

Paving the way for a Total Cost of Ownership approach in the procurement process of Kramp Groep BV through the use of a supplier manual.

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This thesis describes the research conducted at Kramp Groep BV and the subsequent development of a supplier manual. The aim of this research is to identify ways for Kramp Groep BV to increase its efficiency within the purchasing and supply process. The literature review revealed that the following three theories could contribute to a potential increase in efficiency of the purchasing and supply process: Total Cost of Ownership, Supplier Relationship Management and Inter-Organisational information sharing. By applying a Total Cost of Ownership approach and informing suppliers about the way to conduct business with Kramp Groep BV the firm will potentially be able to increase the efficiency in its purchasing and supply process. Informing the supplier and creating internal awareness within Kramp Groep BV will be done through the use of a supplier manual. This manual will describe the processes and presents the supplier with the best practices, which will increase the efficiency of Kramp Groep BV if the supplier complies and could potentially also lead to increased business for the supplier.

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Keywords

Total Cost of Ownership, Supplier Relationship Management, Inter-Organisation Information Sharing, Supplier Selection, Supplier Evaluation, Supplier Development, Supplier Manual

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1. AN INTRODUCTION: ENABLING SUPPLIER EVALUATION THROUGH THE SUPPLIER MANUAL

Supplier performance is dependent on the selection and development of suppliers that support the buying firms purchasing goals, and as a result the firm's competitive position (Nair et al. 2015). Effective evaluation and selection of suppliers is considered to be one of the critical responsibilities of purchasing managers (Narasimhan et al. 2001). The strategic impact of purchasing is increasingly evident in terms of cost containment, quality, delivery, flexibility and innovation. Supplier selection criteria should include an evaluation of supplier capabilities (and ultimately supplier performance) on such multiple attributes (Nair et al. 2015). The selection of suppliers and agreements made during the negotiation with suppliers have a direct impact on the organisation. Agreements on lead time, delivery time etc. will have an impact on the stock levels that need to be maintained and this will impact product availability and service performance towards the customers and as a result also turnover. This is part of strategic purchasing participation which is defined as the extent to which the purchasing function participates in strategic planning processes, aligns supply management with external environments and provides strategic contributions, such as affecting changes to end products or inputs needed to develop new products (Chen et al. 2004; González-Benito 2007; Chen et al. 2014).

Kramp Groep BV plans to move towards more focus on Total Cost of Ownership (TCO) as they feel that at the moment there is too much focus on the purchasing price. According to Zachariassen & Arlbjørn, (2011), TCO can effectively support sourcing decisions at different departments. Throughout the sourcing process, various departments have a stake in the process. Not only purchasing is involved but also logistics, distribution, data management etc. TCO is often illustrated with the iceberg example some of the costs are visible and tangible to both the supplier and Kramp Groep BV but most of the costs, like quality and reliability, are hidden. Since Kramp Groep BV operates in the wholesale business about 75% of their turnover is cost of goods sold. Bhutta and Huq (2002) state that supplier performance is a key factor in determining a company's success or failure. Therefore, supplier evaluation and selection have become fundamental tasks of the purchasing function (Talluri & Narasimhan, 2004; Jain et al. 2009). Effectively evaluating suppliers requires looking at the overall impact of a supplier's performance on the purchasing firm to understand the true value the supplier provides. Understanding the true value the supplier provides will enable better sourcing decisions (Wouters et al. 2005). This means that the focus should not only be on the price of the products that are being purchased but also on all the "hidden" costs.

Kramp Groep BV is looking at ways to better inform its suppliers about the hidden costs in the purchasing and supply process and also to create more internal awareness about the TCO, which is the motivation for doing this research and writing this thesis. Essa et al. (2018) showed that “*the presence of TCO information during the negotiations is positively associated with supplier, buyer and joint profit*”. The aim of this thesis is to identify ways that could potentially increase Kramp Groep BV’s efficiency by implementing a manual which described the whole purchasing and supply process. This thesis will look at the TCO during the process from supplier selection up to the point that the goods are stored in the various warehouses of Kramp Groep BV. With a turnover of around €800 million in 2017 and the ambition to realise a turnover of one billion in 2020, the company is looking at a rapid growth. The company has experienced a rapid growth in last couple of years considering the turnover was €670 million in 2014. The cost of goods sold for Kramp Groep BV is around 75%, so reducing these costs, even by a small percentage, will have a significant impact on the profit of Kramp Groep BV.

The current process at Kramp Groep BV involves a large amount of suppliers and a lot of order lines coming into the various warehouses each day. All these streams have to be managed effectively and efficiently to ensure that the waste in the process is reduced to a minimum. Each time data is incorrect, deliveries are not made according to the best practices, invoices are incorrect or orders are not confirmed on time money is being lost due to inefficiency and this is the problem Kramp Groep BV is currently facing. E.g. when orders are not correctly confirmed or not on time the operational purchaser of Kramp Groep BV needs to follow up on these with the supplier, this takes time that otherwise could be spent on other tasks. When shipment notices are not sent, not sent on time by the supplier, inbound logistics could either have too much staff at work because there is not much coming in today, they have too little staff or a shortage of unloading docks because more trucks arrived than planned/known. There will remain exceptions but at the moment the processes are not described well enough both internally and not sufficiently communicated to the supplier, the supplier does not know what is expected of him or how to do it, or what the benefits are of complying with the operational demands of Kramp Groep BV.

To effectively manage their suppliers and the agreements made with the suppliers Kramp Groep BV was looking at the development of a supplier manual. The aim is that this supplier manual

benefits both the supplier and Kramp Groep BV. The supplier will be more aware of the demands placed upon them by Kramp Groep BV, which will potentially lead to less waste during the process. The manual will also contribute to the efficiency of Kramp Groep BV in the same manner. Waste in the process will be reduced because the supplier is aware of the demands of Kramp Groep BV. And knows which actions to take to ensure that the process will be as efficient as possible.

The goal of Kramp Groep BV is to create internal and external alignment on the important aspects that influence supply chain optimisation. The development of the supplier manual will focus on an external document which Kramp Groep BV is able to publish on its website, or in the future on its supplier portal, and which can be handed over to suppliers when negotiations take place. The manual will become part of the negotiation process with new suppliers and will also be introduced to the existing suppliers. This document will detail the process a supplier has to follow in order to ensure an efficient purchasing and supply process, the document describes the process that starts with a new product or new supplier up to the point that the item is placed on the shelves in the warehouse. Therefore, the document will also have internal usage as a reference document in which the optimal workflow is described and to which employees can refer when looking at the optimal way to conduct business with a supplier or potential supplier.

Moreover the aim of the manual is to make all relevant employees at Kramp Groep BV aware of the whole process, from supplier selection to the goods arriving at the warehouse, and the impact of the decisions made during this process on firm performance. The decisions made will have a direct impact on the firm performance, examples are the way goods are delivered at Kramp Groep BV, the impact of data but also agreements made with suppliers. These examples do not only influence the incoming goods process, but their effects also resonate through to distribution, affecting the performance to the customer. Longer handling times at inbound goods can affect availability of products for customers which in turn will affect service performance. Service performance is the most important aspect for Kramp Groep BV. Following the best practices laid out in the manual will potentially increase efficiency and will result in less mistakes being made. By ensuring a more efficient process, time-to-market can be reduced which could potentially increase the sales of Kramp Groep BV and thus also the sales between the supplier and Kramp Groep BV.

But the most important part of the supplier manual is the fact that it will pave the way for supplier evaluation. The supplier evaluation will take place using key performance indicators (KPI's), by introducing these KPI's, Kramp Groep BV will be able to see which suppliers underperform and which suppliers are performing as expected. Up to this point, Kramp Groep BV does not have enough data available to effectively measure the performance of its suppliers and therefore no means to engage in supplier development.

This thesis will first look at existing literature on relevant subjects related to efficiency problems existing at Kramp Groep BV. The literature review is focussed at three main literature streams, these are Total Cost of Ownership (TCO) Supplier Relationship Management (SRM) and Inter-Organisational Information sharing. The choice for these three subjects is due to the fact that Kramp Groep BV wants to implement a TCO approach, therefore the theory on TCO should be examined. Furthermore to successfully implement a TCO approach and to also select, evaluate and develop suppliers based on TCO, SRM needs to be evaluated to determine the best approach for Kramp Groep BV. The suppliers should also be informed about these processes therefore Inter-Organisational Information sharing should be examined to determine the best way to communicate the requirements to suppliers. Other theories could also have been examined e.g. the resource based view, but this would not allow in-depth examination of the theories used.

The aim of the literature review is to determine the best opportunity to solve or reduce the problems Kramp Groep BV is encountering with regards to applying a TCO approach and reducing waste. Following the literature review, the research methodology applied will be discussed and the research methods will be introduced. The research conducted at Kramp Groep BV consists of a single-firm multi-case study using interviews with key employees of the company and cross-functional workgroups. Based on the interviews the current processes at Kramp Groep BV will be analysed and afterwards the process at Kramp Groep BV will be compared to the literature and possible mismatches or missing actions will be highlighted. The aim of the cross-functional workshops is to improve the current processes, reduce the hidden costs and improve the procurement process and supply process. After the results of the research and the recommendations have been presented the thesis will discuss the limitations of the research and suggest opportunities for further research.

2. TCO, SRM AND INTER-ORGANISATIONAL INFORMATION SHARING AS THE BASIS OF A SUPPLIER MANUAL

As van Weele (2010 p.12) already described purchasing is more than just buying goods it is: *“The management of the company’s external resources in such a way that the supply of all goods, services, capabilities and knowledge which are necessary for running, maintaining and managing the company’s primary and support activities at the most favourable conditions”*. This indicates that when a firm purchases goods, many things need to be taken into account to ensure that the business can run in the most favourable conditions. In this thesis the focus will mostly be on managing the company’s primary and support activities at the most favourable conditions during the procurement process. A company’s primary activities are: Inbound Logistics, Operations, Outbound Logistics, Marketing and Sales, and Service. Secondary activities include Procurement, Human Resource management, Technological Development and Infrastructure (Porter 1985). So not only the inbound logistics need to be taken into account but also invoicing (infrastructure). The need for purchasing to align with the overall business strategy of the firm has been highlighted in several studies (Carter & Narasimhan 1996; Cox 1996; Hardt et al. 2007; Schoenherr et al. 2012; Lindgreen et al. 2013). More recently Pazhani et al. (2016) stated that research on supply chain optimisation has mainly focused on two problems: (1) the manufacturer has to determine its optimal production, distribution and inventory policies considering its capacity, setup costs, distribution costs and operating costs, and deliver the final products to customers; and (2) the manufacturer has to determine the suppliers/vendors from which to purchase raw materials as well as the corresponding order quantities. *However formulating a single overall strategy for the purchasing function is a difficult task; rather, a diverse set of strategies and tactics for a diverse set of purchases and suppliers may apply (Hesping & Schiele, 2015). In their paper they mention five levels of strategy development in purchasing (Firm strategy, Functional strategies, Category strategies, Sourcing levers and Supplier strategies) which also needs to be taken into account in this thesis.*

This chapter will review the existing literature on the topics that could potentially form the theoretical grounds for such a supplier manual. The supplier manual is composed of various elements, which exists in the literature, some of the topics included in the supplier manual are TCO, SRM (supplier selection, supplier evaluation and supplier development) and Inter-Organisational Information sharing. The aim of the literature review is to provide an overview of the theories and existing literature about the topics of TCO, SRM and Inter-Organisational Information Sharing. These three topics cover the problem Kramp Groep BV is currently facing and answers on how to deal and

solve the problem are expected to be found in these theories. How can Kramp Groep BV better communicate its demand and operations with its suppliers (Inter-Organisational Information Sharing)? How should Kramp Groep BV approach its suppliers on these matters and what is the best strategy to ensure compliance with the best practices presented by Kramp Groep BV? (SRM). Finally, what is the potential benefit, or increase in efficiency as a result of looking at the complete organisation in terms of cost reduction as a result of better agreements with suppliers (TCO)?

2.1 Total Cost of Ownership: Looking at cost instead of price

Simply looking for suppliers offering the lowest prices is not considered efficient sourcing and traditional supplier evaluation and selection methods are often based on the quoted price, which ignores the significant direct and indirect costs associated with the quality, delivery, use and service costs of purchased parts (Kanagaraj & Jawahar, 2009). An example: according to one estimate, each Microsoft NT workstation typically costs an organisation \$6,515 per desktop per year, of which capital hardware and software costs account for only 25%. Some of the remaining 75% of costs, which may be overt or hidden, are associated with management and technology support¹. This example shows that reducing the purchasing price of the product has only limited impact on the total cost of the product during the life-cycle of the product or during the procurement process.

Traditionally, criteria such as cost, quality, delivery and service are assumed to create an appropriate set of major performance measures (Kanagaraj & Jawahar, 2009, Kanagaraj et al. 2016). A qualified supplier is a key element and a good resource for a buyer in reducing such costs, evaluation and selection of the potential suppliers has become an important component of supply chain management (Kanagaraj et al. 2016). Mafakheri et al. (2011) pointed out that cost reduction is highly dependent on choosing the appropriate supplier. Selecting a proper supplier can significantly reduce purchasing costs, decrease lead time, increase customer satisfaction, and strengthen corporate competitiveness (Wang & Yang 2009). The overall value that a supplier delivers may justify for paying a higher purchase price given that other considerations, such as quality, result in lower total costs over the long run (Garfamy, 2006). This means that companies should not focus on the short-sighted gains of a low product price but should instead focus on the benefits a certain supplier offers or the impact

¹ Microsoft TechNet document Total Cost of Ownership (TCO) Overview. Feb 1998

of the way business on the whole organisation. This is known as TCO. Ellram (1994) defines TCO as: *“a methodology aimed at understanding the true cost of doing business with a particular supplier”*.

