Master's degree thesis

LOG950 Logistics

Category management in Purchasing - a case study of the practice of category management in Sperre Industri AS

Rebecca Thoresen Dalhaug

Number of pages including this page: 84

Molde, 22.05.2018



Mandatory statement

Each student is responsible for complying with rules and regulations that relate to examinations and to academic work in general. The purpose of the mandatory statement is to make students aware of their responsibility and the consequences of cheating. Failure to complete the statement does not excuse students from their responsibility.

Plea	ase complete the mandatory statement by placing a mark in each box for stater	ments 1-6		
bela	below.			
1.	1. I/we hereby declare that my/our paper/assignment is my/our own			
	work, and that I/we have not used other sources or received			
	other help than mentioned in the paper/assignment.	\boxtimes		
2.	I/we hereby declare that this paper	Mark each		
	1. Has not been used in any other exam at another	box:		
	department/university/university college	1. 🖂		
	2. Is not referring to the work of others without			
	acknowledgement	2. 🖂		
	3. Is not referring to my/our previous work without			
	acknowledgement	3. 🖂		
	4. Has acknowledged all sources of literature in the text and in			
	the list of references	4. 🖂		
	5. Is not a copy, duplicate or transcript of other work			
		5. 🖂		
	I am/we are aware that any breach of the above will be			
3.	considered as cheating, and may result in annulment of the			
	examination and exclusion from all universities and university			
	colleges in Norway for up to one year, according to the <u>Act</u>			
	relating to Norwegian Universities and University Colleges,			
	section 4-7 and 4-8 and Examination regulations section 14 and			
	15.	\square		
4.	I am/we are aware that all papers/assignments may be checked			
	for plagiarism by a software assisted plagiarism check	\square		
5.	I am/we are aware that Molde University College will handle all			
	cases of suspected cheating according to prevailing guidelines.			
6.	I/we are aware of the University College's rules and regulation			
	for using sources	\boxtimes		

Publication agreement

ECTS credits: 30

Supervisor: Per Engelseth, Geir Arne Svenning

Agreement on electronic publication of master thesis			
Author(s) have copyright to the thesis, including the exclusive right to publish t	he document (The		
Copyright Act §2).			
All theses fulfilling the requirements will be registered and published in Brage HiM, with the approval			
of the author(s).			
Theses with a confidentiality agreement will not be published.			
I/we hereby give Molde University College the right to, free of			
charge, make the thesis available for electronic publication:	⊠yes □no		
Is there an agreement of confidentiality?	⊠yes □no		
(A supplementary confidentiality agreement must be filled in)			
- If yes: Can the thesis be online published when the			
period of confidentiality is expired?	⊠yes □no		
Date: 22.05.2018			



SUPPLEMENTARY AGREEMENT/CONFIDENTIALITY AGREEMENT (Supplement to Point 5 of the Standard Agreement)

This agreement is between

REBECCA THULESEN DACHAUG (Student(s)).

PER. ENGLISETH (Faculty Advisor at Molde University College),

SPERLE WOUSTRI AS (Company/Institution).

and Molde University College/MSc logistics Program Coordinator. This is a supplement to the Standard Agreement, which defines the use of specifications and results reported in a Master's degree thesis in accordance with the study plan for the Master's degree program in Logistics at Molde University College.

- As stated in Point 5 of the Standard Agreement the parties named above agree to limit access to the Master's degree thesis for .5. Year(s) from the date of this agreement. The limit should be 1 to 5 years, for longer confidentiality periods, contact the program coordinator for a special agreement.
- The reason for keeping the thesis results confidential is so that the company/institution can avoid giving away information that would give others a competitive advantage.
- 3. The thesis must be submitted to Molde University College. It will be kept in a secure room in the main archive at the College during the period agreed upon. The thesis can be borrowed during this period if a written request is submitted and the company/institution gives permission. Academic staff members can access the thesis after signing a declaration of secrecy. After the period of confidentiality is ended the thesis will be placed in the library for general use.
- Four copies of this agreement must be signed so that each party will have a copy. The agreement is valid when it has been approved and signed by the program coordinator or Dean at Molde University College.
- The confidentiality agreement does not exclude members of the academic staff from being present at the final oral presentation of the thesis.

Place. Costicas. 42

Kebecca Dally T Student(s) EL W.

Company/Institution

Date of last signature. Faculty Advisor

Molde University College

Acknowledgments

After the completion of this thesis, I owe several people a great "thank you" for helping me through this process.

First of all, I would like to thank Sperre Industri AS, who both allowed me and encouraged me to investigate their business. Thank you, Tor-André Ulla Eiken, Magne Sandvik and Birthe Gundersen for spending several hours of your time providing me the information I needed. Thank you, CFO Jon Kvalø, for providing me additional information about Sperre's organization, and for allowing me to eat lunch for free. In addition, I would like to thank the rest of the employees at Sperre whom has been treating me nice and never hesitated when I asked for help.

A huge "thank you" is also directed to my supervisors. This thesis would simply not been competed without their help. Thank you, Professor Per Engelseth, for introducing me to the research topic and for giving me guidance in how to actually write a master thesis. And thank you, Geir Arne Svenning, for sharing your knowledge about this topic and for always being so enthusiastic about my research.

I would also like to thank my boyfriend for tolerating me the past weeks and for accepting that my participation on the housekeeping has been nonexistent. Thank you for comforting me when times were rough and for giving me high fives when things went well.

