity of those conclusions (Miles & Huberman, 1994). The analysis was conducted in that specific order, evidently starting with the data reduction. To manage this, we restructured the data based on the relevance in accordance with the theoretical framework. With other words, data from the interviews that could not be fitted

into the theoretical framework in a relevant way were neglected. This process allowed us to get data that were more simplified and focused. Moreover, since the interview questions were tied to the theory, the answers were already somewhat coded, which made this process easier. Lastly, the data were then summarized in a table (see Table 1), showing what the three organizations do to control risks. The table was a convenient way of us to display the data, and through it, we could see patterns emerge, which we used in the analysis.

In the last part of the analytical procedure (i.e. in the analysis itself), this pre-work became handy. For example, since most of the coding had been managed directly through the interview questions and in the establishment of the table, emphasis could be held on establishing patterns by comparing the three organizations. In this way, presumptions were given to develop small sets of generalizations based on these patterns in relation to the existing body of theory.

3.5 Limitations

As noted in the section concerning research design, case studies like this cannot obtain external validity, which evidently is a limitation. Though, this is not our goal and as mentioned, theoretical patterns have instead been established, which can be generalized to similar settings. Regarding the choice of companies, it is possible that more rich and detailed data could have been gathered if we were allowed access to the biggest 3PL organizations. It is likely that they have more methods and procedures for managing external logistics providers due to the fact simple that they usually have more resources. These would have been interesting to grasp to strengthen the theoretical generalization.

Since the study involves sensitive and ethical issues such as trust, getting valid answers from the interviewees can be of concern. It can also be difficult to identify whether there is real trust or if it is other factors affecting the relationships (e.g. confounding variables). According to Collis and Hussey (2014), issues like this have to do with the concept of construct validity, which is a phenomenon that is not directly observable, like motivation and trust. Issues such as this have been considered when we were asking questions about trust. Specifically, we asked various questions about trust to identify possible confounding variables. Furthermore, trust is a complex factor in business relations, and confounding factor can be hard to identify.

3.5.1 Reliability

When it comes to reliability, the assumptions and interpretations surrounding the data in this study might be different if other researchers conducted it; this issue is inescapable in these kinds of studies. However, we have done numerous things to decrease these reliability issues, some by which we have already brought up. For example, we have created tracks of how the study have come to its conclusion by outlining what has been done, how it has been done, and why it has been done, for example, by stating how we have used the general analytical procedure. In that way, it is easier to understand how we have worked to establish our conclusion. We have also, in accordance with Ahrens and Chapman (2006), tried to increase the reliability, by creating an extensive theoretical framework, which we have linked extensively to our findings. Concerning the findings, as previously mentioned, we have transcribed, coded, and commonly interpreted our interview to minimize interpretive errors.

4. Empirical findings

The empirics chapter starts off by presenting the three organizations that constitute the research. The empirical findings are presented according to the relations of risk, control, and trust, based on TCE. Furthermore, a distinction is made between complex and less complex services, to provide with a picture of how the freight organizations manage their services and the inherent characteristics of these two categories. Additionally, a separation of the organizations has also been conducted. The chapter ends with a summary of the empirical findings.

4.1 Description of the organizations

4.1.1 Organization 1

Organization 1 (O1) is a medium sized company, with a turnover of approximately 500 MSEK and total of 87 employees. O1 operates in most of the Nordic countries. They provide their customer with various transportation services and can transport goods all over the world. The only thing that they do not provide is package delivery, but everything from a pallet and upwards in size can be managed. This involves freight by road, sea, and air. However, they mostly conduct road freight. In fact, 80 percent of their annual revenue is from road freight. Moreover, O1 is involved in services that are both complex and non-complex, these are often handled in different ways. The complex freights often involve tailored solutions, called project forwarding freights or break-bulk freights (Coordinator 1 at O1). The non-complex freights, on the other hand, are often big loads packaged in containers or wagons. These are often called bulk freights.

Similar to the previous literature concerning 3PLs, O1 outsource their freights heavily. In fact, none of the freights are carried out by the O1 themselves; instead, external actors such as haulers are being contracted to carry out freights. Though, the organization owns some containers and wagons that some of their contractors use.

4.1.2 Organization 2

The second organization, O2, mostly operates in the Nordic countries. They have offices in the whole Nordic region, though, their headquarter is located in Gothenburg. O2s turnover for the financial year of 2016 was approximately 60 MSEK and they have a total of 21 employees, hence classified as a small entity. O2s business constitutes of railway and road freight transportation, with overwhelmingly of the transportations conducted through road freight within Sweden. Similar to O1, no own transportation assets are owned; instead, O2 is structured as a non-asset business. Hence, they are outsourcing freights to contractors.

4.1.3 Organization 3

Lastly, the third organization (O3), is a small international actor that operates within numerous transportation fields, such as road and rail transportation, but overwhelmingly in the maritime shipping field. O3s turnover for the financial year of 2015 was approximately 200 MSEK and they have a total of 21 employees.

O3 mainly act as a line agent, which involves procurement of cargo to the shipping companies. It also involves practical tasks such as documentation and handling of cargo. Furthermore, O3 manages all kinds of goods. Though, they prefer more complicated freights, consisting of odd load (i.e. break bulk). These types of goods cannot be loaded in intermodal

containers nor bulk; instead, the cargo has to be loaded individually. Moreover, Similar to O1 and O2, O3 does not own any transportation assets. Instead, they fall into the non-asset category (i.e. they do not possess any terminals or ships). The CEO at O3, argues that they rather have a mediating role, where they contract shippers to carry out their freight.

4.2 Risks due to outsourcing

To understand why an organization act as they do regarding interorganizational relationships, one should understand the risks of their service (Vosselman & Van der Meer-Kooistra, 2006). All the three organizations have various risks relating to their outsourced activities. Evidently, there are performance risks with the freight itself. The goods can, for example, be damaging or be delivered too late. The supply chain manager at O1 claims that certain customers demand specific things, which increases the performance risk. The freight then has to be handled in specific ways, which increase the need for a higher performance. The supply chain manager at O1 further argues that this often goes hand in hand with the complexity of the freight. However, these types of services are often more valuable in terms of income. In fact, the more the customer demand from O1 the more profit can be gained. Moreover, coordinators 1 at O1 exemplifies that a complex freight can be a transportation involving several different steps (e.g. from road to carrier transportation) or oversized specific products (i.e. project forwarding). Coordinator 2 at O1 adds that complexity can also be about security. For example:

“We often ship high valued goods such as electronics, like iPhones for example. In these cases, I am not going just to let any random actor carry out the freight; they have to fit certain requirements”.

There are also performance risks concerning reputation where contracted haulers can damage O1s reputation. The supply chain manager in O1 exemplifies this type of risk in a scenario where this risk became apparent:

“One of our haulers got caught in a border control between Sweden and Norway, showing that the truck was insufficient to drive and the driver did not have the right permission to drive.”

Despite the fact that O1 themselves did not commit this act the incident lead to bad publicity. This incident could be seen in various newspapers, where there was a picture of O1s wagon with their logo on. This was not appreciated by O1s customers, which created a need for O1 to defend themselves.

Like most organizations, these organizations are also exposed to behavioural risk due to possible opportunistic behaviour. Such a risk can be exemplified in a relation between O1 and one of their haulers. In that case, O1 realized that the hauler systematically charged them for too much. Another behavioural risk can be exemplified in O3, where the CEO at O3 states that:

“Transportation of goods involving many complicated steps are often risky due to dependencies, if one has a cargo at one place, you want to move it as fast as possible. For example, having the cargo lying around on a dock somewhere is costly. Therefore, one needs to contract carriers who do not break contracts and take other possible more valuable contracts at the dock”.