TCO offers various advantages to purchasing firms, it enables performance measurement through a good framework to evaluate suppliers, it offers a concrete way to measure the result of improvement efforts and is therefore a tool for benchmarking. It aids decision making because it forces purchasing to quantify trade-offs, it is a good basis for making supplier selection decisions, it enables more informed decision-making because it will enable comparison of suppliers based on the same objective characteristics and it creates a structured problem-solving environment. It enhances communication because it presents a communication vehicle between the purchasing firm and its suppliers due to the fact that costs have been allocated and this can be shown to and discussed with the supplier. It is also a way to involve other functions/departments in purchasing decisions. It provides insight and understanding because it provides data for trend analysis on cost, it enables comparison of supplier performance, it provides data for negotiation and target pricing and it provides a long term orientation because it focuses on the big picture. But perhaps more importantly it supports continuous improvement because it helps identifying where suppliers should focus their improvement effort (Ellram 2002).

TCO considers all the costs of managing the relationship with a supplier, rather than only focussing on the purchase price. This approach is based on the idea that purchasing decisions affect a wide array of activities done by different departments of the firm (Purchasing, Inbound Logistics, Quality Assurance, Accounting, etc.), which consume resources and generate costs. Therefore, understanding the true cost of dealing with a supplier requires considering all those attendant activities as well as the purchase price (Visani et al. 2016). It is important to note that a high TCO does not necessarily mean a supplier is at fault, it may also be due to other aspects of the supply relationship (e.g. location, inbound logistic facilities, compatibility between different information systems) (Visani et al. 2016). Any TCO approach should include transportation costs, receiving costs, quality costs, purchasing administrative expenses, including management time, and also the price of the purchased item (Ellram 1993).

Bhutta and Huq, (2002) evaluated three suppliers using a TCO approach and an analytical hierarchy process (AHP). The AHP method applies weights to a certain cost, by doing so the company

will be able to attach higher weights to more important cost factors. This might result in attaching more weight to cost elements of a supplier that will have a higher impact on the business in a later stage of the process. Combining the AHP method in combination with the TCO approach will result in selecting the supplier that has the lowest costs. When another company selects a supplier using the same method they might select another supplier due to the fact that the weights applied differ. The methods mentioned above show that the procedure used for selecting a supplier impacts which supplier is selected (Ramanathan, 2007).

Research by Ellram (1994) has created two streams in the TCO research, one stream focusses on internal and one on external purposes. (1) Internally, TCO can be used to support supplier-selection decisions, measure ongoing supplier performance, forecast new item performance based on historical data, concentrate resources on ‘important few’ purchases, compare the performance of suppliers against each other and over time, and inform supply-base reduction or volume-allocation decisions (Ellram & Siferd, 1998; Bhutta & Huq, 2002; Zachariassen & Arlbjørn, 2011). (2) Externally, TCO information can be shared with suppliers to drive supplier improvements, negotiate future purchases, and support strategic alliance efforts (Hurkens et al. 2006; Van den Abbeele et al. 2009, Zachariassen & Arlbjørn, 2011).

Understanding the true costs of doing business can offer various advantages to companies, not only the purchasing company can benefit from the TCO approach also suppliers could reap the benefits of the approach. But there are also difficulties in implementing a TCO approach. One of the difficult aspect of TCO is that mapping and determining the costs of all the different activities is perceived as effort-intensive and time-consuming (Garfamy, 2006). Besides this another important obstacle to implementing TCO is the issue of data availability (Hurkens et al. 2006; Garfamy, 2006). As a result, significant time and resources are needed to extract and adjust information from existing databases or accounting systems, as well as to collect new data and subsequently maintain the system. Difficulties may also arise from the need to involve multiple functional areas such as logistics, manufacturing, and quality assurance, to name a few (Visani et al. 2016). The adoption of TCO requires senior management support and functional commitment is needed for improved cost information (Wouters et al. 2005). No single TCO model fits all purchase situations. Ellram, (1994) explicitly discusses the impact of TCO on suppliers. She mentions that only one of eleven suppliers had reservations regarding the initial use of TCO by the focal firm, but that later on all eleven firms “accepted and even supported TCO” (Zachariassen & Arlbjørn, 2011). This shows that suppliers are not hesitant towards the

implementation of a TCO approach, in the beginning only one had reservations but in the end all suppliers not only accepted the TCO approach they support it. This last point is important because relationships with suppliers can create various benefits for the buying firm (Lindgreen & Wynstra, 2005).

2.2 Supplier Relationship Management: The key to improving supplier performance

Successful relationships with suppliers can create benefits that extend beyond the actual product or service exchange (Lindgreen & Wynstra, 2005). Supplier Relationship Management (SRM) *“is the process of engaging in activities of setting up, developing, stabilising and dissolving relationships with existing suppliers as well as the observation of potential suppliers to create and enhance value within relationships”* (Moeller et al. 2006). Effective SRM may lead to a preferred customer status, the benefits of a preferred customer are discussed in literature. Nollet et al. (2012) discuss benefits such as access to scarce materials & rare items, better pricing and higher flexibility in delivery planning to offer continuous supply. Preferred customer status is the attractiveness of a buyer from the supplier’s point of view. A high level of customer attractiveness helps to ensure the prime commitment of capable suppliers (Schiele et al. 2011).

Park et al. (2010), have created an integrative SRM framework (see figure 1). The framework consists of the following steps: (1) Shaping the purchasing strategies, (2) Supplier selection, (3) Collaboration (supplier involvement), (4) Supplier assessment and development, and (5) Continuous Improvement. This framework described the process of supplier selection and the continuous improvement involved in this process. It shows that it is a never-ending process that need constant attention and evaluation to attain better results. In the context of this research it shows the path a firm needs to take to ensure that it has the suppliers it requires and is able to improve the suppliers that need improvement. It details the various phases of the SRM process, which will be explained in more detail below.

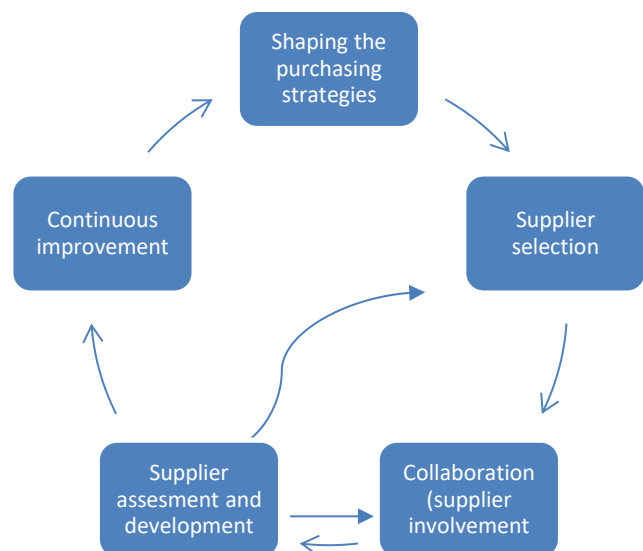


Figure 1: Integrative SRM framework

2.2.1 Supplier selection: The first blow is half the battle

Supplier selection is the process where the buyer identifies, evaluates, and contracts suppliers (Beil, 2010). Effective evaluation and selection of suppliers is considered to be one of the critical responsibilities of purchasing managers (Narasimhan et al 2001). The criticality of supplier selection is evident from its impact on firm performance and, more specifically, on final product attributes such as cost, design, manufacturability, quality, etc. (Burt, 1984; Burton, 1988; Nair et al 2015).

Supplier selection decisions must not be based solely on least-cost criteria other important factors such as quality and delivery performance must be incorporated into the decision-making process (Narasimhan et al. 2001, Kanagaraj et al. 2016). Sustainability has also taken its place in the decision making process and is seen as important in today's supply chain activities (Luthra et al. 2017). The supplier selection problem is a multiple-criteria decision-making problem that is affected by various trade-off factors such as cost, quality, delivery time (Amid et al. 2009). Two issues of the supplier selection approach are paramount: (1) the identification of which criteria should be considered in the assessment of suppliers (Dickson, 1966 and Weber et al. 1991) and (2) the application of techniques for the evaluation of suppliers in the decision-making process so that they can be properly selected (Schniederjans & Garvin, 1997).

Wang et al. (2004) proposed that low cost and high quality should be considered for a lean supply chain and that speed, flexibility, and quality should be considered for an agile supply chain. Their findings indicate that key performance indicators (KPIs) should be based on what the supply chain requires. Clarity in operational and strategic role expectations from the supplier, e.g. supplier selection criteria, positively influenced supplier performance evaluation on operational and strategic sub-criteria. The choice of appropriate supplier selection criteria on both operational and strategic sub-dimensions leads to goal convergence of the supplier with the expectations of the purchasing firm (Nair et al. 2015).

2.2.2 Supplier evaluation: An eye on performance

A supplier evaluation involves rating a supplier's value by measuring the selected supplier's capability and performance. The results of the evaluation are used to select a supplier. Based on a review of 78 journal articles, which appeared in the period from 2000 to 2008, Ho et al. (2010)

concluded that the most popular evaluation criteria is quality, followed by delivery, price, manufacturing capability, service, management, technology, research and development, finance, flexibility, reputation, relationship, risk, and safety and environment. There are 68 papers (87.18%) considering quality in the supplier selection process. This shows that purchasing price is not the most important factor in the selection of suppliers, it is in the third place of criteria for the selection of suppliers. Hence, purchasing firms place more focus and emphasis on the quality of the products and the delivery of the products than the price of the product. This is in line with the TCO approach which also takes other cost factors, besides the purchasing price, into account during supplier selection. Research by Kant & Dalvi (2017) confirms that these factors are still the most important factors in supplier selection and evaluation. But besides economic factors environmental attributes have also taken their place among evaluation criteria (Grisi et al. 2010, Chen et al. 2010, Kuo & Lin 2012, Kannan et al 2015 and Ghorabae et al. 2017)

Beamon (1999) proposed a supply chain measurement system that emphasises three types of performance measures, resources (e.g. manufacturing cost, inventory cost, and return on investment), outputs (customer responsiveness, on-time delivery, and product quality), and flexibility (system's ability to accommodate volume and schedule fluctuations from suppliers, manufacturers, and customers). Other studies argued similarly that dependability, flexibility, quality, and efficiency are the key indicators for measuring supply chain performance (Vickery et al. 2003; Angerhofer and Angelides, 2006). However a KPI is more than just a formula. A KPI is influenced by strategy, and by different criteria like quality, productivity and profitability) and therefore KPIs are different depending on the organisation (Bhatti et al. 2014).

Supplier evaluations are important since they will highlight the weaknesses of suppliers and will also highlight aspects of the supplier that are ripe for development. It is therefore important to measure those aspects of a supplier that are important to buying firms, e.g. when focusing on an agile supply chain do not focus on low costs (Wang et al. 2004). The main objective of the supplier evaluation process is to reduce purchase risk and maximise the overall value of the purchasing firm (Monczka et al. 1998). Operational supplier selection criteria and operational supplier performance evaluation consistently facilitate the association of strategic purchasing participation with cost, quality, delivery and flexibility. Participation in strategic planning activities brings clarity to the expectations from the supplier, which shape strategic and operational supplier selection criteria. These supplier

selection criteria positively influence supplier performance evaluation and consequently purchasing performance (Nair et al. 2015).

2.2.3 Supplier development: Helping others is helping yourself

Krause & Ellram (1997) define supplier development as: *“any effort of a buying firm with its supplier(s) to increase the performance and/or capabilities of the supplier and meet the buying firm's short- and/or long-term supply needs.”*

Supplier development has gained popularity among manufacturing organisations due to significant benefits in product development time, capacity utilisation, product quality and manufacturing cost (Pradhan & Routroy 2018). Supplier development investment practices are quite varied and could include new technological developments, introducing new processes, or building expertise and knowledge, not all of which are cost-focused (Bai & Sarkis, 2016). However, the efficiency of supplier development tends to vary. E.g. a survey found that reduction in order fulfilment cycle time could vary from 30% to 80%. In addition reduction in product defects varies even more 5% to 90% (Su et al. 2018).

According to the relational view, investments are made by buyers in the development of suppliers in order to accrue tangible benefits such as reduced cost, greater quality and flexibility, and more reliable delivery (Krause et al. 2007). Furthermore they discuss various elements that appear to be critical to the success of the supplier development effort. One of these elements is effective, two-way communication which is characterised as essential to successful supplier development. Buyers and supplier should communicate with each other and the buyer should not only send information to the supplier. Paulraj et al. (2008) state that inter-organisation communication leads to a sustainable competitive advantage for supply chain partners. This view is supported by Yawar & Seuring (2017) who state that supplier evaluation and feedback on the evaluation, motivate the suppliers to perform better by increasing capacities and improving the quality of the product.

When buying firms signal a commitment to a long-term relationship and indicate a willingness to make investments in key suppliers to help them improve performance, supplier performance would also be expected to improve (Krause et al. 2000). But it is important that the buyer and the supplier cooperate within the supply chain because the profitability of the overall supply chain is greater in

cooperative situations than in non-cooperative situations (Bai & Sarkis 2016). Research by Wagner (2010) shows that when buying firms transfer expedient knowledge to suppliers in the course of a supplier development program, the suppliers are able to upgrade capabilities that help them to develop, produce, and sell superior products to their customers in the long run. But showing willingness to a long-term relationship alone is not enough, a supplier also needs to be willing to develop himself. An important aspect of this willingness is motivation, motivation is split in two main types (Ryan & Deci, 2000): Intrinsic motivation (which refers to doing something because it is inherently interesting or enjoyable) and extrinsic motivation (which refers to doing something because it leads to a separable outcome, e.g. increased pay). It is therefore important that firms clearly communicate their intentions to suppliers and also discuss the mutual benefits that might result from their relationship and the development of both parties. Bai and Sarkis (2016) discovered that if marginal profitability increases for any member of the supply chain, their willingness to increase investment also increases, benefitting all members of the supply chain.

The two requirements for supplier development mentioned above, the long-term commitment of the buying firm and the motivation of the supplier, both require communication between the buying firm and the supplier. The supplier needs to be aware of the long-term commitment of the buying firm and the buying firm needs to ensure that the supplier knows about the potential benefits of the relationship since this will motivate the supplier to develop himself. Communication, which is critical to the interface between a firm and its suppliers, is a prime cause of supplier product problems (Newman & Rhee, 1990) and channel difficulties (Mohr & Nevin, 1990), which can undermine the buying firm's efforts to improve supplier performance (Galt & Dale, 1991). The literature does not describe what aspects of a supplier to develop, this is dependent on the firm, but supplier development is crucial for the performance of the buying firm. Examples of increased performance are: improved quality of the purchased item, reduced cost of the purchased item, improved delivery performance and increased supplier service/responsiveness (Krause & Scannell, 2002).