Lastly, I would like to thank my fellow students that ensured me that I was not alone feeling lost and helpless during this emotional process, and for making my two years at Molde University College highly memorable.

Abstract

After a challenging year in 2016, Sperre Industri AS reorganized the purchasing department with the objective to facilitate more strategic work and to prevent "another 2016". The purchasing department, consisting of two Senior Supply Chain Managers and one Supply Chain Coordinator, presented category management as a new purchasing approach. The approach was accepted by the top management and implemented in the fall of 2017, and since then Sperre has achieved some cost savings. Category management requires embracement by the whole organization for realizing the potential benefits. This research studies the practice of category management within Sperre Industri AS in conjunction with success factors presented in the literature.

A well-executed categorization process, consisting of spend analysis and determination of categories, is the first requirement to gain maximum potential from category management. Further, it is required cross-functional teamwork with sufficient knowledge about the products and/or markets to be able to develop the optimal category-sourcing strategies. The findings of this research suggests that the category management may deliver results within a year, but it has to be fully embraced by the whole organization to achieve the best results. Sperre is on itw way to a successful category management implementation, but needs to make some improvements to be able to reach the top.

The main theoretical contribution of this study is the validation for the use of category management frameworks within a medium sized organization and that benefits may be realized already within a year after implementation.

Keywords: Category management, category management effects, category, sourcing strategy, purchasing portfolio, spend analysis.

Contents

Acknowledgments		
Abstract		
1.0 Introduction	1	
1.1 Research background	1	
1.2 Research gap	2	
1.3 Research questions	3	
1.4 Significance of the research	3	
1.5 Structure of thesis	4	
2.0 Literature review	5	
2.1 The principles of category management	5	
2.1.1 Category management definition	5	
2.1.2 The foundations of category management	7	
2.1.3 The pillars of category management	9	
2.2 Success factors within category management	11	
2.2.1 Success factor 1: well executed categorization process	11	
2.2.2 Success factor 2: Strategically sourcing	14	
2.2.3 Success factor 3: Cross-functional team work	18	
2.2.4 Success factor 4: Comprehensive data	20	
2.2.5 Success factor 5: Organizational embracement	20	
2.3 Challenges and benefits of category management	21	
2.3.1 Challenges	21	
2.3.2 Benefits	22	
3.0 Methodology	23	
3.1 Research method	23	
3.2 Data collection	23	
3.2.1 Interviews	24	
3.2.2 Documents	25	
3.3 Validity and reliability	26	
4.0 Empirical background	27	
4.1 Organization background	27	
4.2 Organizational structure	28	
4.2.1 The structure of the purchasing department	28	
4.2.2 Category teams	31	

4.	.3 The	ecategorization	33	
	4.3.1	Spend analysis	33	
	4.3.2	The categories	36	
4.	.4 Pro	cess and tools	39	
	4.4.1	Organization-wide processes	39	
	4.4.2	ERP-system	39	
4.	.5 Pos	sible effects of category management	41	
	4.5.1	Cost savings within 'logistics'	41	
	4.5.2	Cost savings within 'Electro motors'	42	
5.0	Case	analysis	43	
5.	.1 eva	luation of The practice of category management in Sperre	43	
	5.1.1	Categorization process	43	
	5.1.2	Strategic sourcing	48	
	5.1.3	Cross-functional category team	55	
	5.1.4	Comprehensive data	57	
	5.1.5	Organizational acceptance	59	
5.	.2 Eva	luation of the outcome of category management	60	
	5.2.1	Cost savings within logistics category	60	
	5.2.2	Cost savings within electric motors	61	
6.0) Conclusion		62	
7.0) Limitations and further research			
References				
App	Appendix			

1.0 Introduction

1.1 Research background

During the past decade, the overall importance of the purchasing function has increased, particularly for firms that are competing in a global market with rapid changes (Monczka et al. 2011). Top management does, to a greater extent, recognize the purchasing and supply chain management as key business drivers, as it becomes more clearly that purchasing is a major area for cost savings (Van Weele 2014, Monczka et al. 2011).

This master thesis will be presented as a case study of the Norwegian company Sperre Industri AS (referred to as Sperre). The study concerns the use of category management in Sperre and due to the content of this thesis it will be confidential.

2016 was a challenging year for Sperre, as they experienced significant problems with delivery delays and missing parts. In addition, there were problems related to the members of the purchasing department, where agreed procedures were not followed. Actions to avert crisis situations were necessary, which often resulted in expensive solutions. As a result of this challenging year, Sperre decided in 2017 to reorganize the purchasing department. The top management started to view the purchasing department as a strategic important department, and the reorganization made a better foundation for strategic work. Short time after the reorganization, Sperre implemented category management as purchasing approach.

The report "Collaborating for Category Management Success" conducted by Future Purchasing (2017) states that even though category management as an approach is growing in population and adaptation, the level of maturity, best practice and standardization vary widely, which results in missed opportunities. The report also distinguishes between "leaders" and "followers", where the "followers" may have "not started", "basic" or "improving" category management. Since Sperre implemented category management less than a year ago, they may be considered as a *follower*. However, which type of category management they has remains to be figured out. O'Brien (2015) states that category management is not something that can simply be bought in, but needs to be executed with a visible and effective level of purchasing intervention across the business. Without this recognition, the implementation will most likely fail. The benefits of category management will only be realized with the right organizational approach and deployment (O'Brien 2015). With this in mind, I will review the practice of category management in Sperre, and identify how far in the process Sperre has come in a successful category management implementation. In addition, I will review how the categories are managed and investigate Sperre's improvement potential.