A similar argument can be found in O2. The CEO at O2 mentioned that they assume that their contracted haulers are working with them over a longer period. They also presume that they shall be able to make a delivery almost all the time to reduce the lead-time of the freights. The CEO further claims this can cause problems with their customers if the haulers do not cooperate in time.

When the coordinators in O1 are managing complex services, the supply chain manager at O1 stresses that they need to be cautious of various risks. Usually, there are specific requests from customers (making the freight more complex), which entail specificity to their contractors. For example, in project forwarding various specific security requirements is needed. In cases where many different actors need to be contracted at ones, (e.g., road, carrier, and flight), one may have to contract specific actors who can handle oversized goods, all the way from A to B. If one would break the contract the whole project could be jeopardized. Evidently, risks like these have to be controlled.

4.3 Control to decrease risks

To control the risks like those exemplified above the three organizations apply various tools. All the organizations claim that they put some emphasis on establishing control through contracts. Though, we can also see that control is established through trust. Moreover, when it comes to establishing control, there are differences between complex and less complex services. There are also differences based on the transportation type. These differences will be outlined below.

4.3.1 Complex versus simple road freight

When O1 is managing complex freight (e.g. project forwarding and break bulk) they are only using a few selected haulers. The supply chain manager at O1 explains that this is approximately about 50 haulers based on the whole company. Many of these haulers they have had a partnership with for decades, and they are still working frequently together. These haulers do not require the same documentation, compared to haulers that carry out less complex services (Coordinator 1 at O1). O1 is for example providing them with credit, where O1 pay them before the freight has been carried out (Ibid). Hence, the employees in O1 do not have to put emphasis on control with these haulers. The supply chain manager further argues that when there are cases where specifics is needed they are putting more emphasis on whether the contractor can be trusted to perform the freight. Coordinator 2 in O1 states:

“This can involve issues such as technical factors. For example, when we are transporting iPhones for a client we require that the haulers have a security camera in the truck, and I would only choose a hauler that we have a better connection to and whom I can trust”.

Hence, for these kinds of freights, they also look at the experience of the hauler and for how long they have been collaborating in a proper manner.

O1 also provide their customers with a service called Healthcare and Pharma logistics. This type of freight service involves transportation of pharmaceutical goods and is managed similarly to the breakbulk, and the project forwarding freights. Similarly, it also contains more complexity, characterized by high requirements. To carry out this freight, the supply chain manager claims that haulers need to have specific training for managing medicines and other pharmaceutical goods. The trucks also have to fit specific requirements regarding temperature and cleanness (Coordinator 1 at O1). Moreover, the coordinators add that of the 50 trusted

haulers, 8 of these are used for this kind of service. Though unlike many of the project forwarding freights, this service is not on an ad hoc basis when it comes to the customers. Coordinator 1 at O1 can exemplify this, stating that:

“Healthcare and Pharma involve longer contracts that are established with the customers, but similarly with other complex road freights we use a few number of haulers. For this specific purpose, we use eight haulers”.

A similar type of pattern can be seen when it comes to larger and more valuable customers. This is exemplified by coordinator 1 at O1 who argue that:

“When we are directing haulers to carry out services for bigger and more important customers, we only use haulers that we can trust, despite the fact that these haulers usually are coordinated to more complex freights.”

These larger customers are mostly buying more simple services. It can, for example, be bulk freights (Supply chain manager at O1). However, the con of choosing a hauler that usually are handling complex freights is that it is more expensive, which shrinks the margins drastically. Though, this is still profitable in a longer perspective due to the risks involved (Ibid). However, the more competent haulers are not used all the time in these situations. It can also be situations where O1 chooses a trusted hauler when a less competent hauler previously has created problems with the freight. For example, in the situation where one of their haulers got caught in a border control, the supply chain manager at O1 claims that:

“Despite the fact that the customer, in that case, bought a less complex service they had the potential in the future to be a really good customer in terms of future income. Therefore, in the following freights, we decided to give the freight to one of our trusted haulers, who usually carry out project forwarding services”.

Both the coordinators argue that this is also a common procedure in situations when the cargo has been damaged. In that way, they can make sure that the freight gets right the second time, hence reducing the chance of losing customers (Coordinator 1 and 2 at O1). However, simple freights are usually not managed in this way. Coordinator 2 mentions that competitive bidding is often used among the coordinators to contract haulers for the simple freights. He further claims that they have a budget to follow, and competitive bidding is an efficient way of keeping the costs down. However, even though price often is the key here, there are other things that the coordinators have to consider as well. Coordinator 1 at O1 argues that they often know whom they should contract based on rumours in the branch. Another indication that is often used is the price; a low price can in some cases indicate that something illegal is going on (Coordinator 1 at O1). For example, in Eastern Europe, there have been examples of drivers who have been treated as slaves (Ibid). Hence, despite the low risk, as well as the low importance of the freight in these cases, the coordinators have some control when it comes to trust.

Similarly, to O1, when O2s employees are managing complex freight they only use a few number of haulers, more particularly, 11 haulers (CEO at O2). Like O1 these haulers are loosely tied to the contractual agreements; instead, they put much emphasis on whether the haulers can be trusted (Coordinator 1 at O2). The CEO at O2 motivates this, arguing that:

“There would be tediously in these long relationships if we would have to renegotiate the terms for every single project that our haulers are involved in. Instead, we trust all our haulers to perform as we want them to, saving us time and money.”

Though there is still a contract at the bottom of every relationship, but they are unspecific and do not regulate anything to a greater extent (Ibid).

The complexity of these services is being manifested through requirements concerning time and freight precision. In some cases, it can even be forbidden to carry out goods to early (Coordinator 2 at O2). Demands in the case of O2 can also be about fragile goods; some customers require that a specific qualified driver handles the goods in a safe way (Ibid). Coordinator 2 states that this is the case when it comes to unpackaged goods. He further argues that:

“Unpackaged goods are often larger goods which we cannot package, hence our driver has to be able to handle this type of goods carefully.”

When it comes to less complex freights in O2, the CEO claims that these are mostly consisting of full load freights. Additionally, to that fact that these goods are easy to manage, these are often simple because one just has to transport the goods from A to B (Ibid). However, as briefly discussed above. O2 only conducts a few of these types of freights, due to the low profitability. In these few cases, they sometimes accept an offer regarding a simple freight just because they have or are carrying out a complex freight for the same actor. Coordinator 1 at O2 argues that:

“We have had a customer that have hired us to transport large unpackaged glass windows. That particular customer asked us if we also could transport less complex goods as well, like doors and locks.”

When O2s employees accept these types of simple freights, they do not use the 11 haulers that they have a better connection with (CEO at O2). Instead, they use more loosely connected hauler that they hire on an ad basis (Ibid). However, unlike O1, coordinator 2 at O2 claims that they do not use competitive bidding since they still want to know who the haulers are. He further argues that he and the other coordinator do not want to take the risks that are associated with competitive bidding; instead, they use a hauler that is relatively known for them. When it comes to the contracting of these haulers, the CEO at O2 argues that emphases on contracting are moderate. There is usually not that much to contract, due to the simplicity of the freight. Hence, the contract becomes standardized (CEO at O2).