Krause et al. (2000) characterise four useful supplier development strategies:

1. Competitive pressure: Organisations make use of market forces to develop competitive pressure by using multiple sources (Dyer & Ouchi, 1993; Tezuka, 1997). With the use of multiple suppliers to provide an item, an organisation can distribute the volume of business which allows the best performing supplier gets higher volumes. This motivates other suppliers

to improve quality, and maintains pressure on the primary supplier not to let performance drop. Suppliers demonstrating improved performance may be rewarded with increased business over time (Tezuka, 1997).

2. Evaluation and certification systems: The perceptions of the organisation and its suppliers regarding the current and expected performance affect the performance of the supply chain (Harland, 1996). Routine supplier evaluation and feedback ensures that suppliers are aware of their performance and the customer organisation's expectation of performance. Firms use formal supplier evaluation systems and supplier certification programs to communicate their expectations, and to motivate suppliers to improve performance (Carr and Pearson, 1999; Krause et al. 2000).
3. Incentives: To motivate suppliers, an organisation can also offer incentives. They include sharing in cost savings (Gunipero, 1990), consideration for increased volumes, future business (Monczka et al. 1993; Gunipero, 1990), and supplier improvements through awards (Krause et al. 1998).
4. Direct involvement: Organisations take a proactive approach to developing suppliers through direct involvement (Monczka et al. 1993; Krause et al. 2000). There are several forms of direct involvement. Firstly procuring firms can make capital and equipment investments in supplier operations (Dyer and Ouchi, 1993; Monczka et al. 1993), like an investment in dies and fixtures. Secondly, manufacturers can partially acquire the supplier firm. E.g., manufacturers such as Toyota and Nissan typically have a 20–50% equity position in their largest suppliers (Dyer, 1996). Such direct involvement involves huge financial investments by the procuring firm. Thirdly firms may choose to invest human and organisational resources to develop supplier performance.

Incentives are important aspect of effective supplier development partnerships. Firms develop suppliers they expect to continue doing business with and should communicate that expectation to the supplier. This provides an incentive for the supplier to open their facilities to the scrutiny of the buyer (Modi & Mabert, 2007).

Collaborative behaviour between a buying firm and its supplier such as, collaborative communication acts as an important facilitator in transforming a buying firm's efforts for supplier development into performance improvements. Bi-directional sharing of tactical information enables the trading firms to operate more efficiently while sharing more proprietary information about cost

structures and future plans. This enables firms to detect opportunities for improvement and align their objectives (Modi & Mabert, 2007). According to Wagner (2010) direct supplier development activities do not result in an immediate upgrade of the supplier's product and delivery performance, but it might take some time to result in improved product and delivery performance. According to Rajaguru & Matanda (2013) attaining competitive advantage at any situation is only possible by efficient sharing and deployment of resources among supply chain partners.

2.3 Inter-Organisational Information sharing: Exploit the available information

Information sharing is the capturing and disseminating of timely relevant information for planning and controlling of supply chain operations (Simatupang & Sridharan, 2005). Wu (2008) defines information sharing between organisations as: *"the mutual sharing of business and market information between exchange partners."* In the remainder of this thesis, information sharing will refer to the sharing of information that is beyond the information required to carry out the day-to-day transactions between buyers and sellers. The basic motivation for inter-firm interactions is seeking of rewards and avoidance of punishment (Blau, 1964; Emerson, 1976). Research argues that organisations are more productive when they are able to transfer knowledge in an effective way (Inkpen & Tsang 2005; Connelly & Kelloway 2003).

Sharing information alone is not enough, information needs to be shared in such a way that the supplier also knows what the goal of sharing information is. An important part is shaping the information dependent on the supplier. Anholt (2000) showed this by taking an example from advertising: *"Translating advertising text is like painting the tip of an iceberg and hoping the whole thing will turn red. What makes text work is not the words themselves but subtle combinations of those words. Advertising is not made of words, but made of culture."* This quote is focused on the translation of advertisements, but shows that, in general, customising communication is an essential success factor. Companies should not just tell every supplier the same and use the same approach for each supplier, suppliers should be approached as different entities every time and every supplier needs its own approach. Firm should also think about what they want to share with their suppliers when investing in supply agreements (Alcacer & Oxley 2014).

2.3.1 The benefits of Inter-Organisational Information Sharing

Several studies have highlighted that information sharing is one of critical factors for an effective supply chain practice (Narasimhan & Nair, 2005; Jeong & Leon, 2012). Collaborative communication allows participants to jointly gain a clear understanding of future demand, develop a realistic plan to satisfy the demand, and coordinate related activities in a systematic manner to finish the task (Barratt, 2004), it is the driving force of effective supply chain practices (Horvath 2001). Buyer information sharing can reduce transaction costs by reducing coordination costs associated with conflict resolution (Li et al. 2012) and misunderstanding resulting from divergent viewpoints (Forker et al. 1999), supplier information sharing can reduce transaction costs by reducing supply uncertainty (Li and Lin 2006) and by reducing a buyer's coordination costs (Dyer 1997). However research by Su et al. (2018) found that information sharing by suppliers is more influential to supplier development efficiency than information sharing by buyers. Their research discovered that in practice, supplier information sharing sends a stronger signal to the buyer regarding the supplier's commitment to the supplier development program. Although information sharing has a positive impact on supply chain performance, collaboration plays an important mediating role between information sharing and supply chain performance (Wu et al. 2014).

According to Schatten (2009) transparency (the sharing of information) enables optimisation and regulation. Researchers have also argued that information sharing is an important solution for reducing the bullwhip effect which in turn will increase profit margin (Holm et al. 1999; Subramani, M. 2004; Rai et al 2006). E.g., according to Narasimhan & Nair (2005), production and delivery information can be shared to enhance operational efficiencies through improved coordination of allocated resources, activities and roles across the supply chain. Sharing forecasts, trends, and plans can reduce, among others, stock outs, obsolescence, inventory and logistics costs (Stank et al. 1996; Yu et al. 2001). Information Sharing reduces carrying costs of inventory, facilitates quick response for inventory replenishment and allows suppliers to better plan their production schedules, and reduces lead times (Stevenson, 1994 and Wu et al. 2014). Due to all the aforementioned reasons information sharing between key trading partners can ensure smooth operations (Mentzer, 1999).

2.3.2 Types of Inter-Organisational Information Sharing

Samaddar et al. (2006) describe four types of Inter-organisational Information Sharing. For a company it is important to know which information to share and with whom to share it. The sharing of information also comes with risks, one of these risks is opportunistic behaviour (Lee & Whang,

2000). Opportunistic behaviour is the use of the information or knowledge shared with a partner for your own benefit instead of the shared benefit. In order to determine which information to share and with whom, it is important to determine the goal of the information sharing and link it to one of the types of information sharing. Based on this type the company has to decide which information and how much should be shared. These types are derived from a matrix with two variables, the volume of the information shared, and the strategic importance of the information shared. Based on these variables the four types can be classified as follows (Samaddar et al. 2006):

1. Both the strategic importance and the volume of information shared are low, the risks involved are also low and the potential benefits from increased operating efficiency are great.
2. Occurs in situations of frequent information flows, such as for sequential processes.
3. Partners work primarily independently but require information periodically.
4. Can be observed in constantly changing markets, where the need arises for frequent sharing of strategic information.

Organisational Scope

<i>Information Volume</i>	<i>Strategic</i>	<i>Operational</i>
<i>High</i>	Type 4	Type 2
<i>Low</i>	Type 3	Type 1

Figure 2: Types of Inter-Organisational Information sharing

After deciding how much information and the scope of the information to be shared, it is important to look more into depth on the types of information shared. What is important information? In order to answer this question Lee & Whang (2000) have described different types of information shared between supplier chain partners. The types of information shared are: (1) Inventory level: access to supply chain inventory status can contribute to lowering the total inventory level in the supply chain. (2) Sales data: the availability of sales data could potentially reduce the bullwhip effect. (3) Order status for tracking and tracing: sharing of order status will lead to a high rate of first-call problem resolution. (4) Sales forecast: avoiding multiple independent forecasts can eliminate the bullwhip effect and the resulting inefficiencies. (5) Production/delivery schedule: information availability about input/job availability helps buyers to expand the planning horizon of their own activities. Also it will enable buying firms to quote more accurate due dates to their customers. (6) Other: other examples of

information sharing include performance metrics and capacity. By sharing this type of information the supply chain can identify the bottlenecks of the chain and improve overall performance.

The types of Inter-Organisational Information sharing (Samaddar et al. 2006) will determine which type of information (Lee & Whang, 2000) will be shared. E.g., when a company has a long strategic relationship with a business partner it will be more likely to share all possible information with the partner, so the supply chain can be optimised.

2.4 The research question: How likely is that the implementation of a supplier manual will improve the efficiency of the supply process of Kramp Groep BV?

Building on the literature and combining TCO, SRM, and Inter-Organisational Information Sharing. A research question has to be developed that could provide an answer to the problems encountered by Kramp Groep BV. The literature on Inter-Organisational Information Sharing states that the sharing of information with your supplier is a critical factor of effective supply chain practices (Narasimhan & Nair, 2005; Jeong & Leon, 2012). Schatten (2009) states that transparency in a supply chain will enable optimisation. This thesis looks at the potential impact of the TCO approach of Kramp Groep BV, the current processes at Kramp Groep BV are too much focussed on low purchasing prices and not considering the whole process and the total costs involved during this process. The TCO approach suggests that focusing on the aspects of the purchase besides purchasing price could potentially reduce the total cost of the purchase. In TCO quality and delivery are seen as more important than purchasing price. For Kramp Groep BV who places the customer on the first place it is important that the customer receives their products as soon as possible, therefore it can be expected that delivery would have more importance than purchasing price. The TCO research focusses on two streams the internal and external. For Kramp Groep BV both are interesting and could potentially provide new competitive advantages and cost savings for the firm. The internal approach could aid in supply-base reduction or volume-allocation decisions and also creating awareness within the organisation about the costs involved during the whole procurement and supply process. Externally the TCO information can be shared with suppliers to drive supplier improvements, negotiate future purchases, and support strategic alliance efforts (Hurkens et al. 2006; Van den Abbeele et al. 2009, Zachariassen & Arlbjørn, 2011).

The literature states that the interaction between firms needs to go further than just the transaction of goods, the theory on Inter-Organisational Information Sharing suggests that firms need to share information such as forecasts, inventory levels and production schedules to increase the efficiency of both the buying and supplying firm (Lee & Whang, 2000). Narasimhan and Nair (2005) stated that sharing of production and delivery information enhances operational efficiencies across the supply chain. Research by Lee & Whang (2000) shows that it is important for firms to share performance metrics since this will reveal any bottlenecks and could improve the overall performance of the chain, this is in line with the theory on SRM.

The theory on SRM states that effective SRM leads to a preferred customer status. Nollet et al. (2012) discuss benefits of a preferred customer status such as access to scarce materials & rare items, better pricing and higher flexibility in delivery planning to offer continuous supply. So effective SRM could lead to increases in efficiency as a result of better access to materials and items but also through more flexibility and a continuous supply.

All of the previously mentioned theories are intertwined and should result in increases in the efficiency of companies. The aim of this research is to discover ways that could potentially increase the efficiency of Kramp Groep BV by providing both internally and externally more information about the processes of the firm and making suppliers and employees better aware of all the costs and processes involved in the purchasing and supply process. Kramp Groep BV wants to develop a supplier manual to better inform its suppliers and its employees, therefore the following research question was developed:

RQ: *How likely is it that the implementation of a supplier manual will improve the efficiency of the supply process of Kramp Groep BV?*

3. KRAMP GROEP BV: THE ONE-STOP SUPPLIER OF SPARE PARTS

Kramp Groep BV is operating in the wholesale business. According to their website they are a one-stop supplier of spare parts, technical services and business solutions². They are a strategic partner for agricultural, landscaping and forestry companies, as well as for the earth-moving industry sector and OEM companies. Kramp Groep BV is located in 20 countries (all in Europe), they operate ten warehouses in ten countries and the Supplier and Category Management department is located in Varsseveld (the Netherlands). Besides this Supplier and Category Management department they also have operational purchasers located in all location with a warehouse, but the main ones are Varsseveld and Konin (Poland). Group purchasing is therefore centralised, while the purchasers in the other warehouses mostly purchase from local suppliers which only supply that specific warehouse and market. The company has around 2700 employees (FTE), 3000 suppliers and over 150.000 order lines in sales per day. The key financial figures can be found in figure 3³.

<i>Year</i>	<i>Turnover</i>	<i>Cost of Sales</i>	<i>% turnover cost of sales</i>	<i>Profit after taxes</i>
2014	€ 667.683.000	€ 513.803.000	76,95%	€ 38.876.000
2015	€ 699.392.000	€ 529.925.000	75,77%	€ 48.193.000
2016	€ 737.456.000	€ 562.869.000	76,33%	€ 45.578.000
2017	€ 790.532.000	€ 600.416.000	75,95%	€ 49.693.000

Figure 3: Key financial figures of Kramp Groep BV.

Of the around 3000 suppliers 500 are strategic global suppliers, meaning they supply to the whole of Kramp Groep BV and fulfil a strategic role in terms of the products they deliver. 200 suppliers are global suppliers, delivering to Kramp Groep BV, but the strategic importance of their goods is limited. And around 1500 suppliers are local suppliers, although some of these local suppliers are important and are marked as a local hero the majority are small local suppliers delivering to one country or warehouse. The local heroes are local suppliers that are crucial to the market in that country e.g. a specific type of tractor or tools that represent the majority of the market in that country but do not represent a significant market share in other countries.