1.2 Research gap

Category management is originally a sales- and marketing term and this type of category management should not be confused with purchasing category management. As marketing category management is more prevalent than purchasing category management, the majority of research articles is regarding the marketing aspect.

During the recent years, category management has been more commonly used within purchasing, which also increases the interest amongst researchers. However, most of the research regarding purchasing category management is focusing on large/best-practice organizations. The research about small/medium-sized firms that has recently implemented category management seems to be limited.

O'Brien (2015) states that many companies claims to practice category management while few truly do. This may be caused by lack of understanding of what it actually means to practice category management.

This research, concerning a medium sized Norwegian manufacturing company with recently implemented category management, may help fill this research gap.

1.3 Research questions

The aim of this thesis is to obtain an in-depth understanding of the practice of category management within Sperre, and it search to answering the following research questions:

How does the company practice category management?

What is the outcome of the use of category management?

In order to answer these questions, a review of the category management frameworks presented by O'Brien (2015) and other authors will be presented. The literature requires some fundamental aspects to be met in order to achieve a successful implementation of category management. Thus, in this thesis the practice of category management in Sperre are discussed in conjunction with these requirements. This will allow me to evaluate the practice and give an indicator on how far Sperre has come in a successful implementation, and what to do to improve their practice.

1.4 Significance of the research

Since this thesis is confidential and will not be available for publication for the next five years, this research will mainly be useful for the purchase department at Sperre, in addition to the managers and other stakeholders in Sperre. I hope that Sperre will find this thesis useful on their path to a successful use of category management.

I also hope that when the confidentiality period is over, this thesis will be useful for other lecturers and students of Molde University College that are studying purchasing. However, as this research will provide some indications of the effect of category management implementation and a generalization of the findings may be used to amplify or challenge the literature.

1.5 Structure of thesis

This thesis consists of seven chapters:

Chapter one: Introduction. This chapter is subdivided into five parts. Part 1 presents background for this research; Part 2 presents the research gap of category management in purchasing; Part 3 presents the research questions; Part 4 presents the parties this research is intended to interests; and lastly the the present Part 5, which concerns about the structure of the thesis.

Chapter two: Literature review. This chapter is a review of relevant literature, and is divided into three parts: Part 1 consists of the definition of category management, in addition to an introduction of the three fundamentals and four pillars, which constitutes the principles of category management; Part 2 presents five success factors within category management; and Part 3 addresses the benefits and challenges with category management.

Chapter three: Methodology. The third chapter concerns about the methodology that is used in this research and is subdivided into; Part 1, which presents the research method that is used in this thesis; Part 2, which presents the approach for data collection; and Part three, which deals with the trustworthiness of this thesis.

Chapter four: Empirical background. Chapter four contains information about the case that is being studied and consists of five parts: Part 1 presents the organization being studied; Part 2 deals with the organizational structure; Part 3 presents the categorization process; Part 4 addressed the processes and tools being used; and lastly, Part 5 identifies the cost savings the company has achieved after implemented category management.

Chapter five: Case analysis. The fifth chapter presents the case analysis where the case study and the literature research are combined to answer the research questions.

Chapter six: Conclusion. The conclusion of this thesis is presented in chapter six.

Chapter seven: Limitations and further research. Here, study limitations and suggestions for future research are presented. Lastly, the reference list and appendix is provided.

2.0 Literature review

Since the aim of this research is to obtain an in-depth understanding of the practice of category management in Sperre, it is necessary to understand the theory behind category management. Thus, this chapter will present a review of relevant literature.

2.1 The principles of category management

2.1.1 Category management definition

"Category management" is originally a sales- and marketing term from the early 1980s, which is defined as *"a brand management approach to manage groups of products according to how the consumer uses the products"* (O'Brien 2015). In the late 1980s, category management appeared in purchasing as a response to the growing power of suppliers due to the globalization, and to the growing realization that organizations could gain advantages if purchasing could play a more strategic role (O'Brien 2015). According to O'Brien (2015), purchasing category management is *"a strategic approach that focuses on the vast majority of an organization's spend on goods and services with third-party suppliers"*. This is one of many definition of the term, and to get an impression if there is a common understanding of the term, different definitions are presented in the table below.

Sources	Definitions
O'Brien (2015) p. 6	The practice of segmenting the main areas of organizational spend on
	bought-in goods and services into discrete groups of products and
	services according to the function of those goods or services and,
	most importantly, to mirror how the individual marketplaces are
	organized. Using this category segmentation, organizations work
	cross-functionally on individual categories, examining the entire
	category spend, how the organization uses the products or services
	within the category, the marketplace and individual suppliers
CSCMP (2017)	The management of product categories as strategic business units.
	The practice empowers a category manager with full responsibility
	for the assortment decisions, inventory levels, shelf-space allocation,
	promotions and buying. With tis authority and responsibility, the
	category manager is ale to judge more accurately the consumer
	buying patterns, product sales and market trends of that category
Webb (2015)	The process of clustering and centralizing similar goods into bigger
	contracts which are easier to administer and lowers prices.
CIPS	A strategic approach, which organizes procurement resources to
	focus on specific areas of spend. This enables category managers to
	focus their time and conduct in depth market analysis to fully
	leverage their procurement decisions on behalf of the whole
	organization. The results can be significant greater than traditional
	transactional based purchasing methods.
BusinessDictionary	Markating stuaton in which a full line of products (instead of the
(2017)	Marketing strategy in which a full line of products (instead of the
	individual products or brands) is managed as a strategic business
	unit (SBU). It is based on the concept that a marketing manager is
	better ale to judge consumer buying patterns and market trends by
	focusing on the entire product category.