4.3.2 Complex versus simple carrier freight

When it comes to carrier freight (i.e. shipping), it is mostly O3 that is relevant, since O2 does not carry out that type of freight and O1 only does it to a minor extent. Thus, this part of carrier freight will only involve O3. Moreover, when O3s employees are outsourcing freight to contractors, they are doing it on an ad hoc basis (CEO at O3). This type of freight is also often ad hoc based when it comes to the hiring by a customer; usually, a customer needs to transport something out of the ordinary at a particular time (Coordinator 1 at O3). Coordinator 2 at O3 expresses her thoughts concerning this, stating:

“We use a large variety of shippers that we contract to specific projects all over the world. Hence any greater relationships are not being established with our contractors” (Coordinator 2 at O3).

Additionally, coordinator 1 at O3 exemplifies this:

“When I and the rest of the coordinator's contract shippers to carry out complex freights, we first look at the capabilities of the shipper, but it is also critical to consider the location of the shipper. It is expensive to send these shippers on long journeys to manage specific freights; it is an enormous fuel cost for the shipper. The location is also a part of our strategy. If we get the possibility to carry out a similar freight along the scheduled route, we will naturally contract a shipper that is in a location that can manage this”.

Therefore, unlike the complex road freight in O1 and O2, where control is achieved through trust, control in O3 is obtained by establishing detailed contracts (CEO at O3). This is an active choice that they have made to reduce costs (Ibid). Moreover, the contracts in these cases can, for example, include specifics concerning:

“Timing, requirements, and clauses stating what happen if the contract is breached. Overall, everything is detailed to ensure that the control is maintained, which is costly, but we also save much money on hiring shipper on an ad hoc basis” (CEO at O3).

Hence, these contracts are specialized to fit the context precisely. However, despite the neglect of trust as a tool to control risk, coordinator 1 and 2 argue that they often consider rumours in the branch. Apparently, this is something that is fairly common in this business (Coordinator 1 & 2).

Contrary to the risk control of complex carrier freight, the less complex carrier freight does not involve any greater control at all. The CEO at O3 mentions that the non-complex carrier freights are seen as standard freights.

“Such freight can, for example, be to ship a container full of tools from Hamburg to Hong-Kong” (CEO at O3).

When it comes to contracting a shipper for that kind of freight, it is often common to use competitive bidding, where transparency and fixed agreements are included already from the start (Coordinator 2 at O3). Coordinator 1 at O3 adds:

“I do not usually even bother to pay attention to these contracts. They are standardized in the branch and often provides sufficient control relative the low risk”.

However, when there is a larger and more important customer, regarding future income, the two coordinators argue that they put more emphasis on control. For example:

“We have an important customer for which we have sent furniture for during a longer time. Despite the fact that these freights are simple, standardized bulk freights, we still tend to put more emphasis on establishing extensive contracts

with the shipper that we contract to carry out the freight. It is less common to use competitive bidding in these cases. I usually prefer to contract a shipper that we have had some experience with” (Coordinator 2 at O3).

Hence, in these cases, they still tend to consider a small degree of trust. However, they do not contract shipper that they would use for more complicated freights, as the coordinators in O1.

4.4 The meaning of trust

As seen in the previous section of this chapter, the organizations sometimes use trust as a means to gain control. However, except this fact, we have not touched upon its manifestation nor the effects of it. Hence this will be outlined here.

4.4.1 Road freight in O1

Most emphasis on trust can be found in O1 and O2 regarding more complex and important road freight. Starting with O1, the supply chain manager at O1 states that long lasting and frequent relationships with the approximately 50 haulers have created a strong feeling of trust, which is useful for managing complex and valuable freights. Coordinator 1 at O1, trust has been established with their haulers through a significant amount of experience, manifested by frequent communication. For example:

“As a coordinator, I am in talking with our drivers daily. Usually, this is about giving them information about their upcoming freights, but there are also often discussion concerning how various problems should be resolved during the freights. It can, for example, be an unexpected error concerning the freight or that their truck has broken down” (Coordinator 1 at O1).

The supply chain manager at O1 confirms this and adds that almost all communication is held between coordinators and drivers where the coordinator's purpose is to coordinate the driver to specific areas. Despite the formal purpose of their communication, both coordinators feel that informal communication has risen during a longer period. Coordinator 2 at O1 said that:

“After a while when one gets to know the drivers the communication becomes friendlier, and even though the communication often is short, we find time to talk about mutual interest. Sometimes the drivers also visit our office during various errands; it is then often common that we discuss common issues over a lunch break”.

Both coordinators particularly argue that this informal communication between them and the drivers are a large contributor to the trust that they feel towards their haulers (Coordinator 1 & 2 at O1). The informal communication creates and has created an understanding of each other's issues (Coordinator 1 at O1). Moreover, it is evident that the trust that has been built up in these relationships affects O1 in a positive way, coordinator 1 at O1, for example, argues that:

“It is easier to collaborate with these 50 haulers that we have a close connection to because they share the same intentions and goals as we do. It also feels like they commit fully towards an optimal collaboration”.

Another positive effect, similar to the previously stated above, can be seen in a quote by coordinator 2 at O1:

“I think it is easier to operate with these haulers since we can relate and understand each other. We know what they need regarding resources and what they feel in certain situations. It can, for example, be an understanding of which routes they prefer to take and during what hours they prefer to conduct the freight”.

Ultimately this has led to increased efficiency, but it has also enhanced the relationship further and created a kinship between O1 and their haulers (Coordinator 1 and 2 at O1).

When it comes to activities that are more related to risk exposure, such as investments in the joint operations or cost transparency, we see that the trust is working as a factor that utilizes these activities. There are many examples of this, where the employees at O1 and their haulers trust each other to expose themselves to each other. For example, O1 has developed an app that allows their haulers to use tools such as sign on the glass when they are delivering goods (Supply chain manager at O1). Though, this only involves those haulers whom they have a better connection with, to get the opportunity to participate in a collaboration through the app (Ibid). The supply chain manager at O1 further argues:

“The reason for this is that additional users require additional investments to set up the app to work with a particular hauler.”

In some cases, O1 has even provided their haulers with equipment to make the freights easier (Ibid). Moreover, the cost transparency, in this instance, can mostly be identified from the haulers, in their joint effort to decrease costs and increase the quality of the freight. The supply chain manager claims that they have just asked for the haulers cost data, sometimes they provide it orally, but mostly they also show their whole cost data through their systems. Moreover, this can be seen during regular meetings between O1 and their closest haulers. Coordinator 1 at O1 expresses that:

“During our annual meetings, we aim to improve our joint operations. Usually, we use operational information received from the haulers raised from our vast communication. Though, we usually spend loads of time when it comes to decreasing costs. The haulers disclose their cost information (i.e. cost driver) during these meetings and jointly, we investigate where costs can be cut and how this could be done. Usually, we know how our haulers operate and what their costs are regarding their operations. Though, to reduce costs further, we need specificity”.

The supply chain manager adds that they and their haulers have reduced costs by commonly reviewing how to package various kind of goods, which in turn have led to less usage of packaging material. They have also established best practice methods for how to handle specific unpacked goods, which have increased the efficiency of their operations and reduced the risk of breaking goods (Supply chain manager at O1). Even though the purpose with this is foremost to improve the complex freights, they have also seen quality improvements as well as cost decreases on the non-complex freight (Ibid). The supply chain manager at O1 for example states:

“We have seen that some of the practices and methods that we have established also have eased our hauler's ways of conducted bulk freights. We have for

example seen that they have applied these practices and methods to on and off-load the cargo in wagons. We have also recorded fewer things break that during the freights and less material is used when packaging goods, which has reduced our costs”.

Overall, the supply chain manager at O1 claim:

“This has led to an improvement regarding quality and cost efficiency of all our operations.”