² <https://www.kramp.com/shop-gb/en/i/about-kramp>

³ Kramp Groep BV annual reports, 2014, 2015, 2016 and 2017. <https://www.kramp.com/shop-gb/en/i/about-kramp/culture/annual-report>

Kramp Groep BV is operating in an industry in which they have a lot of different suppliers, but the bargaining power of Kramp Groep BV differs a lot. In some instances the bargaining power of Kramp Groep BV is high, while in other cases the bargaining power is low. Bargaining power is defined as the relative ability of parties in a situation to exert influence over each other (Porter, 1985). In the relationship between Kramp Groep BV and its suppliers the bargaining power is mostly determined by the amount of turnover that Kramp Groep BV represents to the supplier, for some supplier this is less than 1% while for other suppliers Kramp Groep BV represents the majority of their turnover. The cases where the bargaining power is located at the supplier are mostly the original equipment (OE) suppliers, they produce the products for which Kramp Groep BV sells the spare parts. Moreover, for these OE brand suppliers, spare parts form only a small percentage of their turnover. Some supplier have an annual turnover of around 8 billion euros of which Kramp Groep BV is only a small percentage. The bargaining power is important for Kramp Groep BV because it determines how much can be demanded from the supplier and will determine the strategy to use when negotiating with the supplier.

Within the product range of Kramp Groep BV are six categories: (1) Farming, Personal Protection Equipment and Merchandise, (2) Machinery Non-Original Equipment, (3) Machinery Original Equipment, (4) Shop and Workshop, (5) Tractor and Vehicle parts, and (6) Transmission and Hydraulics. At the head of each category is a category manager, who is responsible for the strategy of the category as well as a team of product group managers, category specialists and sourcing specialists. However not all categories have sourcing specialists, this is due to the fact that not all of the categories need a sourcing specialist.

To help the product group and category managers during SRM, Kramp Groep BV already has a supplier guidebook in place, this guidebook is enclosed as appendix X. The aim of this guidebook is to present the best practices and guide the category and product group managers, it describes most of the core processes and discusses processes in place at the different departments.

4. RESEARCH METHODOLOGY: A SINGLE FIRM CASE STUDY, INTERVIEWS AND CROSS-FUNCTIONAL WORKSHOPS

This chapter will explain the research methodology used for the data collection and describes the way the research will be conducted. To answer the research question a research model is created which can be seen in figure 4.

<i>Research Question</i>	<i>Main Theories</i>	<i>Key concepts</i>	<i>Method</i>
<i>How likely is it that the implementation of a supplier manual will improve the efficiency of the supply process of Kramp Groep BV</i>	Total Cost of Ownership		Single firm case-study
	Supplier Relationship Management	Supplier Selection Supplier Evaluation Supplier Development	27 semi-structured interviews
	Inter-Organisational Information Sharing	Effects of Inter-Organisational Information sharing Types of Inter-Organisational Information Sharing	Cross-functional workshops

Figure 4: Research overview

The research design is a case study which is a qualitative research mainly aims at increasing the understanding of the companies' actions by itemising qualitative data. There has been little research on the effects of sharing supply demands, in terms of how you want the products to be delivered, on the efficiency of the company. This thesis will focus on exploring, explaining and understanding a phenomenon. In this case the phenomenon is the potential effect of supplier informing on the supply efficiency of Kramp Groep BV. This will be done through interviews and cross-functional workshops with key employees of Kramp Groep BV who each have a different role in the purchasing and supply process.

4.1 Research design: Single firm multi-case study

Case studies refers to a study of a single or multiple cases which are carefully chosen. The case study research has been developed to examine complex problems with a view to identifying theoretical implications from a theory-building perspective and is appropriate in new topic areas (Eisenhardt, 1989). Case studies allow direction observations, which according to Seuring (2008) could be a suitable for approaching several stages of the supply chain.

4.2 Data collection: Interviews and cross-functional groups with key employees

The data collection in this thesis consisted of interviews with key employees, which was the first round of data collection. The second round consisted of cross-functional workshops which mostly consisted of the same key employees that had been interviewed in the first round.

4.2.1 Interviews with key employees

Information gathering in regard to developing a supplier manual at Kramp Groep BV is done through interviews. Interviews are a qualitative research method which offers several benefits to the researcher, in regard to this study the advantages have been listed below:

1. Potential to have a better response rate than a survey (Austin, 1981).
2. Is well suited for the exploration of attitudes, values, beliefs and motives (Richardson et al. 1965; Smith, 1975).
3. They generate contextual account of participants' experiences and their interpretation of them (Schultze & Avital, 2011).
4. Provides the opportunity to evaluate the validity of answers by observing non-verbal behaviour (Gordon, 1975).
5. Facilitates comparability by ensuring that all questions are answered (Bailey, 1987).
6. Ensures that the respondent is unable to receive support in formulating his answers (Bailey, 1987).

The initial interviews that were conducted consisted of 27 semi-structured interviews which were conducted over a period of seven weeks. Semi-structured interviews offer a more open dialogue than structured interviews, which follow a strict question and answer pattern, while still maintaining some structure in your interviews which will allow for comparison between the different interviews (Galletta, A. 2013). Of the 27 interviews 26 were recorded, one person objected to the recording of the

interview. Since this interview cannot be validated through recording this interview has been left out of the analysis. An overview of the interviews can be found in the tables 1-7.

The interviews are conducted with various key employees of Kramp Groep BV, these employees are focussed around Supplier and Category Management and Logistics. The following departments had employees interviewed: Category Management, Operational Purchasing, Data and Content Management, Legal, Logistics, Distribution and the Supply Chain Support Team. After 27 interviews, no additional data was being discovered. Similar instances were observed over and over, and this reoccurrence gave an empirical confidence. Based on this the sample data could be analysed. Besides asking questions based on the maturity model by Schiele (2007) and Schumacher et al. (2008) 'bad' examples, that were pointed out by employees, were analysed and the interviewer tried to discover where in the process mistakes were being made. The interviews varied in length depending on the answers given by the employees, but the average length of an interview was about an hour and fifteen minutes. The maximum length of the interviews was two hours, and the shortest interview was about 45 minutes.

The findings from the interview will be described starting with the operational purchasers since this would potentially give the best insights into potential mismatches. Due to the fact that they are in the middle of the purchasing and supply process, they would know what went wrong in which part of the process. In some cases, this was the fact and during the interviews they did mention what they felt could be improved but to ensure a complete picture and gain different insights also other function were also interviewed.

After interviewing some of the operational purchasers other functions such as product group managers, category managers and logistics staff were also interviewed. The interviews were not conducted per department, so interview one was e.g. a product group manager, interview two a logistics manager, interview three a category manager and interview four could be a product group manager again. The cases were numbered per department with the interview date behind it.

Table 1: Operational Purchasing interviews

Operational purchasing	Role	Date
Case 1	Operational Purchase Manager (NL/FR/UK)	05-06-2018
Case 2	Global Operational Purchaser	23-05-2018
Case 3	Global Operational Purchaser	22-05-2018
Case 4	Global Operational Purchaser	29-05-2018
Case 5	Global Operational Purchaser	05-06-2018
Case 6	Global Operational Purchaser	01-06-2018

Table 2: Category Management interviews

Category Management	Role	Date
Case 7	Director of Category Management	04-06-2018
Case 8	Head of Local Supplier Management	04-06-2018
Case 9	Category Manager	30-05-2018
Case 10	Category Manager	11-06-2018
Case 11	Category Manager	29-05-2018
Case 12	Product Group Manager	31-05-2018
Case 13	Product Group Manager	01-06-2018
Case 14	Product Group Manager	12-06-2018
Case 15	Product Group Manager	19-06-2018
Case 16	Category Specialist	13-06-2018

Table 3: Logistics interviews

Logistics	Role	Date
Case 17	Logistics Manager	01-06-2018
Case 18	Manager Fulfilment Development	30-05-2018
Case 19	Logistic Analyst	07-06-2018

Table 4: Legal interview

Legal	Role	Date
Case 20	Product Compliance Manager	07-06-2018

Table 5: Data and Content Management interview

Data and Content Management	Role	Date
Case 21	International Manager Data Content Management	08-06-2018

Table 6: Distribution interviews

Distribution	Role	Date
Case 22	International Distribution Manager	01-06-2018
Case 23	Transport Manager	30-05-2018

Table 7: Supply Chain Development Team interviews

Supply Chain Support Team	Role	Date
Case 24	Manager Supplier and Category Development	18-05-2018
Case 25	Project Manager Supply Chain	12-06-2018
Case 26	Project Manager Supplier and Category Development	14-06-2018
Case 27	Category Management Specialist	20-06-2018

4.2.2 Cross-functional workshops with key employees

After the first round of interviews the second round consisted of cross-functional workshops which were focussed on the development of the manual. The aim was to create cross-functional alignment between the departments to determine what the manual should look like and how the demands and current processes could be aligned. The aim was to ensure that the manual will continue to be used and that processes at Kramp Groep BV will run more efficient. After the first round of

interviews a first version of the supplier manual was created and in the cross-functional groups the details of the processes and the way to communicate them to the supplier were discussed and further worked out. The various elements that made up the supplier manual were discussed in teams that had a vested interest in the supplier manual since it could benefit their work. Besides that, the meetings were communicated to the various departments, this was done to ensure that all employees had the opportunity to join the meetings and provide insights and their expertise. The groups had the following initial composition:

1. Three operational purchasers, one category manger, one product group manager, three inbound logistics (one logistics manager, one team manager and one operations support specialist), and one transport manager.
2. One data and content manager, one category managers and one product group manager
3. Two category managers.

All of these groups were formed with a specific goal in mind:

1. To create alignment and work out in detail the following chapters and aspects of the supplier manual: the ordering process, the optimal way of working for logistics and its consequences. How to measure the performance of suppliers and adherence to the best practices? And how to optimise the inbound transport process. The ultimate goal is to make sure that alignment between the goals of the various departments are met and that the main goal is achieved which is increasing the efficiency of the process.
2. To create alignment and work out in detail the following chapters and aspects of the supplier manual: the delivery and handling of data. How do should suppliers deliver data, which data to deliver, when to deliver the data? What to do with changes in the data? The goal was to discover and document the best way to manage the data and how to get it from suppliers. The ultimate goal is to make sure that alignment between the goals of the various departments are met and that the main goal is achieved which is increasing the efficiency of the process.
3. To work out in detail the following chapters and aspects of the supplier manual: How to describe the supplier on boarding process and address the other aspects of importance to the suppliers. The other aspects include: the payment terms, bonus agreement, stock returns, supplier code of conduct, certification etc.

The work groups were initially set for a session of two hours, before the session the participants agreed on the subjects that would be discussed during the session and the headlines for the subject were already determined. The aim of the meetings was to go into detail and write out the whole process, from supplier to product on shelf. The meetings were set in a conference room at the Kramp Groep BV headquarters in Varsseveld. The role of the researcher was not to provide input for the meeting, this was already done by determining the subjects and the headline, but to ensure that all subjects and details are discussed and that everyone participated in the meeting. The last part was perhaps the most important, due to the fact that all parties involved also have to work with the manual and have to agree on the content. If someone did not participate or gave input, this person was asked for his opinion or whether he had any input. The most important aspect of these meetings is that the employees of Kramp Groep BV talk to each other and discuss the processes that affect each other. The reason for the cross-functional teams is to create inter-department alignment of goals and processes.

In order to attain credibility, the research process must be both valid and reliable which, as Brink (1989) has argued, is a major challenge when a project is based upon a semi-structured interview. The semi-structured interview approach was selected as the main source of data collection for two reasons. (1) The varied professional and educational backgrounds of the sample group exclude the use of standardised interviews. (2) They are well suited for the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and enable probing for more information and clarification of answers.

4.3 Reliability

Since not every respondent has the same level of vocabulary, the opportunity to change the words but not the meaning of questions provided by a semi-structured interview will enable the interviewer to ask questions to the respondent that have the same meaning but are formulated differently (Treece & Treece, 1986). Another reason for choosing the semi-structured interview approach is because the interviews were conducted both in Dutch and English this due to the variety of employees working at Kramp Groep BV. By having two different languages in which the interviews were conducted things can get lost in translation, but the semi-structured method offers some leniency in translation ensuring that the interpretation of the questions being asked is the same in Dutch as it is in English.

The second reason for choosing the semi-structured interviews is that it not only gives choice in wording but also enables probing (Hutchinson & Skodol-Wilson, 1992). Probing can be a valuable tool for ensuring reliability since it:

1. Allows for clarification of interesting issues raised by respondents (Hutchinson & Skodol-Wilson, 1992).
2. Enables exploration of sensitive issues (Treece & Treece, 1986; Nay-Brock, 1984).
3. Offers the ability to draw out valuable and essential information (Gordon, 1975; Austin, 1981; Bailey, 1987).
4. Enables exploration and clarification of inconsistencies in answers (Barriball, & While, 1994).
5. Can help respondents recall information for questions involving memory (Smith, 1992).

Semi-structured interviews also have drawbacks. One of these drawbacks is that novice researchers are often unable to identify where to ask prompt questions or probe responses and as a result some relevant data may not be gathered (Price 2012). By listening back to the recordings of the interviews and evaluating the interview the researcher tried to see where prompt questions should have been asked and tried to use this information in the next interview.

4.4 Validity

According to Kuzmanić (2009) valid qualitative research is about credibly representing different social worlds or different interpretations to the readers. The interviewer needs to be aware of how he influences the person they are interviewing (Farr, 1982). This influence of interviewee behaviour is known as interviewer bias. According to Patton (1990) the quality of the information obtained during an interview is largely dependent on the interviewer. The most significant influences are the interviewer's characteristics, some of them are relatively unchangeable, such as gender, age and ethnicity (Payne, 1999). Besides these characteristics interviewer's appearance like the style of clothing or the accent also carry meanings for the interviewee and are potential source of influence just like clear markers of social status and power (Payne, 1999).

Most researchers focus on two steps when looking at validity as a process. Firstly, production of data is considered as one aspect for judging validity and secondly, data presentation and interpretation as the other. In other words, there is a difference in assessing the validity of the method

and the validity of interpretations (Kuzmanić, 2009). The researcher also needs to acknowledge how much potentially important information might get lost in the transformation of verbal into written data. E.g., gestures and body language that the interviewer might have observed during the interview, or expressions of specific emotions, such as laughing or crying (Kuzmanić, 2009).