Table 1 – Category management definitions

These five definitions indicates that there is a common understanding that category management is a strategic approach where similar goods or services is segmented into categories, and resources (teams, managers) are assigned to better administer the categories. This way, an organization is able to develop expertise in each category by getting a depth understanding of the market and/or suppliers.

2.1.2 The foundations of category management

Since this research is conducted to reveal how far Sperre has come in a successful implementation of category management, it is necessary to understand what is required in order to achieve a successful adoption and implementation of category management. O'Brien (2015) presents three foundations and four pillars of category management. The three foundations are each a requirement to be able to deliver value improvement to the organization, while the four pillars build on these foundations and are based on what has been found to be needed to drive insight and success within category management (O'Brien 2015).

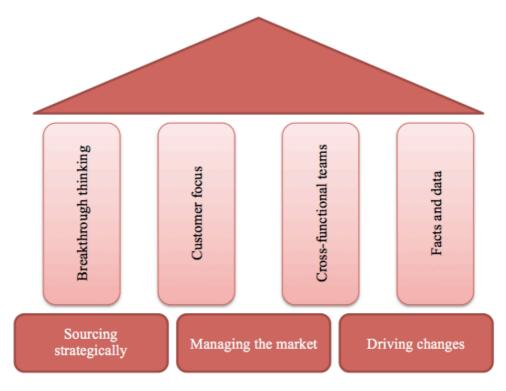


Figure 1: The principles of category management Source: Adapted from O'Brien (2015), p. 55

Foundation 1: Sourcing strategically

O'Brien (2015) distinguishes between two areas where strategies are required within purchasing; (1) an overall strategy for the purchasing function, and (2) individual sourcing strategies for discrete areas of spend. It is the second area that is shaped, defined and realized through category management (O'Brien 2015). According to Van Weele (2014), "*a sourcing strategy describes how many suppliers the company favors for that commodity or category, what type of relationship to pursue and what type of contract to negotiate for*". A sourcing strategy is a medium term strategy that decides what and how an organization will buy (O'Brien 2015).

Category management is successful if it is embraced as an organization-wide philosophy (O'Brien 2015). It is to a suppliers best interest to gain power through a close relationship with designers, as this may get their product, service or technology incorporated at the design or concept stage, which then again almost guarantees a future revenue stream (O'Brien 2015). To prevent situations where the purchasing department is involved too late to influence commercial terms, it is required "an approach that connects the value of category and supply chain possibilities with the value proposition¹ that satisfies the customer and this means the convergence of sourcing and satisfying with organizational strategy" (O'Brien 2015).

O'Brien (2015) also presents several barriers to sourcing strategically, such as getting departments to talk to one another and work on purchase projects. There may also occur conflicts within the organization, as different people want different things from a purchase (O'Brien 2015).

Foundation 2: Managing the market

The second foundation, managing the market, concerns about the understanding of the market, how the business relates to that market and the power structure in the market (O'Brien 2015). To be able to manage the market, a business needs to have good

¹ The value that satisfies the end customer, which is the reason they buy (O'Brien 2015)

understanding of it. Missed opportunities in sourcing is often related to the lack of understanding of the market (O'Brien 2015).

Foundation 3: Driving change

A development of the optimal sourcing strategy is worthless unless it can be implemented effectively, and a key dimension that distinguishes a strategic purchasing function from one operating tactically is the ability to drive change (O'Brien 2015). It is natural to have a resistant response to a change, and it is therefore necessary for the strategic purchasing team to communicate and keep the wider organization informed and supportive (O'Brien 2015).

2.1.3 The pillars of category management

These pillars are only possible once the foundations are in place (O'Brien 2015).

Pillar 1: Breakthrough thinking

Category management is about changing sourcing in a radical way or a way that gives radical improvement (O'Brien 2015). Breakthrough thinking is therefore one of the pillars in category management, and is defined as a step-change improvement in performance in comparison with current performance (O'Brien 2015).

Pillar 2: Customer focus

The second pillar of category management is customer focus, which concerns about understanding who the customers are and engage with them to understand and respond to their needs and desires (O'Brien 2015). Purchasing has both internal and external customers, and this pillar is concerning both. When engaging with internal customers, the aim is to understand them and involve them in the sourcing process to ensure that the requirements are balanced and that the solution works (O'Brien 2015). Concerning the external customers, the focus is about working internally with the people who interface with the customers, in order to understand the customers needs and build sourcing strategies based on these (O'Brien 2015).

Pillar 3: Cross-functional teams

According to O'Brien (2015), category management projects are most successful when a cross-functional team, which consists of individuals from across the business, form and work through the process to identify and implement a new sourcing strategy. He also states that if category management is a purely purchasing initiative, it will most likely fail (O'Brien 2015). The team should be carefully selected and the members should ideally have a sufficient understanding of the goods or services within the category and how they are used in the organization. In addition, they need to be able to commit to spending sufficient time supporting the category management project and have full support of their managers or senior teams (O'Brien 2015). This category manager is also required to obtain a set of skills, which includes communication skills, motivational skills and understanding of team dynamics, facilitation skills, meeting management skills and project management skills, etc. (O'Brien 2015).