4.4.2 Road freight in O2

When it comes to O2 and its 11 trusted haulers, it is evident that trust is raised in a similar way compared to O1 and its haulers, i.e., by experience through many operations. This can be exemplified by a quote from coordinator 2 in O2:

“During my nine years at this organization, I have almost been in contact daily with the same drivers. We have together worked towards solving various problems and sometimes it feels like we are the same organization”.

Coordinator 1 gives a similar statement but adds that he feels like it is a strong kinship between the coordinators and the drivers. In fact, when it comes to the drivers in these organizations the relationships have gone from an interorganizational relationship to an intraorganizational relationship, showing kinship and trust felt to their driver (CEO at O2). The CEO at O2 explains:

“In some relationships, we have hired retired drivers from the haulers to go and visit our customers to check the quality of the freights.”

This familiar behaviour can also be seen in the way how O2 pays its haulers. The CEO mentions that they put much emphasis on making sure that these haulers can make a living from their work. They also ensure that those haulers that are not getting any work any given week, are provided with work shortly (Coordinator 1 at O2).

Similar to O1, trust in O2 can be seen to emerge from informal activities. However, O2 and its haulers take it a step further in this regard. The two coordinators in O2 argues that the relationships with their most trusted haulers are very informal, in some cases even familiar. Unlike O1, coordinator 1 explains that they are doing activities outside the business, like driving go-cart together. In addition to the vast amount of interaction between the coordinators and the driver’s, coordinator 1 thinks that these activities have contributed to a strong kinship, which is manifested by goal alignment, joint care about the freight, as well as the commitment to each other.

The fact that there is trust between O2s employees and their 11 haulers is evident. However, how is it used and what benefits do they draw from it? The CEO at O2 claims that by working closely with the close 11 haulers, gives them the possibility to utilize better relationships. Through the relationships, they can provide their customers a better service. He exemplifies this by stating:

“Relationship-wise, we know where we have our haulers. Hence, we can utilize our haulers on very short notice when a customer wants a fast ad hoc freight. We,

for example, know what they can achieve and we know that they always will carry our freights” (CEO at O2).

Similar to O1, O2 has also created best practice method for handling specific freights, which also is a result of joint meetings and education sessions (Coordinator 2 at O2). The CEO argues that this has increased the efficiency and reduced the costs of damaged goods. However, this is managed without any form of cost transparency, instead, the CEO at O2 mentions:

“We purely use information that has risen from communication between our coordinators and the hauler’s drivers. From this information, we focus on how we can improve the overall quality of the freight”.

However, O2s employees also often know to at least some degree what is driving their costs and what their costs are, since they used to carry their out our own freights for approximately 15 years ago (CEO at O2).

4.4.3 Carrier freight in O3

In O3, trust is sometimes used as a control tool when managing complex freights or valuable customers. The CEO at O3 recognizes trust as a factor that sometimes helps to determine which actor to work with. However, the most vital factor when contracting a shipper is their capabilities, the location of the carrier that the shipper utilizes, and the price. Coordinator 2 at O3 argue that this makes it impossible for them to develop any greater relationships with any shipper. Hence, there is a large difference between O3 and the two other organizations. This difference can also be seen concerning the informal communication, which is absent in O3. Coordinator 1 at O3 exemplifies this, by stating:

“The communication we have with the shippers are just professional; there is no communication about other issues.”

Evidently, this type of communication does not create any trust.

Not surprisingly, O3 does not collaborate any further to reduce costs or to improve the freights with their shipper. However, in a few relationships with their customers, where O3 are providing project forwarding services, cost transparency occurs through open books (CEO at O3). However, according to the CEO of O3, this is rare. O3 has for example used open books with one of their larger customers, where they transported forest products from Bergen in Norway. The purpose with the open books, in that case, was to show the customer that the freight was conducted in the most cost-effective way. However, usually, when O3 provides project forwarding freight, they only present their customers with a price, without any explanation of their internal costs (CEO at O3).

4.5 Data display

The empirical data presented in this chapter is summarize in the table below. The structure of the table is based on TCE literature. Hence the table discloses what the three 3PL organizations are doing in order to obtain control.

	Performance risks	Controlling performance risks
Asset specificity		
Uncertainty	Many different and difficult steps in the freight - increase risk and uncertainty	O1 and O3 tend to rely on strong contracts
	Few steps in the freight - decrease risk and uncertainty	O1 and O3 tend to use competitive bidding while O2 tend to use known haulers but who are not involved in a partnership
	High requirements such as security - increase risk and uncertainty	The organizations tend to choose actors who are trusted and experienced. Though, O3 are putting more emphasis on establishing contracts and accessibility of the carrier
	Low requirements - decrease risk and uncertainty	O1 and O3 tend to use competitive bidding while O2 tend to use known haulers but who are not involved in a
	Highly important customers - increase the risk	O1 tend to choose more trusted actors
	Less important customer - decrease the risk	O1 and O3 tend to use competitive bidding while O2 tend to use known haulers but who are not involved in a
	Irresponsible haulers - increase risk and uncertainty through reputation	O1 rely on the code of conduct through contracts. O2 manages there risks mostly by relational means
	Trusted haulers - decrease risk and uncertainty through reputation	O1 and O2 put low emphasis on contracts
Frequency	High frequency creates dependencies - increase risk and uncertainty	When it comes to complex road freight O1 and O2 receives control through trust towards haulers who carry out freight frequently. O3 mostly uses carrier freights on an ad hoc basis, hence no frequency
	Behavioral risks	Controlling behavioral risks
Asset specificity	Specific project forwarding solutions - increase assets specificity and risk of opportunistic behavior	O1 and O3 tend to rely on strong contracts for managing complex carrier freight while O1 and O2 instead rely in trust when managing complex road freight
	Specific investestements from both parts in complex road freight - increase asset specificity and risk of opportunistic behavior	O1 and O2 rely on trust to reduce the risk of opportunistic behavior
	Cost transparency between outsourcer and contractor in complex road freight - increase risk of opportunistic behavior	O1 and O2 rely on trust to reduce the risk of opportunistic behavior
Uncertainty	Distrusted actors - increase uncertainty and risk. For example: Haulers have charged O1 with unreasonable amounts. In O3 carriers have ended contracts in harbors due to other more profitable freights	O1 control what the freight should cost by measuring travel distance for distrusted haulers, while O2 uses more trust towards these haulers. O3 soley rely on contracts
Frequency	High frequency creates dependencies - increase the intensification (due to the switching cost) of a potential opportunistic activity	O1 in complex longer services (healthcare and pharm) as well as more complicated road freight, control is received through trust by a few frequently used actors. O2 mostly uses carrier freights on an ad hoc basis, hence no frequency

Table 1: How 3PLs manage contractors based on control

5. Analysis

This chapter will cover the analysis of how the 3PLs manage their relationships relative to the previous findings in the field. How the freights are being managed is mainly based on the complexity of the freight. That will be reflected in this chapter.

All of the studied organizations have one common trait; they outsource everything that has to do with driving the vehicles. All the organizations argue that the cost of operating in a hierarchy mode of governance (within the boundaries of the firm) is more expensive than to outsource the freight. This means that the transactional costs are lower when outsourcing is used (Vosselman & Van der Meer-Kooistra, 2006). Furthermore, most buyer-supplier relationships are characterized by a hybrid mode of governance (e.g. seen in Langfield-Smith, 2008), this case shows no exceptions. The three 3PLs use a mix of bureaucracy and market mechanisms, which is significant for the hybrid mode of governance (Williamson, 1991). Evidently, the use of these mechanisms is more and less utilized by the three organizations. This difference can be identified based on the kind of freights method. Furthermore, the difference regarding the use of the mechanisms is mainly dependent on the complexity of the freight, which aligns with Ellram and Tate (2015). This difference will be outlined below, starting with complex services.