An overall and returning theme in regards to validity is that every interpretation of data is influenced by the researcher's pre-constructed theories and values (Seale, 1999). For the purpose of this thesis, the interviewer tried to seem comparable to fellow colleagues, this was done by creating a friendly atmosphere, dressing comparable to the subjects and no excessive use of body language during the interviews. Nevertheless, it is impossible to state whether the interviewees would have acted differently if another person was interviewing them. The data was validated due to the number of interviews conducted and the fact that the information was also gathered from other subjects as well.

4.4.1 Audio recording

Before the start of each interview the interviewee was asked whether it was allowed to record the interview. By recording the interviews, the researcher is able to exactly reproduce the interview which will enable analysis (Barriball & While, 1994). According to May (1989), due to the dynamic nature of interviewing the procedures used to log data must be given considerable attention.

Recording also helps to reduce potential data interpretation errors or cheating by making up answers. Besides improving the validity of the results audio recording also enables listening back to the recordings and checking the interviews for improvement in the next interview. 26 interviews have been recorded and after an interview was conducted it was listened back to determine what could be improved for the next interview and also determine which aspects to focus on in the future. Also the recording will make it easier to analyse the data received.

4.5 Data analysis: Comparative method

The interviews are analysed using the comparative method proposed by Ragin (2014). Ragin draw his method from research by Mill (1843), according to Ragin (2014) two of Mill's methods are particularly relevant to case-oriented investigations: the method of agreement and the indirect method of difference. The method of agreement is basically a search for patterns of invariance, meaning that

this method looks at the instances of the phenomenon which is identified and attempts to determine which of the causal variables is constant in all instances. For the interviews in this research it will look for similarities in the interviews and inconsistencies among the interviews by using cross-case analysis. By applying this method, the research aims to discover the information that is known and is not known within the company. Also looking at the work processes and comparing these and determining whether they will enable the optimal workflow.

Not only functions will be compared to each other it will also be possible to see whether there is internal alignment within the organisation and to see whether the interests of all stakeholders are taken into account. Do product managers make agreements that will enable operational purchase to effectively and efficiently purchase the goods required? Will the goods arrive in a manner that will enable inbound logistics quick handling of the goods and ensure efficient operations? Are the goods delivered in such a way that they are ready to be sold to the customer? All these aspects will be analysed, and potential problems identified and examined for potential improvements.

5. FINDINGS: A LACK OF SRM HINDERS THE IMPLEMENTATION OF A TCO APPROACH

The current process at Kramp Groep BV is analysed by reviewing documents of the company and conducting interviews with key employees who are involved in the purchasing and supply process. The process starts with determining supplier selection criteria but also includes invoicing, ordering, master data, logistics, marketing and ends with supplier evaluation and supplier development. The aim of the research is to discover what the process looks like and how it operates, but also to identify waste in the process. Waste, in the context of this thesis, is inefficiency in the processes or operations.

5.1 First round of interview

The interviews have been described per department but as described before we not conducted in this sequence and have been conducted in accordance with the availability of the key employees.

5.1.1 Operational Purchasing: Not enough communication between departments and inefficient logistics

The operational purchasers place the actual orders based on input of the forecasting tool, therefore they are in the middle of the process. Upstream are the product group manager and category managers who make the agreements with the suppliers, and downstream are the logistics staff who handle the transport and the incoming goods. This means that if something is wrong with an order from a logistics perspective, the operational purchaser should be the first one to know. After the error has been made known to the operational purchaser, he is supposed to contact the supplier to solve the issue. When the operational purchaser is not able to solve the issue with the supplier the problem will be escalated to the product group manager or later the category manager. He will try to solve the problem with the supplier, often talking to the account manager of the supplier.

The operational purchaser operates within the agreements that are made between Kramp Groep BV and the supplier. These agreements are drawn up by the product group managers of Kramp Groep BV together with the supplier. These agreements form the basis of the buyer supplier relationship and determine the way of operating of Kramp Groep BV. Therefore they need to be designed in such a way that it enables all departments within Kramp Groep BV to operate in the best way possible. The details of the agreement are discussed between the product group manager and the supplier. The

strategy behind the agreement are based on the overall strategy of Kramp Groep BV and the strategy of the product category.

After the first round of interviews it was concluded that there is a lack of communication between logistics, operational purchasing and category management. The operational purchasers stated that they felt that there was not enough communication between the product group managers and the operational purchaser (case 2, 3 and 5). Results from an employee survey also showed that there was not enough communication between the different departments. Another issue were the responsibilities, it was not always clear whether the operational purchaser or the product group manager was responsible (case 3 and 5). This was especially the case for new products, who is responsible for the stocking of new items and determining the amount to be stocked? There are several examples of waste in the operational purchase department, e.g. order confirmations not arriving within two days. This means that the operational purchasers needs to follow up on these not investing his time in value adding service. The same for changes in prices that were not announced in advance, or invoices that are incorrect. Incorrect invoices need to be followed up by the operational purchaser and the time invested cannot be used for the core tasks, besides it also has a disadvantage to the supplier since he might not receive his payment in time. Furthermore operational purchasers were aware that within logistics things were not running smoothly but there was no structured way of reporting these inefficiencies. That is why the next chapter will describe the results from the interview with the key logistics employees. After that the result of the interviews with the product group and category managers will be discussed to analyse the framework, in which the other departments operate, is created and see whether they feel more inter-department communication is needed.

5.1.2 Logistics: Inefficiencies exist, but structural reporting and measures are missing

When conducting an interview with the logistics manager (case 17) the current supplier guidebook was shown to him and he immediately noticed parts of the guidebook that were not correct and did not meet the needs of the logistics department. E.g. the example pictures that were included in the guidebook, the manager pointed out that some of the examples marked as correct in the guidebook actually are not correct. Some cases that were marked as “bad” were actually preferred over the previously mention good example. In figure 5 an example is shown, in this case the box on the right is



Figure 5: Example from the supplier guidebook

marked as correct while both boxes require the same amount of work. In both cases the boxes need to be unpacked and separately packed again per product. These examples show that the communication towards the supplier is not in line with the expectations from the inbound logistics, this means that there is a mismatch between departments. This is an example of the separation of products, in the ideal situation every product arrives in its own packaging which allows quick processing of the incoming goods without any extra work for the inbound logistics staff.

This mismatch means that there is a lot of extra, potentially, unnecessary work for the logistics staff. The term unnecessary is used due to the fact that the resources put in do not add any value to the process. A note needs to be made here that during the period of the interviews and the thesis the workload in the logistics department was extremely high and there was a huge backlog in the warehouse, so the results might be biased. On the other hand, the mismatches and unnecessary work have also contributed and became more apparent due to the backlog. By having to do unnecessary work the logistics staff has less time to work on the core business and reducing the backlog. This backlog also led to extra focus being placed on improvements in the inbound process, change was required because the supplier's "mistakes" led to extra work while there was already too much work to do.

It is important to know what this unnecessary work is and even more important how to prevent it from happening again. The most prominent example of this unnecessary work is the repacking of incoming goods. For the logistics department of Kramp Groep BV an incoming shipment packed on a pallet with the following dimension (including the pallet): length 800 mm, width 1200 mm and height 1200mm is ideal. If a shipment arrives like this it can be picked up and immediately put in the pallet stand in the warehouse. Does a shipment deviate from this ideal situation then rework is needed. E.g. supplier X, delivers on a pallet with different dimension as a result the shipment cannot be put in the pallet stand immediately, all of the items need to be taken off the pallet and put on another pallet. Only after that is done the pallet can be put in the pallet stand. This means that instead of taking two minutes to book the shipment and to ensure that it is in stock the shipment of supplier X might take 30 minutes to an hour. So, this means that instead of doing about fifteen pallets the logistics staff is only able to process one shipment, this is especially troublesome if it is a shipment with multiple pallets. This is just one example of the waste that is currently existing in the process. Other examples are a mismatch between the quantities the supplier delivers and Kramp Groep BV sells, e.g. the supplier delivers in boxes of ten pieces each and takes care that they are neatly packed but once the goods arrive at Kramp Groep BV an employee needs to unpack all the boxes since Kramp Groep BV sells the items in different quantities. The logistics manager stated: *“Sometimes supplier put in a lot of effort and time to neatly pack the product and to ensure that it looks good, but once it arrives here we are immediately unpacking it. This takes effort and time from us as well. If we were to make better agreements with our suppliers on these subjects it might not only save us time and money but the supplier as well (case 17).* Or products are delivered unassembled, Kramp Groep BV needs to assemble the different parts that form the product instead of the supplier pre-assembling them. *“I spend all afternoon putting axels in wheels” (case 27).*

During this thesis a make-shift solution was created by Kramp Groep BV to try and report logistics issues to the operational purchasers. Cases where something was wrong with the shipment or delivery were reported in the Customer Relationship Management tool and through this channel the operational purchaser was made aware and responsible for contacting the supplier to work out a solution. But how are the agreements with made, and what is taken into account? The next section will examine how the product group and category managers negotiate with suppliers and how the demands of the other departments are communicated with the suppliers.

5.1.3 Product group and category managers: Insufficient discussion of supply chain topics with suppliers results in a lack of optimisation

The aim of the interview with the product group and category managers was to discover what the supplier selection process looks like, how suppliers are managed and how the supplier guidebook is used. The product group managers are the crucial link in the buyer-supplier relationship and the supply process. The product group managers are responsible for the initial and regular contact with the supplier, they are not involved in the daily process, but set the framework in which all the other departments operate. Logistics and transport are dependent on the agreements made with the supplier, e.g. how the goods are packaged, transported and delivered? Data and Content Management is dependent on which data and how the data is delivered, operational purchasing is dependent on the minimal order quantities, the lead times etc. and sales is dependent on the assortment and the price of the products. This shows the big impact the product group managers have on Kramp Groep BV as a whole.

The category and product group managers mentioned the difference between the six categories within Kramp Groep BV, but also the differences within a category when discussing the suppliers. This is in line with the view presented by Hesping & Schiele (2015) who state that creating one overall strategy for purchasing is difficult and that a set of diverse strategies and tactics is required. For this reason every category and even every product group has its own OGSM (Objectives, Goals, Strategies and Measures) (Case 13). The Kraljic' matrix (Kraljic 1983) and the Dutch Windmill (Weele 2010) were often referred to and used to describe the relationship between suppliers and Kramp Groep BV. Kramp Groep BV operates in a spare-parts market and often deals with OEM's, the bargaining power in this relationship mostly lies with the supplier. Sometimes Kramp Groep BV represents as less as 0.1% of the turnover of these companies. But these items are critical to Kramp Groep BV, they need to have these items available for their customers. This means that these suppliers are either in the strategic items or bottleneck items quadrant. A category manager explained how they sometimes try to overcome this difference. The turnover of the OEM is not presented as a whole, but instead they will focus on the spare-parts turnover of the OEM and in this part of the turnover Kramp Groep BV might represent a bigger part of the turnover and then the power distance is decreasing, and possibly more can be demanded from the supplier. *"You should be important to someone at the supplier, if you are important to for example an account manager at the supplier and represent a big part of his business, he will fight for you within his company and half the battle is won. Sometimes you do not represent a significant part of the supplier's business but you have to make sure that at least someone*

at the supplier cares about you, and the relationship” (Case 11). However, there are also suppliers where Kramp Groep BV has a power advantage, these are suppliers located in the non-critical item quadrant of the Kraljic’ matrix or suppliers for which Kramp Groep BV represents a big part of their turnover. With these suppliers Kramp Groep BV can make more demands because the bargaining power of Kramp Groep BV is bigger.

During the interview with the product group and category managers it became apparent that not all of them know the supplier guidebook, or use it. Answers like *“I heard of that”* (9-16) and *“I know it was created once”* (Case 9-16) gave indication that the knowledge about and use of the supplier guidebook was very limited. When showing the supplier guidebook, interviewees often stated that there was important information in there which they used in the negotiations but none of them used it as the basis of the negotiation or as part of the negotiation. Another interviewee mentioned that *“there are too many rules in it and I do not want to discuss that many rules with the suppliers”* (Case 15), and another commented: *“I am 100% sure that we never discussed how goods should be delivered, but we should”* (Case 9). This indicates that there are mixed feelings about the use of such a supplier guidebook and the value it offers to the firm. Some of the employees see the added value and think it adds something to the negotiation while another does not use and says that there are too many rules. There could be two reason for this, the first one is limited awareness of the importance of the guidelines and their contribution to the firm as a whole. Secondly it could be that the guidebook is not sufficient or inefficient.

All the different suppliers and the over 500.000 products also represent a lot of data, which is becoming more and more important nowadays. To effectively manage this data and to gain a competitive benefit from the data Kramp Groep BV has the Data and Content Management department. Supplier and product data should also be managed effectively and has an impact on the purchasing and supply process, therefore the manager of the Data and Content Management department has also been interviewed.

5.1.4 Data and Content Management: Correctness and availability of data is hugely important

The interview has been conducted with the Data and Content manager (case 21). Data and Content Management is responsible for all the product and supplier data but also the management of supplier media such as pictures and videos. The aim of the Data and Content Management is to

continuously enhance the data by registering and processing new and existing information. The goal is to ensure that customers and the internal organisation can be provided with complete product information of the highest quality. The following three elements are the core business of Data and Content Management: (1) Maintaining ERP data (customer, supplier and product data). (2) Registering of technical and commercial product data. (3) Producing and processing of all kinds of images for the webshop.

Nowadays data in any form is becoming more and more important, the availability and even more important the correctness of data is crucial to businesses. *“Not only Kramp Groep BV profits from the correctness of data, also customers place more and more value on data and its correctness”* (case 21). E.g., if a customer orders an article on the webshop based on the product data that is shown in the webshop he should have no doubt about the correctness of the data and he should be certain that he is ordering the article he is looking for. For Kramp Groep BV this is a big challenge, Kramp Groep BV operates in 20 countries and has over 500.000 articles, the information for most articles also needs to be available in 20 languages. But the data not only affects the customers of Kramp Groep BV, the product data also affects the internal processes.