Pillar 4: Facts and data

Lastly, the fourth pillar, facts and data, highlights the importance of information and understanding when applying category management. Facts and data may help to de-risk the decision-making, as well as help make a compelling case for change, and should be collected through the entire category management process (O'Brien 2015).

2.2 Success factors within category management

In this section, five success factors within category management are presents. These success factors are based the principles of category management presented in the previous section, in addition to important aspects presented by other authors and researchers.

2.2.1 Success factor 1: well executed categorization process

The first requirement in category management is a segmentation of third-party spend into categories. Trautmann et al. (2009) states that a category "*encompasses a group of similar items that are required for specific business activities of the firm*". There are two types of category: *direct category*, which is raw material, components or services that are directly incorporated into, or help produce, the final product; and *indirect categories*, which is products and services that are non-product related or enable the company to function overall (O'Brien 2015).

In order to determine categories, third party spend needs to be segmented into discrete marketing-facing areas. Here, a spend analysis is required, which is defined by (GAO) (2004) as "*a tool that provides information on an organization's buyers, suppliers, spend on goods and services, and areas of opportunities to leverage buying power*". Monczka et al. (2011) states that spend analysis is an annual review of a firm's entire set of purchases, which are conducted to answer questions such as; what did the business spend money on during the past year, what supplier received the majority of spend, and are there opportunities of cost savings?

Spend analysis has several benefits and a clear spend visibility may lead to new questions to ask as you find answers to old concerns (White 2013a). Some of the benefits by using spend analysis are reduce transactions, aggregate spend, leverage spend volume, reducing inventory and estimate potential savings (Hawkins, Nissen, and Rendon 2014). In addition, it may be used to develop an optimal sourcing strategy and identify opportunities to rationalize the supply base (Hawkins, Nissen, and Rendon 2014). Opportunities for savings and efficiencies can only be identified when a company understands their current position (White 2013a). The literature does also indicate that it is not enough to conduct the analysis once, and Monczka et al. (2011)states that spend analysis is a annual review. This sounds reasonable as a company's position may change during the year. An annual

review will also reveal is a new category sourcing strategy is giving the positive effects as anticipated.

According to O'Brien (2015), five factors have to be considered when segmenting spend even though a company is well equipped with good spend analysis information. These five factors are: (1) identifying spend, (2) directing resources only on addressable spend, (3) directing resources on the categories where there is a worthwhile opportunity, (4) identifying market boundaries so categories become market facing, and (5) the most appropriate level to work at.

Identifying spend

When identifying categories an analysis and breakdown of third-party spend are required. According to White (2013b), there is no single definition of spend that will be universally understood. However, it is important to define what we mean when talking about spend. The table below presents four different types of spend and its definitions.

Type of spend	Definition
Overall spend	Represents the organization's expenditure on
	staff costs as well as the purchase of goods
	and services form external suppliers.
Non-payroll spend	Overall spend minus direct staff costs such as
	payroll, retirement contributions and other
	costs that are paid to, or in behalf of, a staff
	member, and which are not directly for the
	purchase of goods and services from third
	parties.
Influenceable spend	The subsets of non-payroll spend that the
	procurement team can actually influence.
Managed spend	Represents the categories and vendors that
	the procurement team is actively managing
	on an ongoing basis, often through a contract
	or category manager.

Table 2– Spend definitions (White 2013b)

When talking about spend related to category management, it is the influenceable spend and the managed spend we are focusing on. Spend that the procurement team can influence is also spend that has cost saving potential, thus the spend analysis should include the influenceable spend. When the spend analysis is conducted and the categories has been decided, the procurement teams will be working with the managed spend.

The first step towards determining categories is to analyze and break down the third-party spend. Even if spend data is available, the breakdown may not be suitable; for example, a breakdown by supplier instead of by what the supplier is providing will make it difficult to identify categories (O'Brien 2015). However, if good data is not available, an alternative approach is required. Alternative "do-it-yourself" approaches is such as data extraction, interrogation of purchase orders, asking suppliers or taking a view based on experience.

Directing resources to addressable spend

There is always a percentage of spend where it is either impossible or very difficult to influence or change what is spent. (O'Brien 2015) lists following spend as examples of non-addressable spend: tax, rates or charges by governmental bodies, rent, regulatory or government-set license fees. White (2013b) states that non-addressable spend not only is spend that the procurement team has little or no control over, but also if other category experts who are not in the procurement team manage procurement in an area. He lists the following examples: construction and facilities maintenance; capital projects; utilities; healthcare and other insurances; and transactions less than a specific dollar amount, which is often the same as the organization's competitive solicitation threshold. However, when identifying the non-addressable spend, it is important to be velar about why an area of spend might be considered non-addressable, as an opportunity could easily be missed (O'Brien 2015).

Directing resources where there is opportunity

It is important to accept that not all of the third-party spend is worth using time and resources on. That is why the Pareto principle typically applies when segmenting categories. This principle says that 80 per cent of sped is usually with 20 per cent of suppliers, and 20 per cent of spend with 80 per cent of suppliers (O'Brien 2015). When segmenting third-party spend into categories, it is the 80 per cent of spend that should be the primary focus.

Identify market boundaries so categories become market facing.

O'Brien (2015) states that to get the maximum potential from category management the categories must reflect their market-facing nature, and since category management is applied at an individual level, the categories should be worked on individually. The definition of each category should therefore be based on not only spend or how we are organized, but also according to the boundaries of the market from which we are sourcing.