5.1 How the 3PLs manage outsourcing of complex service

As seen in the empiric's chapter, the three organizations offer services that are considered to be more complex. O1 and O2 for example, offer freights that require their haulers to be able to meet many specific standards concerning the quality of the freight. O3 on the other hand, provide complex carrier freight, often involving oversized goods. These complex freights are considered as more important compared to the non-complex freights. This importance can be manifested by the fact the more complex a transportation gets; it tends to generate more income as well as profits. The complex freights' is not only more valuable in a sense where they provide most income. Aligned with the notion of component characteristics from the manufacturing sector (e.g. Ellram, 2006; Agndal & Nilsson, 2009), these types of freights are also more important because the three organizations are investing more money on these, making them riskier in a sense.

The risk of the complex operations can further be seen through uncertainty. Vosselman and Van der Meer-Kooistra (2006) suggest that complexity and uncertainty are interrelated, which also can be identified in this case regarding these three organizations. All of the organizations argue that complex services require them to make more decisions regarding control. Though, they never have the possibility to know everything to make an optimal decision. For example, coordinators in the three organizations always have to deal with uncertainty where they have to choose suitable actors for a particular project. Aligned with the findings by Agndal & Nilsson (2009), this makes the three organizations put much emphasis on selecting proper actors. However, this risk mitigation creates transactional costs (Vosselman & Van der Meer-Kooistra, 2006; Speklé, 2001). These costs are clearly seen in O3 where the coordinators put much emphasis and resources on establishing strong contracts. Moreover, the organizations apply different control mechanisms to establish control, which specifically is covered in further sections.

The research literature (e.g. Geyskens et al., 2006) also suggests that risk can be enhanced by the degree of asset specificity. This factor can especially be seen in the complex services. The most degree of asset specificity is manifested in the project forwarding services, where the

three organizations tailor a particular solution for a specific complicated and out of the ordinary freight. We can also see that O1 and O2 establish standard methods for conducting freights. Sometimes, O1 even makes various investments in their contractors.

Another factor that typically intensifies the risk is the degree transactional frequency (Williamson, 2002). How the transactional frequency is handled mostly differ between the various transportation methods and will, therefore, be outlined specifically further on. Though, in general, we see that O1 and O2 frequently uses a few selected haulers for managing complex road freight, while O3 always uses different shipper for carrying out complex carrier freight. Similar findings can be found by Ellram and Tate (2015). Moreover, more specifics surrounding the difference between the three organizations are outlined next, starting with complex road freight.

5.1.1 Management of outsourced complex road freight

When it comes to complex road freight in O1 and O2, the respondents clearly show that trust is used as a mean to controls uncertainties. Aligned with the findings by Nootboom (2004), the explanation for the two organizations is that it is hard and expensive to establish contracts that give sufficient control during a longer period. Therefore, it makes more sense to use trust as a control tool rather than a bureaucracy mechanism (i.e. strong contracts) (Van der Meer-Kooistra & Vosselman, 2000). Furthermore, both O1 and O2 uses a few numbers of haulers that they know can perform, hence reducing the performance risk (Das & Teng, 2001b). This behaviour is a sign of performance trust (Das & Teng, 2001b), rather than goodwill or contractual trust. This way of handling contractors aligns with the notions of frequency, where research (e.g. Geyskens et al., 2006) shows that trusted contractors that are frequently used mitigate both performance and behavioural risks.

Regarding the different types of trust expressed in the study, it is apparent that all can be identified to some degree. Evidently, since O1 and O2 do not rely on strong contracts, it is not particularly relevant to consider contractual trust in this case. Instead, in relationships like these, it is pertinent to consider performance trust but foremost goodwill trust.

Importance of trust when managing complex road freight

The case shows that it is possible to identify goodwill trust. O2s employees, for example, assume that their haulers will help them on short notice if they are in urgent need to carry out a freight. In O2, we could also find examples of where haulers are helping each other out when trucks have broken down. From the O2s point of view, this behaviour is explained by loads of interaction when it comes to solving problems between coordinators and drivers. In that way, they can both have common goals, which have increased the understanding of each other's operations and ultimately a kinship. This type of pattern can also be seen from the service perspective (e.g. Beritelli, 2011), where kinship has shown to play a significant role. Another sign of kinship can be found in the informal activities outside the business, such as go-carting. The respondents in O2 argues that these types of activities also contribute to a deeper form of relational trust, i.e., goodwill trust (Das & Teng, 2001b).

Goodwill trust can also be identified in the relationships between O1 and its haulers. In some cases, O1 invests in its haulers through equipment and training. If these haulers would end the relationship with O1 these investments would be sunken costs. It would also create a switching cost, where O1 has to find a new hauler, where trust has to be build up, and new the hauler has to be trained. Though, the employees at O1 they assume that their 50 haulers collaborate with them during a longer period. From this, we can also see that there is human

asset specificity (though training) as well as physical asset specificity (though investment in equipment), which intensifies the risks (Williamson, 1991; Nooteboom, 2004). Though, as argued, the respondents in O1 states that they trust their suppliers enough to expose themselves and make these investments. According to Das & Teng (2001a), making oneself exposed to risks like this is a sign of goodwill trust. Exposure can also be seen from the hauler's side in situations where they open their books for O1. In these situations, O1 could be opportunistically, by using the cost information to pressure the price and squeeze their haulers margin. Moreover, we see that O1 and their haulers expose themselves to each other, which strongly indicates that there is a mutual trust between the parts, which is highly associated with IOCM (Kajuter & Kulmala, 2005).

Similarly, to O2, O1 communicate greatly with their haulers via their coordinators. The purpose of this communication is also the same, i.e. the coordinators are directing haulers and solving issues jointly with drivers. The coordinators in O2 argue that this communication is both formal and informal. More precisely, we see that the formal channels are used somewhat informal, where coordinators and drivers talk about things not directly related to the business. They claim that this has helped them with their joint operations because they can relate to each other regarding factors such as resource dependence. This kind of reciprocal sympathy in collaborative relationships has for example been documented in the service sector by Beritelli (2011) and by Cooper and Slagmulder (2004) in the manufacturing sector, showing that this type of sympathy is essential for a good collaboration. Furthermore, the coordinators also feel that a kinship has evolved, where they share a culture and common goals.

Ultimately, similarly to the findings by Holma (2012), the two cases indicate that formal operational communication in an interorganizational setting between employees can lead to more efficient and less risky operations. We can, for example, see that the two organizations adjust the services after operational information and create better practices for managing the freights. Based on this information, new methods and strategies are commonly adopted in joint meetings as well as in educational sessions.

Usage of IOCM method concerning complex road freight

The IOCM research concerning the manufacturing sector suggests that high uncertainty, asset specificity, frequency, and foremost goodwill trust, should be the right factors and give the right incitements for IOCM (Van der Meer-Kooistra & Vosselman, 2000; Das & Teng, 2001b; Agndal & Nilsson, 2008). As previously seen, all these factors can be identified in O1 and O2 concerning complex road freight. Based on the IOCM notions from the manufacturing sector this means that IOCM fit O1 and O2 well. In O1 we can see that IOCM is used between O1 and its most trusted haulers. This can be seen during meetings between the O1 and its haulers, where they jointly aim to increase the quality of the freight and to decrease costs. During these meetings, they use OBA to get access to the hauler's cost data, which they use jointly to identify cost drivers where costs can be decreased. The respondents in O1 argue that they just have asked for this type of information and the haulers provided them with it.