One example which clearly shows the impact of product data the weight of a product that was incorrect in the database. The product data showed the weight of a box of screws instead of a single screw. This meant that the screw had a weight of around 5 kg, instead of its correct weight of around 20 grams. A customer placed an order for 20 screws and because the outgoing shipments are limited to a weight of 20 kg per crate the products were packed in five red crates instead of just one. This meant that the costs for shipping these goods also increased, and for these low-cost items it means that the costs are bigger than the revenues, so instead of making a profit these ‘small’ mistakes result in a loss. Furthermore the Data and Content manager stated that from their point of view they rather see the supplier deliver documents and data in the languages the supplier has available instead of translating them. The manager mentioned that sometimes the supplier only has the documents available in German, but Kramp Groep BV asks them to hand in the data and documents in English. In order to reduce translation mistakes the Data and Content manager would like to see suppliers hand in the documents in the readily available languages, this will ensure that any translations are done correctly.

According to the Data Content Manager there is a difference between the customers, and this also affects the data that is needed to serve the customers. There are customers who orders based on the article number, the customer searches for item number in the webshop and orders the item. While other customers are more visually oriented, they look at their product and compare it to items on the webshop and order the item that matches his data and looks like his product. Data, agreements and ordered products all contribute to serving the customer but the products also need to arrive at the warehouses of Kramp Groep BV and its customers, this is an important part of the supply process and therefore interviews have also been conducted with the distribution department.

5.1.5 Distribution: A trade-off between transport costs and warehouse costs

Distribution is responsible for both the inbound and outbound transport. This also includes making agreements with carriers for Kramp Groep BV. In this role the distribution department has sometimes common goals and sometimes contradicting goals. The logistics department prefers an efficient flow of goods from truck to shelve and the transport department is looking for the quickest, most efficient and cost-effective way of transport. And the contradicting factor might be the loading of the trucks, while for logistics the ideal dimension for a pallet are 800x1200x1200 mm, for the transportation department the dimensions of the pallet are less important, they aim to maximise the use of the space in the truck. The goal is to ensure that every m² is used, because this will distribute the transportation cost among the most possible products. To achieve the goals of both departments close cooperation is required.

For transportation the agreed incoterm⁴ is an important aspect of the process, it determines how the goods will be transported and who is responsible for which part of the transportation process. During the interviews it became apparent that the preferred incoterm is ExWorks, this is due to the fact that ExWorks gives the most flexibility. Kramp Groep BV takes responsibility from the start of the transportation process and this ensures that the goods are delivered on time at the warehouse. The transport manager (case 23) stated that in cases where ExWorks is not used suppliers sometimes do not ship the goods immediately but decides to consolidate the shipment with another shipment to lower the cost of the shipment. While this will result in cost savings for the supplier, it also means that it will take longer for the goods to reach Kramp Groep BV.

⁴ <https://iccwbo.org/resources-for-business/incoterms-rules/incoterms-rules-2010/>

Due to the fact that so many moving parts and different departments are involved Kramp Groep BV created a new department in May to improve the supply chain. This is the Supply Chain Support Team, whose aim is to look at the whole chain and come up with improvements that have a positive influence on the entire chain and to make sure that the development part is not involved in operational issues.

5.1.6 Supply Chain Support Team: Bridging the gap between supply chain links

The Supply Chain Support Team is the initiator of the thesis. The tasks of this team are to support the purchasing department by ensuring that the systems and processes are in place and focus on the strategic direction. The most important role of the team is to look at supply chain optimisation and improvement, but besides this role they are also continuously looking for new tools and business solutions.

The Supply Chain Support Team manager stated that a lot of work is required, e.g.: *“At the moment we have not enough IT tools to support us, it is not possible to get a report with a click on the button. Data needs to be gathered from various sources and needs to be combined to get a report but the question remains whether the data is correct”* (Case 24). The manager also made a statement regarding SRM, according to the manager the analysis of suppliers and potential suppliers is too reactive. *“I feel that only if we notice something is wrong we start acting”* (Case 24). When talking about the responsibilities the manager stated: *“There are a lot of grey areas in who is responsible for what. If you go higher up in the hierarchy the responsibilities are very clear but if you go down into the daily business things will become more unclear as to who is responsible”* (Case 24). When asking the manager and the employees about the supplier guidebook the managers and employees said that some of the work processes are well described, but also stated that in some instances you have to look for the separate pieces and gluing them together. The manager stated that it might be a good idea to have a guide, or sort of checklist to aid in the negotiations, by doing so you can compare different options and determine what the best option would be for Kramp Groep BV.

When dealing with a huge amount of suppliers and having over 500.000 products also means that there are a lot of legal requirements and compliance to European law. To find out the legal

requirements and to see how Kramp Groep BV deals with compliance the compliance manager has been interviewed.

5.1.7 Legal: Cooperation on legal compliance could prevent fines and increase efficient processes

The legal and compliance aspects of the purchasing and supply process were discussed with the compliance manager (case 20). The focus of the legal department is not only on contracting but it also focusses on product compliancy. With rules and regulations becoming more and more important Kramp Groep BV needs to ensure that the products they sell are compliant to the rules. When you sell you products in 20 different countries this becomes a bigger challenge, although all of the 20 countries are located in the European Union (one warehouse located in England, Brexit), the rules and regulations that apply to the products are not the same for all countries. To manage this process Kramp Groep BV has a product compliance manager. This manger is tasked with ensuring that the products and procedures at Kramp Groep BV are aligned with the rules and regulations of the countries that Kramp Groep BV operates in. The most important and pressing issue at the moment is product compliance and the role of the supplier in this process. Most prominent is EC 1907/2006 (REACH)⁵, which aims to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances. Not only the substances themselves but also the substances used in the production process. REACH consists of four processes: the registration, evaluation, authorisation and restriction of chemicals. REACH places responsibility on the industry to manage the risks from chemicals and to provide safety information on the substances. Manufacturers and importers are required to gather information on the properties of their chemical substances, which will allow their safe handling, and also needs to register the information in a central database. *“For products from outside the European Union or which are sold as private label products Kramp Groep BV is marked as the manufacturer, therefore Kramp Groep BV is also responsible for the registration and identification of chemicals used in the product or production process”* (case 20). However since Kramp Groep BV does not produce the products it depends on the information of the supplier for this registration process, it is therefore important that the supplier is aware of the requirements of Kramp Groep BV and the consequences of non-compliance. An important aspect of REACH for Kramp Groep BV are the Safety Data Sheet (SDS). SDSs are a widely used system for cataloguing information on chemicals, chemical compounds, and chemical mixtures. SDS information may include instructions for the safe use and potential hazards associated with a particular material or

⁵ <https://eur-lex.europa.eu/eli/reg/2006/1907/oj>

product, along with spill-handling procedures. The SDS must be supplied in an official language of the Member State(s) where the substance or mixture is placed on the market.

Besides REACH and the SDS other important legal requirements such as restricted materials list, traceability of products, product and packaging samples, user manuals, quality assurance, product recall, intellectual property rights and the country of origin were discussed. Much of the required information has already been researched by the legal department and put in the supplier agreement (contract) this agreement also formed the basis for the discussion regarding these subjects. The aim was to translate the contract content into (normal) English and present a simplified view of the contract and obligations to the suppliers in the supplier manual to inform them. This is especially important because not all suppliers of Kramp Groep BV sign the supplier agreement, but are still required to sign separate documents.

The aim of this thesis is not to go into depth on these rules and regulation but to discover how supplier and buyer can better cooperate on providing information regarding these matters with each other and also to ensure compliance to the rules and regulations. *“At the moment Kramp Groep BV manages product compliance through the online platform ProductIP”* (case 20). According to the compliance manager, making people aware of these rules and regulation is a big step. Suppliers are not always aware of the obligation to provide this data/information and the fact that sharing this information is also beneficial to them, it will allow quicker time to market. In the current supplier guidebook these rules and regulations are not incorporated, but they need to be communicated with the supplier. During the interview, the compliance manger stated the importance of mentioning these rules and regulation in the supplier manual and in that way informing the suppliers about them. It would also provide product group and category managers with a tool to remind them about this. But she also stated that mentioning them in the supplier manual is not enough, as part of the contracting process they also need to sign forms which will make them legally responsible.

5.2 Second round, cross-functional workshops: Aligning department goals across Kramp Groep BV

The second round consisted of cross-functional workshops which were focussed on the development of the manual. The aim was to create cross-functional alignment between the departments

to determine what the manual should look like and how the demands and current processes could be aligned.

5.2.1 First Session: Get the right content, at the right place at the right time

The first session's aim was to determine which data to ask from the suppliers and how to ask it. The aim of the session was to create a discussion among the different managers and let them work out what data to ask and which data to ask. This was important because the research at Kramp Groep BV showed that employees do not communicate enough cross-functionally, for this reason goals were not always aligned, and processes were not discussed enough.

The session started off by looking at the current lay-out of the supplier manual and going through the chapter master data. This chapter was split in three headers: supplier data, product data and media guidelines. According to the people present in the session the supplier data can be handed in through file 15, a standard template for supplier data, therefore it was chosen to add this template to the supplier manual as an appendix. The data and content manager stated that, although it is a legal document, the GDPR should also be mentioned in this chapter. The GDPR is the General Data Protection Regulation (EU 2016/679), this is a legal regulation which requires in this case a supplier to sign a document which allows Kramp Groep BV to use the data of the supplier for its business. Allowing mails to be send and the data to be processed by Kramp Groep BV. After the supplier data was discussed product data was introduced and divided into five sub-headers: Providing new and modified product data, procedure for end of product production, EAN codes, Price changes and Packing multiples. The content of these sub headers was discussed in the same way as supplier data and worked out to ensure alignment and consent across various departments and functions.

A header added to the manual during the meeting was the media guidelines, the aim of this chapter is to request the cooperation of a supplier with media, or to ensure a supplier allows Kramp Groep BV to use the media of the supplier. This includes the use of pictures but also instructional videos of the products the supplier sells. This saves time for Kramp Groep BV, they do not have to produce the videos or pictures themselves. Besides the data and content manager also stated that: *"By incorporating the videos in our website we can ensure that the customer stays on our websites and watches the videos instead of going to YouTube or the website of the supplier."* (Case 21)

5.2.2 Second Session: Supply chain and operational optimisation

The second session's aim was to work out the chapters Ordering, Logistics and Supplier performance. During this meeting four different departments were present, this meant that more interest had to be taken into account and that finding common ground and aligned interests would create more of a challenge than during the previous meeting. The first chapter discussed during the workshop was the chapter ordering, in this forecasting, purchase orders, order confirmation, invoicing, payment terms and electronic data interchange were discussed. The employees present could all agree on the information that was presented within this chapter, they however stated that some minor issues needed to be checked with employees who had more operational knowledge about these issues. After the meeting mails were sent to these employees to check and ask for feedback on some of the smaller issues such as VAT numbers.

The next chapter that was discussed was the chapter logistics, the biggest chapter of the manual. This is perhaps also the chapter that is most important due to the fact that a lot of inefficiencies were discovered in logistics in the first round of interviews. In this chapter delivery, packaging, stacking, identification, hazardous materials and inspection of incoming goods are discussed. The chapter logistics is also the chapter where all the different processes in the purchasing and supply processes of Kramp Groep BV come together. Again much of the information in the chapters was correct and the employees stated that the information could contribute to a faster flow of goods and an increase in efficiency. A few corrections needed to be made, especially some of the words chosen because they could be interpreted in different ways. This becomes more and more important the more you go into detail. E.g. when describing the packing hierarchy, the following terminologies were used: item (individual item), inner carton (the primary packing case that contains the items), shipping carton (the outer-most carton, either contains inner carton or the items) and the shipping unit (outer-most packing unit, pallet, crate etc.). However further on items were described in a different way and this could lead to confusion at the supplier or confuse employees at Kramp Groep BV, it is therefore important to check for these details and make sure that there cannot be any confusion concerning their meaning.

When discussing the stacking of pallets it was stated in the manual that EUR pallets needed to be used, however according to the logistics manager this is the ideal situation but not necessary to ensure that the process is efficient. According to him a pallet in EUR format would also work, this is

800x1200 mm, the advantage of EUR pallets is that they are used multiple times and are a standard for quality. For stacking it is also important that the stretch film, used to improve stability of pallets, is not only attached to the products but also incorporates the pallet. In the past there have been cases where everything fell off the pallet because the stretch film did not incorporate the pallet. However when two pallets are stacked on each other stretch film should not attach the two pallets together because this would lead to having to remove the film before both pallets can be handled. The last part discussed during this meeting was supplier performance and the KPIs. All employees present were enthusiastic about the prospect of having more data on the performance of the suppliers and being able to measure and communicate with the supplier about their performance. The employees stated that it could be used both as a pressure for suppliers to increase their performance as well as a means to praise, complement and award suppliers for good performance. They thought that the key to the supplier manual would be these performance measures since it would ensure that the product group manager follows up on these issues with the supplier and also that the supplier himself becomes more aware of his performance due to the fact that he knows it is being measured.

5.2.3 Third Session: Demand things from your supplier and aim for the best possible option

The third session took place on the 21st of November and was conducted with two category managers. The aim of this session was to determine how to implement the supplier manual, how to inform supplier, the general content of the manual and how to use it. One of the category managers (Case 9) stated that the tone of voice in the supplier manual is very important and that you should not give away too much information. He stated that: *“If you leave room for negotiation already in the manual than the supplier will use this in the negotiation, you should try not to give away too much information beforehand”* (case 10). With this information he meant terms and conditions of purchase such as payment terms, return agreements and potential bonus agreements. The category manager stated that if you give away these options before the negotiation the supplier will already use this information in his quoted price which, as a result, will be higher. The category manager also stated that the tone of voice in the manual should be carefully examined. He stated: *“in the manual you should demand the best stating less than the best, or leaving room for interpretation will result in supplier knowing what is minimally acceptable and therefore you will already lose some bargaining in the negotiation. By demanding the best the supplier knows what is expected, through negotiation a different outcome might also work but this will either demand more from the supplier or should result in a price reduction”* (Case 9).

6. IMPLEMENTATION OF A SUPPLIER MANUAL COULD INCREASE SUPPLIER ALIGNMENT AND REDUCE INEFFICIENCIES

This chapter will discuss the findings resulting from the research. The aim is to discover whether Kramp Groep BV would benefit from implementing a supplier manual and how it could benefit from its implementation.