Most appropriate level to work at

In order to be successful the categories must be large enough to find opportunities and small enough to work on (O'Brien 2015). The category "travel" for example is frequently used, which is appropriate at a high level. However, there is no marketplace for "travel". In this case, the optimum category segmentation would be to work on each of the market-facing travel components (such as air travel, hotels, renal car, etc.) as categories but with "travel" as the overarching area. This overarching view allows the category manager to identify and act on any synergies or issues between individual categories.

2.2.2 Success factor 2: Strategically sourcing

Strategic purchasing supports overall corporate strategy, and it is important that the firm's sourcing is connected with the way the end customer is satisfied (Knoppen and Sáenz 2015, O'Brien 2015). Johnson, Leenders, and Flynn (2011) sates that a strategic sourcing process considers suppliers and the supply base integral to an organization's competitive advantage, and that it is important to clarify what makes a purchase or a supplier strategically important to the organization.

Strategically sourcing can be connected to the four pillars of category management presented in section 2.1.3. Breakthrough thinking is required to detect the radical source changes that give radical improvement. In addition, the sourcing strategy has to ensure customer satisfaction, both internal and external customers. To achieve this, it is required a cross-functional team that works together in developing a sourcing strategy. It is required that the team members have sufficient knowledge about the product being sources. But to

be able to develop the best possible sourcing strategy for a category, it is also necessary that the team have sufficient knowledge about the market they are operating in and their current position within this market. This requires research and analysis of the market, suppliers and the organization, and the team needs to work with marketing functions in order to understanding the current and future needs of end customers (O'Brien 2015). Lack of understanding of the market may cause missed opportunities in sourcing (O'Brien 2015). Facts and data is one requirement to secure the best sourcing strategy as possible.

Kraljic's purchasing portfolio

The purchasing portfolio analysis presented by Kraljic (1983) has been the most commonly used methodology for undertaking category management and developing sourcing strategies in the past 30 years (Cox 2015). This approach recommends managers to analyze supply market complexity and the importance of the purchased item to identify alternative sourcing strategies and tactics (Cox 2015). This portfolio is developed to enable buyers to determine the specific approaches required for each area of spend according to the potential profit impact and supply risk/market difficulty (O'Brien 2015). There are many different versions of Kraljic's portfolio, yet I have chosen to use the version presented in O'Brien's book, as he states that this version "is the one that appears to have become the most established within the purchasing commodity" (O'Brien 2015). The portfolio is presented in figure 2.

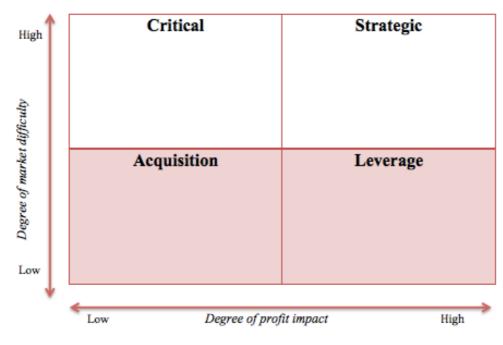


Figure 2 - Purchasing portfolio Source: Adopted from (O'Brien 2015)

The x-axis "Degree of profit impact" concerns with the degree to which a small benefit per unit purchased would have a significant and positive impact on the overall profit of the organization (O'Brien 2015). O'Brien (2015) presents five factors that has impact on the degree of profit impact:

- Category spend relative to the overall organization spend
- The percentage that this category represents against total purchase cost of the final goods or service
- Volume purchased
- Impact on final product quality
- Impact on business growth

The y-axis concerns about the degree of market difficulty or market complexity. This is affected by factors that might restrict the freedom of choice when sourcing the category, which includes (O'Brien 2015):

• Inability to switch supplier easily

- One or few suppliers can supply this
- The category is complex, thus it is necessary to work closely with suppliers before they are able to supply
- Availability (eg. limited supply or capacity)
- Competitive demand

Based on these two axes, the categories can be placed in one of four quadrants:

Strategic - items that has high profit impact and high supply risk. This is often customized items, and the cost of a source change is high (Van Weele 2014). In this case, it is worth putting energy into maximizing overall position, and by ensuring a long term-relationship with the supplier, the organization may secure optimum value and minimize risk (O'Brien 2015).

Leverage - items that has high profit impact, but low supply risk. A small change in price has a relatively strong effect on the cost price of the end product (Van Weele 2014). However, there are many suppliers and the switching costs are low, meaning the buyer has the freedom to choose its source. In this situation, short-term cost leverage and bidding to ensure the best price or terms is recommended as sourcing strategy (Cox 2015).

Critical - items that has low profit impact, but high supply risk. In this case, there is a high risk of getting out of stock, and there is often a monopoly situation, which may lead to high prices, long delivery time and low service (Brynhildsvoll 2011). In such a situation it is important to work on understanding why we are here and what to do to change (O'Brien 2015). A sourcing strategy with the objective to reduce dependency on these items through diversification to find additional suppliers and seek substitute products is preferred (Harrison et. al., 2014).

Acquisition - items that has low profit impact and low supply risk. A category within this quadrant should not require much time or effort, as the returns are small (O'Brien, 2015). These items have a small value per item and there are many alternative suppliers. By using standardized parts, competitive tendering is most valid in this situation (Harrison, Hoek, and Skipworth 2014).

This portfolio analysis is the key activity for shaping future sourcing strategy, and can help determining what needs to be done to shift from a vulnerable position to a position of leverage and power (O'Brien 2015). Kraljic (1983) suggested three strategic responses (O'Brien 2015):

- 1. *Exploit* maximizing the strength of our current position and use this to our advantage to leverage results.
- 2. Balance maintain the current position
- 3. *Diversify* do something that enables us to move away form the current position to a more favorable position.