Since OBA is not an actual cost management technique on its own, it is often complemented by IOCM techniques such as TC, QFP, CE or IOCI. Though, none of these could explicitly be found. However, we can see that O1 and its haulers use the cost data in a similar way to these techniques, but still in an informal way. For example, they break down the service into cost drivers and then engineer the service to increase the efficiency. Through this, they, for instance, have established best practice methods and reduced the amount of material used for transporting goods. Similar examples of informal use of cost information utilized by OBA can

be found in the manufacturing sector. Like this case the goal there have been to increase the efficiency in a buyer-supplier relationship (Christopher, 1998). Furthermore, as a result of OBA in O1, we could also identify common relationship enhancement effects, similar to the findings by Alenius (2015). This has to do with creating dependencies, where they are for example making investments in their haulers based on OBA, with the purpose to make the joint operations run smoother. This is investments regarding education as well as technology and equipment. These areas for investments are recognized through the meetings in which cost information is communicated. However, the investments are not one-sided; the haulers also have to make investments to fit the required requirements from O1.

When it comes to O2, we see that a formal use of OBA is neglected. However, O2 and its haulers still work together to improve the freights. However, this is managed more roughly based on communication between coordinators and drivers, without looking into the cost driver thoroughly as O1. The CEO O2 argues that they often have a good insight into their hauler's operations and how costly they are. This is explained by that fact that they used to manage all services within the boundaries of their organizations just for around 15 years ago, making it easier from them to understand their hauler's operations. A similar phenomenon is identified by Agndal and Nilsson (2009). They suggest that cost transparency is not relevant in cases where the outsourcer has a vast knowledge of the cost associated with the production of a component. Moreover, this does not mean that OBA is unnecessary in this case. By using it thoroughly, O2 and its haulers could obtain a higher precision when it comes to improvements of the freight.

5.1.2 Management of outsourced complex carrier freight

Unlike how O1 and O2 manage their road freight, the carrier freight in O3 is managed with the emphasis on contracts (i.e. bureaucracy mechanisms). The explanation for this is that O3 contracts carriers on an ad hoc basis, i.e., O3 contracts various shippers that suit a specific project for often a one-time customer. It can, for example, be a customer that needs a one-time transport of a big generator. Thus, the transactional frequency between O3 and their shippers is low. This pattern can also be seen amongst complex consultancy services (Ellram & Tate, 2015). Moreover, in turn, O3 have many different one-time customers as well as one-time shippers. Therefore, trust through relationship characteristics should not occur, since no experience is being created (Gulati, 1995; Wang et al., 2015), which exactly is the case here. No real dependencies are built up either since O3 mostly rely on contracts when it comes to establishing control.

Importance of trust when managing complex carrier freight

In contrast to managing complex road freight, the management of complex carrier freight does not contain goodwill trust at all. Instead, contractual trust is more important, which in this case reduces both behavioural and performance risks. Evidently, there is also some performance trust involved when it comes to contracting the right carrier. Moreover, we can see that institutional trust in the case has an effect on the performance and contractual trust (Zucker, 1986; Das & Teng, 2001a). The institutional trust is manifested by rumours that the coordinators take into consideration when they are contracting a shipper. This is especially apparent in situations where there is much money at stake. However, the question remains, why are the carrier freight managed so differently in relation to the road freight, (i.e. why are they hiring carriers on an ad hoc basis through strong contracts). The answer for this can be found in their way of contracting haulers. The respondents in O3 argue that when they are contracting a shipper, they are putting much emphasis on the location of the carrier since it is costly to move carriers around. There are also other advantages regarding location. In some

cases, the respondents claim that it is also strategically favourable to contract a carrier that can carry out similar services along the scheduled freight route. It is further argued that the high transactional costs of establishing detail contracts are still lesser than the cost of developing a longer partnership with a few number of carriers.

Usage of IOCM methods concerning complex carrier freight

Not surprisingly, there are no signs of IOCM between O3 and their shippers. As identified, the relationships between these parts are characterized by the bureaucracy pattern, established by Van der Meer-Kooistra and Vosselman (2000). This is evident since O3 are governing their shippers through bureaucracy mechanisms. The bureaucracy pattern and the bureaucracy mechanisms have shown to utilize a climate that is less desirable for IOCM (Agndal & Nilsson, 2009). As previously seen, the way O3 are contacting shippers also has an effect on the transaction frequency with the shippers. Low frequency as in this case is associated with a climate less desirable for IOCM (Ellram, 1996).

Despite the absence of IOCM between O3 and its shippers, there has been some form of cost transparency between O3 and its most valuable customers. Though this was only used a couple of times and it was only used to a limited degree to showcase the costs of the whole operation. However, this is a rare procedure and should be regarded as an exception for particular customers that they have had a long and better relationship with.

5.2 How the 3PLs manage outsourcing of non-complex services

Opposite to the handling of complex freights, we can see that the degree of uncertainty regarding less complex freights is usually low, mostly due to the low requirements of the freights, making the freights predictable (Speklé, 2001). The organizations also clearly show that there is a small degree of frequency when it comes to specific contractors, which makes IOCM less likely to emerge (Ellram, 2006). It is also apparent that the asset specificity is low, which is often common in these types of situations due to the homogeneity of the product/service (Geyskens et al., 2006). Ultimately, this means the risks involved regarding the less complex services is usually small. However, there is one exception that changes the characteristics. Interestingly, this is the case when the organizations are managing less complex freights for more important customers. The uncertainty is the same in these situations, though the coordinators still feel that the risk is higher due to the significant amount of income that often is at stake. We can also identify a greater degree of asset specificity here since they (i.e. O1) often uses contractors that they have invested in, to carry out these freights. Clearly, there is also a higher frequency concerning the utilization of these contractors. Ultimately, these factors create a better climate for IOCM. Moreover, the difference between these two freight scenarios will be covered in depth further below.

5.2.1 Management of non-complex freights for less important customers

When the 3PLs are choosing a contractor to carry out the less complex freights for less important customers, we mostly see an emphasis on the price of the contractors. Therefore, dissimilar to the complex freights, these are governed by the market mechanism, where price is the most determinant factor (Van der Meer-Kooistra & Vosselman, 2000; Williamson, 1991). These situations where the market mechanism apparent, is often characterized by many suppliers and a low information asymmetry, making collaborations unnecessary (Agndal & Nilsson, 2009). This pattern disclosed by Agndal and Nilsson (2009) can also be seen in this case, and as an effect of it, the three organizations procure these services somewhat careless, which also can be seen by Ellram and Tate (2015) amongst simple services. In this case, this pattern is clearly manifested by O1 and O3, who use competitive bidding to contract

contractors for these freights, where the price is the most important determining factor. Besides, there is also a little emphasis on establishing any greater contracts; these are usually more standardized to these types of freights.

When it comes to the relational characteristics, we see as aligned previous studies (e.g. Van der Meer-Kooistra & Vosselman, 2000; Kajuter & Kulmala, 2005) that these freights are characterized by a small degree of trust. For example, none of the organizations collaborates extensively with their contractors, and no one exposes themselves for each other. O1 can further exemplify this concerning, where it neglects to include these haulers in the development of its app. Instead, they are including haulers that they have a better connection with, who are also carrying out complex freight. In O3, the coordinators state that they regard their relationships as business cases, from which they can get the most favourable price as possible. Consequently, no forms of activities to enhance any mutual trust between the parties are taken place. Furthermore, not surprisingly, these relationships are short and the interaction very low.