6.1 Lack of Total Cost of Ownership approach

Understanding the true cost of dealing with a supplier requires considering all the attendant activities (Purchasing, Inbound Logistics, Quality Assurance, Accounting, etc.) as well as the purchase price (Visani et al. 2016). This means that the costs of dealing with a supplier are not only limited to the price shown on the invoice, during the whole procurement and supply process costs are added which are the result of the deals and agreements made with suppliers. It is therefore important that during the negotiations these costs are also considered and taken into account since they can stimulate negotiators to act cooperatively (Essa et al. 2018). Wu et al. (2014) showed that collaboration between supply chain partners is important since is an important mediating role between information sharing and supply chain performance (Wu et al. 2014). Furthermore the research by Essa et al. (2018) showed that *“the presence of TCO information during the negotiations is positively associated with supplier, buyer and joint profit”*. This directly contradicts a statement made by a category manager who stated: *“If you leave room for negotiation already in the manual than the supplier will use this in the negotiation, you should try not to give away too much information beforehand”* (Case 10)

Garfamy (2006) stated that the overall value that a supplier delivers may justify for paying a higher purchase price given that other considerations, such as quality, result in lower total costs over the long run. This suggests that sometimes it might be wise to pay a higher price since this will lower your costs during the whole process which in turn will increase your margins. But it also works the other way around, focussing on the lowest purchasing price might lead to higher costs and in the end lowering your margins. One of the reasons for Kramp Groep BV to start this research was that the company wanted to move more towards a TCO approach. To examine the current approach interviews were conducted with the product group managers and category managers, these interviews were aimed at discovering the focus of these employees during the supplier selection process and negotiations. Was there a focus on costs (total costs) or a focus on price (purchasing price)? But also trying to determine why there was a focus on either of those two.

One of the questions asked to the product group managers and the category managers was: *“What is your function and what are your responsibilities”* (Cases 9-15) The answer most commonly heard from the product group managers was increasing the assortment, buying for the lowest possible price and maintaining good relationship with the supplier. Not one of the interviewed product group managers stated lowering the costs or ensuring an efficient process. However criteria such as cost, quality, delivery and service are an appropriate set of supplier selection criteria (Kanagaraj et al. 2016) which have to be taken into account during the selection process since they will have an impact on the total cost of doing business with a specific supplier. The manager of the Supply Chain Support Team (case 24) mentioned that gains could be made here that would cut the total cost or improve processes. This view was also supported by the logistics manager who stated that: *“by placing more emphasis on logistical aspects of supplier deliveries efficiency in the warehouse could be improved”* (case 17).

One of the findings is that for some suppliers the bargaining power is located at Kramp Groep BV while for some other suppliers the power is located at the supplier. Research by Van den Abbeele et al. (2009) showed that TCO information may reduce the disadvantage dependent buyers have on a more powerful supplier. This result in the literature could aid Kramp Groep BV and would be another reason for implementing a TCO approach, since this could result decreasing the disadvantage of Kramp Groep BV during the negotiation process. But in order to move towards a TCO approach the selection and evaluation tools to do so also need to be in place. Pazhani et al. (2016) already stated supply chain optimisation has two problems the first one is that Kramp Groep BV needs to determine the optimal way of working and secondly they need to select the right supplier. But you cannot do the second without doing the first one right. Kramp Groep BV should therefore ensure that there is enough insight in the costs involved in the processes to make a decision based on data instead of gut feeling.

6.2 Supplier Relationship Management: Supplier evaluation is insufficient

When dealing with a supplier and selecting a supplier Kramp Groep BV is aiming at a long-term relationship with the supplier and tries to grow and increase its business together with the supplier. It is therefore important that the SRM of Kramp Groep BV matches these goals. The buyer-supplier relationship can be quantified both in terms of financial performance achieved, such as cost savings, and in terms of tangible and intangible benefits, like improved quality, flexibility and deliverability (Gunasekaran et al. 2001). Cao & Lumineau (2015) stated that framing contractual provisions in a different way, keeping the same consequences, may result in different behavioural responses and views of the buyer-supplier relationship. In line with the views presented in the paper by Hesping and Schiele

(2015) every category and product group(s) have developed their OGSM stating the Objectives, Goals, Strategies and Measures of the category and product group. This would be the third level, category strategies, when developing the supplier manual and the strategies behind the use of the manual it is important to keep in mind that both the differences between the various categories and product groups are covered but also the differences between the various suppliers and warehouses of Kramp Groep BV. Whereas the firms overall strategy (level 1) is to adopt a TCO approach in its purchasing process, the way this approach is implemented differs per category.

6.2.1 Supplier selection: Insufficient measures to determine what the correct supplier is based on a TCO approach

Supplier selection is one of the most important steps in the process of purchasing your products. Narasimhan (2001) stated that effective evaluation and selection of suppliers is considered to be one of the critical responsibilities of purchasing managers. Moreover supplier selection decisions must not be based solely on least-cost criteria other important factors such as quality and delivery performance must also be incorporated into the decision-making process. This is in line with the TCO approach, but when discussing TCO, it is also important to note that there is not just one approach to TCO. When looking at the TCO companies can look at just the total cost and determine the supplier based on the total cost of purchasing the product, but a company can also choose to add weights to the cost categories and use E.g. an analytical hierarchy process. Based on the interviews it can be concluded that there is still a long way to go in terms of a TCO approach in supplier selection. Suppliers are selected based on price or the assortment they offer, not a single product group manager stated that his job is to ensure that products the product arrive at the customer with the lowest possible costs in the most efficient way. Factors such as delivery and quality were rarely mentioned, which according to the literature are the most important selection criteria, followed by purchase price (Ho et al. 2010, Kanagaraj et al. 2016). This is also due to the fact that there is no way to gain full insight into the costs that are associated with selection a supplier. *“There is an excel model that aid in deciding whether a supplier is profitable”* (Case 11). But this model only shows a global overview whether the deal is profitable and does not show the total costs that are associated with the supplier. It therefore also does not allow any comparison between different suppliers and determining from a TCO approach which supplier offers the lowest costs.

6.2.2 *Supplier evaluation: Not enough insights possible.*

Operational supplier performance evaluation consistently facilitates the association of strategic purchasing participation with cost, quality, delivery and flexibility of purchasing performance dimensions (Nair et al. 2015, Kant & Dalvi 2017). But in the last couple of years environmental attributes have also taken their place among evaluation criteria (Grisi et al. 2010, Chen et al. 2010, Kuo & Lin 2012, Kannan et al 2015 and Ghorabae et al. 2017). Kramp Groep BV also want to ensure that it operates in a sustainable way and also expects this of its supplier and the suppliers' suppliers. To convert this message to the supplier Kramp Groep BV requests its supplier to adhere to the supplier code of conduct, but Kramp Groep BV does do any audits to check whether suppliers actually adhere to this code of conduct.

At the moment supplier evaluation is limited to non-existent within Kramp Groep BV, from the interviews it became clear that data is not readily available and the quality is questionable. This unavailability of data hinders effective supplier evaluation and this means Kramp Groep BV is unable to highlight the weaknesses of suppliers and will also be unable to highlight those aspects of the suppliers that are ripe for development (Dey et al. 2015), this hampers their competitive position (Da Silva & Borsato, 2017). This means no improvement on supplier performance can be made or encouraged and this will also not increase the performance of Kramp Groep BV because according to Monczka et al. (1998) supplier evaluation reduces purchase risk and maximise the overall value of the purchasing firm. This view is supported by Yawar & Seuring (2017) who state that supplier evaluation and feedback on the evaluation, motivate the suppliers to perform better by increasing capacities and improving the quality of the product.

Kramp Groep BV is currently looking at a strategic procurement tool which would also enable more effective and efficient supplier evaluation. In the future they also want to create a supplier portal where suppliers can view their performance in real-time, but the expectation is that this will take more than a year before it is in place. By making the product group and category managers responsible for the performance of 'their' suppliers they will be more inclined to monitor and evaluate supplier performance. The performance of their suppliers is seen as a direct reflection on the performance of the product group/category manager. This will encourage communication from the product group manager, as he wants to know how his supplier is performing, and therefore he will communicate more with the operational purchasers, logistics and other involved departments. The aim is to create more discussion about supplier performance and improvement. The expectation is that the product

group/category manager will ask other departments for any problems with his suppliers and then providing this feedback to the supplier, so he can improve.

But how does the supplier feel about being evaluated? According to Purdy & Safayeni (2000) there is an advantage for suppliers in knowing exactly what is assessed in an evaluation, what information needs to be collected/tracked, what is required for a good evaluation, etc. Knowing this is viewed positively by suppliers since it allows them to undertake remedial actions in order to get a good evaluation. Furthermore Purdy et al. (1994) researched the effectiveness of supplier evaluation processes and they noted that in the suppliers' eyes, the most important issues during an evaluation were having continuous improvement plans and results; having documentation of procedures and mechanisms; having communication with and participation of the workers; quality; and cleanliness. These were issues that the evaluators raised and of which the supplier thought were important. However the suppliers also stated that they thought too much emphasis was placed on the level of documentation and procedures. This research is however looking into providing the supplier with details instead of asking them for details, nonetheless it needs to be kept in mind that the level of detail might receive negative feedback from suppliers. To make suppliers react and take action to change their performance the measures and scores from the evaluation should be shared with the supplier (Maestrini et al. 2018). However it is important to note that the supplier sees continuous improvement plans and results as an important part of the supplier evaluation, this needs to be taken into account when looking at supplier development.

6.2.3 Supplier development: Due to a lack of measures and metrics no knowledge on what to develop at which supplier

Monitoring supplier performance has a positive influence on the supplier's operational performance (Maestrini et al. 2018). Furthermore Maestrini et al. (2018) found that monitoring significantly reduces supplier opportunism and this improves the suppliers' operational performance. Interactive use maximises performance improvement since the interactive part allows seeking of improvement in different areas (Maestrini et al. 2018b). Following the results of the research by Purdy et al. (1994) a good start of supplier development after the evaluation would be to create a continuous improvement plan together with the supplier. Not only does the supplier rate this as important it also signals commitment to a long-term relationship, and it indicates a willingness to make investments in key suppliers to help them improve performance. When making investments in suppliers, supplier and the buying firm performance are also expected to improve (Krause et al. 2000). Gunasekaran et al.

(2001) state that the level of assistance in mutual problem solving supports the development of the buyer-supplier partnership, this shows that supplier development works both ways.

During the interviews it was stated various times that Kramp Groep BV enters relationships with suppliers with long-term commitment in mind. According to the literature this is an important first step towards supplier development, also from the Inter-Organisational Information Sharing perspective because Kramp Groep BV also signals to its suppliers that the aim of the relationship is a long-term relationship. But as stated before, before Kramp Groep BV can start with effective supplier development first a system needs to be in place to ensure effective and efficient supplier evaluation. If this system is in place and its data is readily available and correct it can be shared with the supplier and the weaknesses of the suppliers can be highlighted and potentially improved through supplier development. The aim of the supplier manual is to provide the supplier and also the employees of Kramp Groep BV with an overview of important aspects of the supply chain and provide a guide for the development of KPIs. Once this is in place it should be expected that a competitive advantage could be gained because according to Rajaguru & Matanda (2013) efficient sharing and deployment of resources among supply chain partners leads to a competitive advantage. And once profit increase, for any member of the supply chain, their willingness to increase investment also increases, benefitting all members of the supply chain Bai and Sarkis (2016).

The supplier inbound issues as discussed in Chapter 5.1.2. shows that suppliers are willing to cooperate with Kramp Groep BV in improving the processes. This confirms that what is stated in the literature is also happening in practice. In total 30 suppliers already said that they are willing to cooperate and comply with the operational demands of Kramp Groep BV.

6.3 Inter-Organisational Information Sharing: Opportunities are lost due to limited or no sharing of information between Kramp Groep BV and its suppliers

As the studies by Narasimhan & Nair, (2005); Jeong & Leon, (2012) highlighted, information sharing is one of critical factors for effective supply chain practices. This means that the flow of information between a buyer in this case Kramp Groep BV and its suppliers is crucial for a successful supply chain. According to Schatten (2009) transparency in the supply chain enables optimisation of the supply chain. Based on the interviews, conducted at Kramp Groep BV, the current flow of information between Kramp Groep BV and its supplier is not sufficient enough to ensure effective

supply chain practices. In the matrix of Samaddar et al. (2006) describing the different types of Inter-Organisational Information sharing, Kramp Groep BV should be classified as a type 1. The volume of information it shares is low and the organisational scope is Operational. Being a type 1 means that the potential benefits from increased operating efficiency are great and this is what Kramp Groep BV is trying to achieve with the implementation of the supplier manual.

Research by Adams et al. (2014) shows that collaboration has a positive relationship with both performance and logistics service competency. The ability to provide higher levels of service to customers through logistics operations is also frequently employed as a measure of advantage in firms and supply chains (Davis-Sramek et al. 2010; Fugate et al. 2010) because it can serve as an indication of increased functionality. Competency in logistics services may be viewed as a resource in and of itself (Olavarrieta and Ellinger 1997), serving as an intermediate outcome through which firms can achieve competitive advantage. Specifically, the reliable provision of time-and-place utility to customers is an important potential source of competitive advantage (Perrault and Russ 1974; Richey et al. 2007; Barney 2012). Greater collaboration in supply chain relationship allows collaborating firms to better define and execute roles and responsibilities (Swink et al. 2007; Kim and Lee 2010), reduce operating costs (Kahn et al. 2006), and enhance the provision of time-and-place utility to the customer (Randall et al. 2010). If Kramp Groep BV and its supplier are satisfied with information sharing and collaborative behaviours, they are expected to effectively eliminate wastes both internally and externally. As a result, both financial and non-financial benefits are expected from both antecedents (Wu et al. 2014).

During the interviews it became apparent that information sharing still has a long way to go within Kramp Groep BV. The problem lies perhaps within Kramp Groep BV and between the different departments, during an employee survey employees rated the communication between departments with a six out of ten score. At the start of this thesis the aim was to improve the efficiency of Kramp Groep BV by communicating the operations of Kramp Groep BV to the suppliers, but in order to effectively communicate your operational demands to the suppliers these operational demands also need to be known within the different departments of Kramp Groep BV. Currently there is not enough inter-department communication within Kramp Groep BV, although this has already slightly improved since the start of writing this thesis.