2.2.3 Success factor 3: Cross-functional team work

Different authors in the purchasing literature highlight the importance of a cross-functional team when developing sourcing strategy. A cross-functional team is defined as "teams comprising representatives from the relevant functions across the organization, with a team leader who is probably the purchasing category manager" (O'Brien 2015).

APQC revealed that successful organizations align their procurement and overall business strategies by creating cross-functional category teams (Partida 2014). Cross-functional teams are one of the pillars of category management and are vitally important for the category management success. A high-performing, cross-functional team can give better results, with greater benefit to the organization as a whole, at a lower cost, in less time and with greater stakeholder buy-in (Johnson, Leenders, and Flynn 2011). It is important that the category team is carefully selected, and that the responsibilities, authority and accountability for procurement activity are clearly defined ((CIPS) 2011). According to

Trautmann et al. (2009)a category manager with the decision-making authority for the complete strategic purchasing process is necessary to achieve economic of scale. For a cross-functional team to succeed, it is necessary that the team members have sufficient knowledge of the product being sourced and/or the market it is sourced from. In addition, it is important the members are able to challenge the function they are representing. Another critical factor within cross-functional teams are the team members commitment on spending time on the category project. This requires active and visible support and endorsement from senior management across the organization, but does also require that the individuals have a desire to get involved (O'Brien 2015).

There seem to be a common understanding that there is a link between a cross-functional team and category management success, but a team can be organized in different ways. Dumont (2014) conducted a study of how 10 global corporations design and manage categories in practice. He identified three different types of team structures amongst his case organizations; (1) *Team type 1*, which consists of a core team who are all purchasers, in addition to a category manager who has the overall responsibility of the category, (2) *Team type 2*, which consists of a full-time category manager with an extended team of people who play a supporting role in the category work, and (3) *Team type 3*, which includes core team, but no formal extended team (Dumont 2014).

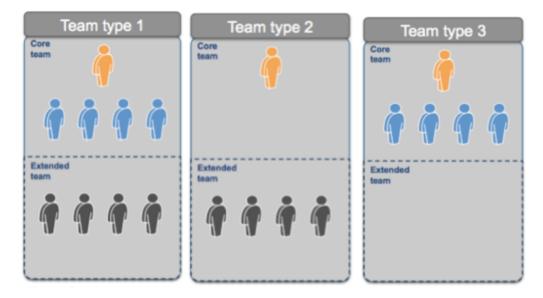


Figure 3 - Team types Source: Adapted from Dumont (2014)

As category management may initially appear complex and difficult to understand in the beginning, training in category management is essential to cross-functional team members (O'Brien 2015). This may also help the team members to understand why they have to be involved.

2.2.4 Success factor 4: Comprehensive data

Knowledge is power. One of the four pillars of category management addressed earlier is facts and data. Here, (O'Brien 2015) highlights the importance of information and understanding when applying category management. Sufficient knowledge of the market, suppliers, and the organizations current position reduces the risk of make the wrong decision. Van Weele (2014) defines a supply market research as a "*systematic gathering, classification and analysis of data considering all relevant factors that influence the procurement of goods and services for the purpose of meeting present and future company requirements*". Supply market analysis, cost breakdowns, spend forecasts etc. can be used to confirm the current situation and simulate improvement ideas (Smith 2017). Monczka et al. (2011) lists the following pieces of information that is needed to be able to make an informed decision about sourcing:

- Information on total annual purchase volumes, which is achieved through the conduction of spend analysis.
- The stakeholders forecasted requirements, which can be achieved through interviews with stakeholders.
- External market research that identifies information on key suppliers, available capacity, technology trends, price and cost data and trends, and other data that is available.

2.2.5 Success factor 5: Organizational embracement

Category management is not only a process, but also a philosophy. The philosophy is "the way the organization embraces the approach, organizes and aligns itself for strategic procurement intervention using a category management framework" (O'Brien 2015). Several authors highlight the importance of business sponsorships. Smith (2017) presents this as one of ten critical success factors, and states that an executive sponsor to provide

objectives and directions, help drive internal change and signal business commitment, is required for each important category team or supplier relationship. However, securing executive support for a category project program presents some challenges (O'Brien 2015). One challenge is that the executives not always understand what category management is and what the process requires. A second challenge is that a proposed long-term project with delayed delivery of results is hard to appreciate when there is competition of the resources (O'Brien 2015).

Category management can only be successful if it is embraced by the whole organization, and this factor may affect other success factors. If category management is perceived as a purely procurement initiative, the top management may be reticent regarding required resources and the creation of cross-functional category may be harder.

2.3 Challenges and benefits of category management

With the right approach, category management may deliver significant benefits. However, some challenges may also occur.

2.3.1 Challenges

According to a study conducted by CIPS Australasia 43% of the respondents said that the availability of quality data is a significant challenge (Dutton 2011), They also found that four out of five top challenges related to the ability to realize category management objectives was internal. In addition to the availability of quality data, these four internal challenges are; stakeholder engagement, availability of procurement resources, and managing compliance (Dutton 2011). External challenges however, was less widely reported as top three priorities. This suggests that the organizations may be too internally focused. External challenges includes supply market depth, supplier capability, market volatility and access to market intelligence (Dutton 2011).