When it comes to the different type of trust, we see that there is some performance trust, which stems from institutional trust, i.e. rumours (Das & Teng, 2001a). The coordinators, foremost in O1, exemplifies that there are often many rumours going around and that they tend to avoid risks by not contracting haulers that are not involved in bad rumours. They also argue that they look at whether the price of the freight is reasonable, as an indicator of whether the haulers is serious.

Overall, how these types of services are handled align with the notion concerning component characteristics, both from the manufacturing sector as well as the service sector (Ellram, 2006; Ellram & Tate, 2015). As seen above it also aligns with the notions regarding the relationship and the transactional characteristics as well. In turn, all these circumstances identified here have created a climate that does not suit IOCM. Hence, IOCM is neglected when it comes to manages these types of freights.

5.2.2 Management of non-complex freights for more important customers

Contrary to how less complex freights for a less important customer is handled, we find that freights that are less complex but carried out for an important customer are sometimes treated with more care. This pattern is clearly seen in O1, where the coordinators use to coordinate haulers that usually carry out complex freight to less complex freight. This behaviour is motivated by the risk of losing a customer a customer, or the possibility of gaining a customer. This means that they use an expensive and complex component to a freight that is less complex. Hence, the governance concerning control becomes different in this case; instead of relying on the market mechanisms they are relying on trust as a control tool instead of the market mechanism (Nooteboom, 2004; Langfield-Smith, 2008). This cannot be seen in the manufacturing sector, where contractors usually carelessly buy a less important component from a random supplier (e.g. seen in Van der Meer-Kooistra & Vosselman, 2000). Hence there is an interesting difference here between the two sectors when it comes to the IOCM characteristics.

This pattern is not as apparent in O2 and O3, but there are tendencies towards the same trend as in O1. For example, O2 usually does not even carry out less complex services, due to the low profitability. Though, when it does, it does it to please a customer that they are also carrying out complex services for. However, contrary to O1 it does not coordinate haulers that usually carry out complex services to these types of missions. Instead, the coordinators in O2

contract a hauler that they have used before, who they to some degree can trust. Hence, they never contract a hauler through competitive bidding, since they want to decrease the risk of choosing a hauler that could damage the relationship with their customers. When O3 conduct a less complex service for an important customer, we see that the coordinators stop to use competitive bidding. Instead, similar to O2 the coordinator at O3 consider more whether the shipper can be trusted (based on rumours), rather than just to contract a random shipper.

What we can see here is that the three organizations do not only consider the importance of the component, in terms of money spent on the component (Ellram, 2006), but also the risk of losing a customer or the opportunity to further enhance the relationship with customers. With other words, they consider the term on-going value, which can be seen by Ellram and Tate (2015), though, in a dyadic service setting. This foremost concerns the transactional characteristics, where the importance of customer or on-going value can be categorized. Though, as seen previously from this study, one characteristic can affect the others, which evidently is the case here. Surprisingly, to a state that utilizes IOCM. This can be exemplified in O1, where we identify that IOCM is used among these suppliers who also handles less complex freights. Hence, contrary to the manufacturing sector, we see here that IOCM also is used with contractors who carry less complex services. However, it not really with the purpose to explicitly improve the quality or reduce the costs of the less complex services. Though, according to the supply chain manager at O1, they have still reduced the costs and improved the quality of these types of freights. Hence, we can see that IOCM can be used with contractors who both carry out complex and less complex services in situations where the customer is important for the outsourcer, basically due to the risks involved.

6. Conclusion

In this chapter of the study, we will answer the sub-questions from the literature review. Ultimately, this will lead to an answer to the research question as well. The chapter will thereafter cover a statement regarding how the study contributes to the literature. Lastly, the chapter will be completed with a proposition for future research.

At the beginning of this thesis, following research question was raised:

"In what way do the IOCM characteristics dictate the way how 3PL organizations manage their outsourced services and what role has IOCM on these relationships?"

To answer the research question, the interpretation of the analyses has been guided by the following four sub-questions:

Sub-question 1: *How does the implementation and usage of IOCM methods enhance the collaboration and interdependency in a service supply chain?*

A formal use of IOCM could be found in one of our three cases, foremost through OBA. We could see that OBA is used to identify where joint improvements can be made concerning the quality and the cost of the freights. This use of disclosed cost information could foremost be identified when O1 was managing complex freight, but also, surprisingly when they were handling less complex freights as well. However, this is only the case when it comes to haulers that carry out the both types of services (i.e. complex and non-complex freights). Thus, we see that IOCM can be used more flexible in the service sector. Moreover, like the research from the manufacturing sector, we can also see that IOCM enhances and creates interdependencies in the service setting as well.

Sub-question 2: *In what way are trust and personal interaction/communication a part of a collaboration and how does it dictate how and whom to contract in a services supply chain?*

When it comes to the relational aspects of the study, we see that personal interaction/communication is vital if control is achieved through trust. We can especially see that informal communication raised from formal activities had a significant effect on the establishment of kinship and familiar feelings, which ultimately resulted in various forms of trust between the actors. This is aligned with previous service research, which shows that kinship has a strong connection to trust. Ultimately, the trust felt between O1 and their suppliers were a factor that utilized IOCM.

Sub-question 3: *How does procurement of components differ between the manufacturing and the service sector, and does this difference result in different effects regarding collaboration aspects and usage of IOCM methods?*

When the three organizations contract contractors we see that their way of managing this depends on the complexity of the services. In the manufacturing sector, the component characteristic is based on the importance of the component. In turn, the importance of the component builds on the amount of money spent on it (Ellram, 2006). This often aligns with the complexity of the product, which it also does when it comes to freights in this case. A similar notion can be seen by Ellram and Tate (2015), whom additionally argue that complex services are handled with more care, which is something we can clearly identify in this case.

However as mentioned in statement one, unlike the manufacturing literature we see that IOCM affects the handling of less complex services as well. Though, this can only be seen when the freights are carried out by actors who are also carrying out complex services.

Sub-question 4: Are transaction characteristics aligned or different in the manufacturing and service sector and can the alignment/difference be explained by the characteristics of the two different industries?

Many factors of the transactional characteristics seen from the manufacturing sector can also be seen here in a service setting. These similarities can be identified based on the governance of the contractors. Through the governance, we can also explain whether IOCM is used in these three cases. For example, similarly to the findings in the manufacturing sector (through Van der Meer-Kooistra & Vosselman, 2000), we see that the bureaucracy mechanisms in O3 do not utilize IOCM. This is similar to the pattern found in O3. However, dissimilar to the manufacturing literature we find that the outsourcers' customers largely affect the way how the outsourcer manage and control their contractors. This is foremost manifested by O1, where the coordinators often use highly trained and competent drivers, that most often handles complex freight, to carry out less complex services for important customers (in terms of future income). The explanation for this can be found in their way of managing risk and opportunities. The coordinators use a highly competent driver when there is a risk of losing an important customer or when there is a chance to gain a valuable customer. As of what we know, there are no examples from this in the manufacturing literature concerning interorganizational management.

Research question: In what way do the IOCM characteristics dictates the way how 3PL organizations manage their outsourced services and what role has IOCM on these relationships?