One example of this improvement is the communication between inbound logistics and operational purchasing concerning the supplier inbound issues. Supplier inbound issues are cases where a supplier delivery does not meet the operational demands of the inbound department of Kramp Groep BV e.g. wrong pallet, dimensions of the pallet etc. From July onwards, these supplier inbound issues are documented in a management system along with a description of the problem, photos and the correct operational demands. The system sends the operational purchaser a message and from that point onwards he is responsible for discussing the issue with the supplier. Before this was the case these issues were not reported, this meant that the operational purchaser was not aware of these issues and was not in the position to communicate with the supplier about this. So first inter-department communication was required before Inter-Organisational Information sharing could take place. As a result of the sharing with the supplier Kramp Groep BV was now able to optimise the inbound process with the supplier. Sometimes the supplier was able to adjust its way of shipping the goods, but sometimes this was not possible or only at higher cost. But at least Kramp Groep BV will be able to discuss it with the supplier, and in the case of the higher costs Kramp Groep BV is able to calculate the most cost-effective way. By being able to calculate the most cost-effective way Kramp Groep BV can move towards a previously mentioned TCO approach.

With the introduction of the supplier manual, outlining the processes which take place within the purchasing and supply process of Kramp Groep BV, suppliers are informed about all the different cost aspects associated with this process. By sharing this information and sharing the TCO information with the supplier, the supplier, buyer and joint profit should increase (Essa et al. 2018). Research by Selviaridis & Spring (2018) showed that presenting supply chain requirements in a different form than a contract could contribute to improving supply chain alignment. Supply chain alignment could increase profit since buyer information sharing reduces coordination costs associated with conflict resolution (Li et al. 2012).

6.4 Development of the supplier manual

It is important to determine the root cause of the problem and to try to solve, not the problem, but preventing it from happening again. Not only at supplier X but all current and future suppliers. When trying to solve the root cause several questions arose that might explain the cause of the problem encountered with supplier inefficiencies. Does the supplier know how to deliver its goods to Kramp Groep BV? Does the product group manager know how the logistics staff wants goods to be delivered?

Does the operational purchaser at Kramp Groep BV know that the goods are not delivered in the optimal way? Does the supplier know where to send his invoices and what they should look like? Does the product group manager communicate such details about the purchasing and supply process to the supplier? Is Kramp Groep BV aware of the most cost-efficient way for the supplier to deliver its goods?

The problem is not as simple as it looks and there are many points in the process where it might go wrong, and information might get lost or not followed up on. During the interviews at Kramp Groep BV the problems were often known within the department, but the problems were not always shared with the other departments. This meant that the other departments were unaware of the problems encountered with supplier X and therefore were not able to communicate this to supplier X and try to find a solution together, this hampered the efficiency of Kramp Groep BV.

During this thesis a make-shift solution was created by Kramp Groep BV to try and report logistics issues to the operational purchasers. Cases where something was wrong with the shipment or delivery were reported in the Customer Relationship Management tool and through this channel the operational purchaser was made aware and responsible for contacting the supplier to work out a solution. Suppliers were not always able to change their processes, or could do so but at higher costs, but it was an important first step. By this way of reporting the problem became known with the people who could try and work out a solution, the supplier was informed, and the issues could be communicated. Not only the supplier was informed, inbound logistics staff will also be informed and shown that their issues were being addressed, this would encourage them to continue to report these issues.

However, this make-shift solution is not a solution to the actual problem. The question is why does supplier X deliver his goods like that in the first place? Has the supplier been sufficiently informed beforehand on the issues that are important to the logistics of Kramp Groep BV? Adding to the difficulty of communicating all these requirements with the supplier is the fact that the processes within the warehouses at Kramp Groep BV differ per location. *“There is no uniform way of processing the inbound and outbound goods, so presenting how the goods should be delivered might work for one warehouse but might not work in another warehouse”* (Case 18). It was stated that the supplier manual should be designed to the processes at Kramp Groep BV’s warehouse in Varsseveld because the logistics development team is currently looking into the different work processes at the different

warehouses and looking to create a uniform way of working within the different warehouses. Taking this into account would take too much time and would go beyond the scope of the thesis.

All the moving parts and details that need attention should be discussed with the supplier to see what is possible and what is not. These details and processes might easily get lost when they are not well described or used in the daily processes. It is important that everyone in the organisation knows of these processes and also communicates with each other when something goes wrong. But perhaps more important is role of the product group managers, they should be aware of the details and processes and also communicate all the relevant details with the supplier and take these processes into account when selecting a supplier. This means that the factors determining which supplier should be selected are clear and used consistently, also these factors should reflect the importance of the entire chain and not only the performance of a certain department. In the end the overall profit is more important than the goals of one department, a cross-functional approach is required. To help the product group and category manager with communicating these requirements a supplier manual has been developed that will describe all the operational needs from the various departments within Kramp Groep BV and this manual will be shared with the supplier. The aim of the manual is to frame contractual provisions in a different way, as this, according to Cao & Lumineau (2015), may result in different behavioural responses and views of the buyer-supplier relationship. The aim is to increase supplier alignment with the processes of Kramp Groep BV, reduce inefficiencies and in turn improve the performance of Kramp Groep BV and subsequently its suppliers.

7. CONCLUSION: SUPPLIER MANUAL COULD INCREASE EFFICIENCY BUT SUPPLIER EVALUATIONS WILL HAVE A BIGGER IMPACT

The research at Kramp Groep BV was conducted to find out how likely it was that the implementation of a supplier manual would improve the efficiency of the purchasing and supply process of Kramp Groep BV. After the research, the interviews and the workshops it can be concluded that the implementation of such a manual could increase supply chain alignment and increase efficiency, but it is not a standalone solution. Measures need to be in place that ensure that such a manual is used and will be continued to be used, this is where the previous supplier guidebook was lacking. Due to the fact that it was not embedded in the processes it was moved more and more towards the background and is seldom used nowadays.

Although the supplier manual might be a first step towards better SRM and supply chain alignment the biggest gain could be made in supplier evaluations and after that the next step would be supplier development. Also in the sharing of information with its supplier Kramp Groep BV can make improvements that probably go beyond the effects the supplier manual will have. Kramp Groep BV could start by sharing forecasting information with its suppliers to ensure that suppliers are up-to-date on what Kramp Groep BV's demands will be instead of acting based on their own historic data. More about these potential sources of improvement will be discussed in the managerial implications further on in this conclusion.

Because Kramp Groep BV has around 3000 suppliers it is important that the focus on supplier evaluation and development should first be placed on the most important suppliers. These are the top 100 suppliers, and emphasis should be placed on them due to their strategic importance and the share of revenue that they represent for Kramp Groep BV.

7.1 Managerial Implications

The findings of the research also provides implications for other managers and companies who can potentially improve in the areas described below and in turn improve the service towards their customers and also increase turnover and profit.

7.1.1 Implementing a Total Cost of Ownership approach contributes to efficiency increases

The first recommendation to manager is perhaps most important and is the basis on which this thesis was build. Companies needs to lose the focus on price when it comes to the procurement of goods. Although price is an important factor in purchasing and will always remain so, focusing on price too much can be harmful to your profit, and to your sales. E.g. in the case of Kramp Groep BV the customers favour availability above price. Lower prices usually mean that costs are cut somewhere else at the supplier, this could be delivery or quality. Or e.g. minimal order quantities go up. This means that somewhere else during the supply process companies lose the gains made with the lower purchasing price, it might even be that in the end the costs are higher. Implementing a TCO approach could reduce the costs of goods sold, and even though it might only be a small percentage the potential for saving could be well worth the investment

7.1.2 Implement supplier performance measures

It is important to have a check or measurement system in place to measure the performance of suppliers and their compliance to the demands made. By having such a performance measure in place companies will be able to see which suppliers are adhering to the joint goals of the supply chain, it will also point out potential points for improvements. These potential improvements will be the basis for supplier development. By continuing to improve operations at both the supplier and at the buyer, the buying firm can ensure that the supply chain continues to be optimised and the process becomes more efficient. Which will result in better service to the customer and end-user while also increasing sales and profit as a result of an increased competitive advantage. When designing KPIs companies should ensure that they are aligned with customer requirements (Selviaridis & Spring, 2018). The registration of the KPIs and measuring the performance of the suppliers has an additional effect, it will ensure the continuous measurement of suppliers.

7.1.3 Supply base reduction

Supplier consolidation is an important strategy from a buyer viewpoint as this reduces uncertainty in the supply chains and allows the firms to meet the market demands (Pagell & Wu, 2009). Reducing the supplier base has been highlighted by many researchers as beneficial due to reasons such as: supplier and customer responsiveness, reduced transaction cost, supplier innovation and financial performance using limited number of supplier. (Choi & Krause, 2006; Cai, et al. 2010; Goffin, et al. 1997). Mitchell and Sawchuck (2012) mentioned three benefits of supply base reduction, one of these focusses on the reduced procurement and supplier management costs. Fewer suppliers lead to the

number of separate transactions being reduced and the amount of time spent on managing suppliers is decreased. By using fewer suppliers the efficiency can increase and result in a reducing the transaction costs. (Böris & Hall 2015)

Maintaining around 3000 suppliers is a big administrative and costly task, it costs roughly \$700- \$1,400 in internal costs (i.e. labour, outsourcing, technology and related overhead) to source each supplier, set it up in internal systems, transact with it and manage the relationship on an ongoing basis (Mitchell & Sawchuk, 2012). This means that supply base reduction (reducing the number of suppliers) can result in substantial savings by cutting these costs by reducing the number of suppliers. But it could potentially also reduce the costs of the other suppliers due to pooling of demand.

7.2 Theoretical implications

Besides the practical or managerial implications this thesis also adds to the existing literature on the subjects of TCO, SRM and Inter-Organisational Information sharing. Previously the literature on these subjects was mainly focussed on production companies. Several papers (Ellram 1995, Kanagaraj et al. 2016, Pazhani et al. 2016) describe the effect of TCO, SRM and information sharing on the production performance of companies, but very little is written about the impact of these subject on the performance of wholesalers. Since this thesis was written for Kramp Groep BV, a wholesale, company this thesis adds to the existing literature in that it provides insight into the importance of these subjects for wholesalers. Supplier performance like delivery and quality are important to production companies (Narasimhan et al. 2001, Kanagaraj et al. 2016), but the research shows that Kramp Groep BV (a wholesaler) also place high emphasis on these supplier performance aspects. This is however only one example and that is also one of the limitations of the research.

7.3 Limitations and future research

The research was a single firm multi-case study conducted at Kramp Groep BV and this is also a limitation of this study. Due to the fact that the study was conducted at Kramp Groep BV it is questionable whether the results of this research are generalizable. Kramp Groep operates in the spare-parts business and is a wholesaler, therefore the question is: can the results be applied to other businesses and sectors? Another limitation is that the results of the research "*potential increases in efficiency of the supply process*" are not there yet, this means that it is unknown what the potential effects are, how suppliers react to such a manual and what the effects are in the different counties. The

research is based on the literature and although this suggests that efficiency should increase this is not certain. Furthermore the researcher himself could be a limitation, this thesis was written during an internship at the company this might create a bias due to involvement. Future research could look into the effects of such a manual, the matter in which suppliers are willing to cooperate and also whether it would also be applicable to other sectors and industries.

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APPENDIX

Interview guide

- Introduction
 - Do you agree with me recording this interview?
 - Explaining the reason for the interview.
 - Who are you and what is your function?
- General questions
 - Could you describe your daily tasks to me/could you walk me through an ordinary day?
 - What are the challenges in your job?
- Problems
 - What are problems/issues that you often encounter during your daily business?
 - Have you ever had a problem with a supplier, a disagreement? How did you solve this?
 - Imagine, a new product/category is introduced but sales are disappointing what would you do?
- Demand Planning
 - To what degree are you involved in product/project planning? Are you aware of new products/projects? Is this a returning process and has it been written down?
 - Where are requirements and demands derived from? How is the process described?
- Environment Scan
 - How is the process of a supply market analysis described and documented?
 - Is sufficient personnel allocated to market analysis?
 - How are partner functions involved in drawing conclusions out of the market analysis results?
- Structure and Mandates
 - How are the responsibilities within category management documented?
 - How is OP integrated in the purchasing network of the group?
 - With which departments should OP closely collaborate?
- Sourcing Strategy
 - Who is responsible for selecting suppliers?
- Supplier selection
 - Is the procurement process documented? How?
 - If preparing a negotiation, do you follow a uniform and systematic approach? Are decision criteria, tactics and targets agreed cross-functionally?
 - Is supplier selection carried out systematically and according to requirements profile and selection criteria?
 - Is the selection process well defined, logical and documented?
 - Which agreements are made with suppliers during the negotiations?
 - Do all contracts with suppliers follow the same guide lines?
- Supplier evaluation
 - Is a systematic procedure in place for supplier evaluation?
 - Are the results of supplier evaluation shared with the suppliers? Does this happen on a regular basis?

- Supplier development
 - Is a systematic procedure in place for supplier development? How is this process described and communicated within Kramp Groep BV.
 - Are there regular visits to suppliers? Does Kramp Groep BV provide training and workshops together with suppliers?
 - How would you describe the phase-out process of suppliers and who decides about a phase out.
- Early supplier involvement process
 - From which suppliers do you know the technological roadmap?
- Process involvement with other functions
 - Is quality management involved within the supplier selection process? Do quality management and purchasing form one face to the supplier?
 - How and to what extent is procurement logistics/material handling process defined?
 - Are there shared targets between purchasing and logistics?
 - Are the agreements of category management known to operational purchasing? Is it a consistent exchange of information between the two departments ensured?
 - Is risk management an integral part of the purchasing process?
- Controlling
 - Are the targets for CM derived from the targets of Kramp Groep BV as a whole? Is CM involved in determining the targets together with executive management?
 - Are targets defined on employee level? Do you have any special targets?
 - What are you being reviewed on?
- Improvements
 - What would enable you to do your work better?
 - What could Kramp Groep BV do to save costs during the purchasing process?
 - What do you think should be added to the supplier manual?
 - What do you think the added value of a supplier manual will be for Kramp Groep BV