After answering the sub-questions, we see that the IOCM characteristics from the manufacturing sector also have an effect on whether IOCM can be utilized in the service sector. This can be explained by how freights organizations govern their contractors, which align with the assumptions surrounding the factors. The findings show that there is a climate in the service sector that can utilize IOCM. This climate is much like what has been suggested to utilize IOCM in the manufacturing sector. Moreover, we could see that OBA was used in one case, where it was used to identify cost drivers that could be reduced. Though no formal use of additional methods like CE and QFP could be found, though the disclosed data through the open books was used to in a similar way to these methods. The freights were for example engineered to improve the quality and decrease the costs.

The study does not only show similarities between the two sectors. There are also dissimilarities. This is evident, when it comes handling risks as well as IOCM, specifically concerning less complex freights. Contrary to the manufacturing sector we see that less complex freights for important customers are sometimes outsourced to highly competent haulers that usually conduct complex and more important freights. This behaviour can be seen as a tool to manage risk where the 3PLs want to prevent them from losing important customers. It can also be seen as a way of managing opportunities where the 3PL can gain important customers and hence securing future incomes. Moreover, these contractors were also involved in a joint attempt to improve the quality and reduce the cost of the complex freights through IOCM. Interestingly, this also showed improvements on their way of carrying out the non-complex freights. Hence, we see that IOCM can also affect the less

complex freights as well, even though IOCM usually are applicable on complex high margin products. As seen, this makes IOCM more flexible in the service sector. Therefore, we argue that, in a service setting, relative to a manufacturing setting, one should consider this flexibility and put emphasis on the outsourcer's customer to understand how IOCM could be used.

6.1 Contribution to the literature

This study has contributed to the IOCM and the service literature in numerous ways. Firstly, the study shows that IOCM, foremost through OBA, is used to some degree in the freight industry. The usage of it is mostly being dictated similar to the IOCM characteristics in the manufacturing sector. With other words, the three characteristics mostly affect IOCM in a similar way in the service sector. As of our knowledge, there are no similar findings in the current literature. Secondly, we find evidence suggesting that freight organizations can receive beneficial effects of IOCM concerning less complex freights. Though, only indirectly when it is also used the improve complex freights. The literature from the manufacturing sector suggests the opposite, i.e. that IOCM is only applicable on complex products. Hence, IOCM is used in a more flexible in the service sector. However, this does not simply appear, evidently, various factors utilize this, which bring us to the third contribution.

Thirdly, when the freights organizations manage non-complex freights for valuable customers, we see that their risk management affects them to choose more qualified and trusted contractors, whom they apply IOCM with to improve complex services. Hence, the transactional characteristics between them and their customers affect their way of managing contractors. Existing literature only consider the IOCM characteristics in dyadic relationships, and hence, there is no emphasis on the outsourcers customers. Therefore, future service literature should consider that there are differences between the service and the manufacturing sector concerning the transactional characteristics. Specifically, to see IOCM at its full potential, one should consider the transactional characteristics in a triadic setting, where the importance of the outsourcers customers affects the usage of IOCM. From a more practical standpoint, this means that service organizations with a similar setting (i.e. where an outsourcer hires a contractor to manage a service for their customers), should consider that IOCM can be used more flexible. Moreover, to use these patterns theoretically or practically, one should apply them to a similar context. In summary, this study has reduced the gap of the nascent literature concerning the viability of manufacturing methods in the service sector. It has also highlighted how IOCM can be efficiently used in the service sector.

6.2 Future research

This study shows that IOCM sometimes works differently concerning non-complex freights for important customers. Though, many of our other findings just align with the findings from the manufacturing sector. We can see this from a TCE perspective, where there is much emphasis on control. This made us explain IOCM characteristics mostly through control decisions. It is possible that another theory can explain IOCM in the services sector in another way, where the findings do not align with the manufacturing sector. One such theory can, for example, be the actor-network theory (ANT). There have been attempts by Vosselman (2012) to connect TCE and ANT to each other, in order to overcome some of the shortcomings of TCE (such as its inability to explain processes and change). It would be interesting to see if such a perspective would give another result. Moreover, in order to increase the understanding of IOCM in the service setting one should investigate more complex services within freight. One might investigate how oil and gas transportation are being handled. It would be interesting to see whether high complexity there utilizes an extended use of IOCM.

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Appendix

Interview questions

1. Generally, can you tell us about your organization/business and what kind of services that you provide?
2. Which of these services involves outsourcing/hiring external freight actors to carry out the freight?
 - 2.1 What is the reason behind this?
 - 2.2 How would you describe the decision-making when it comes to hiring such an external actor?
3. Are there any strategically partnership between you and your external freight companies?
 - 3.1 How do you manage these?
 - 3.2 What kinds of services do treat in these relationships?
 - 3.3 Can you exemplify how you work in these relationships?
 - 3.4 Generally, how long are these relationships?
 - 3.5 How have these partnerships been established?
 - 3.6 How transparent are you when it comes to cost information, or information overall?
4. How do you handle relationships outside the partnerships (i.e. more transactional characteristics)?
 - 4.1 How do you manage these?
 - 4.2 What kind of services do you treat in these relationships?
 - 4.3 Can you exemplify how you work in these relationships?
 - 4.4 Generally, how long are these relationships?
 - 4.5 How do you contract such an actor?
 - 4.5.1 Do you use competitive bidding?
 - 4.6 How transparent are you when it comes to cost information, or information overall?
5. Can you give an example of a service that is complex?
 - 5.1 How do you work with these when it comes to external actors?
 - 5.2 Relatively, how much income do they bring?
 - 5.2.1 Can they be largely income bringing in the future as well?
 - 5.3 How would you characterize these services?
 - 5.3.1 Are transactions regarding these services frequent?
 - 5.3.2 Are they important for your customers?
6. Can you give an example of a service that is non-complex?
 - 6.1 How do you work with these when it comes to external actors?
 - 6.2 Relatively, how much income do they bring?
 - 6.2.1 Can they be largely income bringing in the future as well?
 - 6.3 How would you characterize these services?
 - 6.3.1 Are transactions regarding these services frequent?
 - 6.3.2 Are they important for your customers?

7. What kind of risks are there when it comes to contracting external actors?
 - 7.1 Do you see any behavioural risks in your operations?
 - 7.1.1 Have any actors used for personal gain, for example by deceit or trickery?
 - 7.1.2 How would you describe the relationship this actor?
 - 7.1.3 How do you control these types of risks?
 - 7.1.4 Are these situations where there is high service specificity, where you have to adapt to customers/external actors?
 - 7.2 Are there any specific risks concerning the actor's performance?
 - 7.3 How do you control risk in your operations?
 - 7.3.1 Specifically, behavioural risks?
 - 7.3.2 Specifically, performance risks?
 - 7.3.3 Can you enlighten us how you work with contracts in this regard?

8. Relationship factors:
 - 8.1 How do relate to trust in regard to your contractors?
 - 8.1.1 Does the trust look differently based on the type of relationship?
 - 8.1.2 Do you think that there are different types of trust?
 - 8.2 Do you have close personal relationship to your partners?
 - 8.2.1 How is that being manifested?
 - 8.2.2 How would you describe the communication between you?
 - 8.2.3 Do you think that this has strengthened your cooperation?
 - 8.3 Do you think that your relationships build on personal trust or more of trust towards each institution?
 - 8.4 Do you think that kinship has anything to do with trust, i.e., that you share common goals and beliefs etc.?

9. Cost factors:
 - 9.1 How do you identify and decrease your costs?
 - 9.2 Are there any specific methods?
 - 9.3 Do you do this jointly with your contractors or are activates like these conducted separately?
 - 9.4 Do you have knowledge about the costs of your contractor's operations?
 - 9.5 Are there specific cost components of greater importance?