O'Brien (2015) highlights the challenges related to making a change in the organization as essential. To be able to achieve the benefits, the category management strategy has to be accepted by the whole organization. Resistance to change is a natural reaction to changes, which has to be handled for the new strategy to succeed.

In many cases, the procurement is reporting to the finance, which of course has focus on savings and other financial metrics. This often results in a strong "finance bias" in the way procurement and category management effort is measured and rewarded (Dutton 2011).

2.3.2 Benefits

As mentioned, one will only realize benefits with the right organizational approach and deployment (O'Brien 2015). O'Brien (2015) presents a table which summarizes the hard and soft benefits possible (see appendix 1). Hard benefits is a measurable financial result (increased revenue, or cost savings) and can be quantified, while soft benefits is more qualitative and can be difficult to define, but is related to the performance of the employees or the organization (Bruning 2018). Cost reduction, improved value and effectiveness and reduced supply chain risk are some of the hard benefits that are most rapid mentioned in the literature. APQC has conducted a study that shows that organizations with category management programs in procurement have shorter lead-time and faster purchase order processing (Partida 2015).

Organizations may also obtain strategic benefits, which are considered as soft benefits. (CIPS) (2011) states that category management may raise the profile and competency of procurement across the organization, and change the perception from a functional and operationally focused activity, to a business process. According to Partida (2015), category management helps build a deeper two-way relationship with the suppliers, which often results in improved supplier performance.

3.0 Methodology

This section will present the methodology used in this research. This includes the research methodology, data collection and the trustworthiness of the thesis.

3.1 Research method

The method that is used in this thesis is *case study*. This method focuses on developing an in-depth description and analysis of one case or multiple cases, using multiple sources, such as interviews, observations, documents, and artifacts. The data is analyzed through description of the case and themes of the case, as well as cross-case themes (Yin 2009). A case study is defined as "*a research strategy, which focuses on understanding the dynamic present within single settings*"((Eisenhardt 1989) p.534). This methodology is particularly suitable when the research questions are "why" and "how", and is preferred when we are examining contemporary events (Yin 2009). Case study can be used to (1) explain; (2) describe; (3) illustrate or (4) explore, and a fifth application is to us it as a "meta-evaluation" (Yin 2009).

Since the purpose of this thesis is to obtain an in-depth understanding of the practice of category management within a single setting, which is Sperre Industri, a case study was an appropriate method. The case study method also allows me to use multiple sources in the data collection, which in this case includes both interviews of employees and statistic analysis, in addition to read internal and external documents. As mentioned, the purpose of the thesis is to describe the phenomena as it exist, in addition to identifying and obtaining information on the characteristic of a particular problem of issue, which indicates that the case study will be descriptive (Yin 2009).

3.2 Data collection

The information and data that is collected for a research can be divided into two categories; (1) *primary data*, which is data that is collected for the first time by the researcher, and (2) *secondary data*, which is the data already collected or produced by others (Surbhi 2016). Primary data is typically collected over a long period of time, and may be collected using sources such as surveys, observations, experiments, interviews, etc.

Collection of secondary data, on the other hand, has a shorter time period and may be done through publications, websites, books, journal articles, etc. (Surbhi 2016).

In this thesis, I have used data triangulation. According to (Yin 2009), the use of data triangulation will ensure that more than one single source of evidence supports the events or facts of the case study. The sources that were used in this thesis are shown in figure 4.

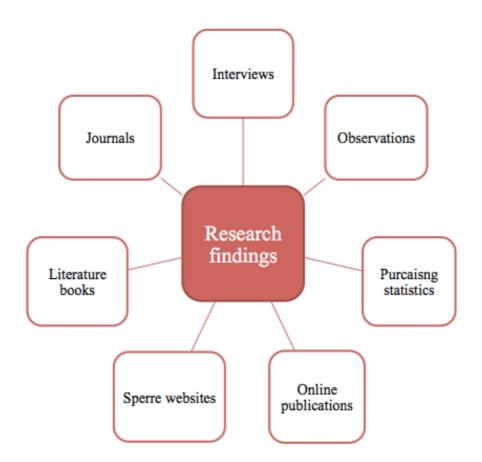


Figure 4 – data triangulation

3.2.1 Interviews

The interviews were conducted face-to-face at Sperre's headquarter at Ellingsøy between 26th of January 2018 and 26th of April 2018. I used both unstructured interviews, which is more like a conversation where the interviewee should be the ones who determine the direction of the interview and the topics that emerge (Thomas 2011) and semi-structured interviews, where the interviewer develops and uses an "interview guide" (Qualres 2008). The first and the last interview, was conducted as an unstructured group interview of the purchasing department where all of the three members participated. I chose to conduct

these group interviews as this allowed me to understand the dynamics of the group. In addition, it resulted in more comprehensive answers as the purchasers had the possibility to "correct" or add something to the answers that were given. The semi-structured interviews were conducted individually. In addition to the three members of the purchasing department, a semi-structured interview of the CFO was also conducted.

The interview of the CFO was conducted to understand the idea behind the reorganization of the purchasing department, in addition to clarify the authority lines and responsibility of the department. The individual interviews of the three purchasers were conducted to understand the purchasers' perception of category management, and how they managed the different categories.

All of the interviews (except the interview of the CFO) were audio-recorded, which allowed me to concentrate on the answers that were given and asking follow-up questions or probs. The transcription of the records was conducted right after the interviews while the observations of the circumstances of the interviews still were fresh in memory. The transcription also enabled me to get a clear overview of the collected data.

3.2.2 Documents

I got access to Sperre's strategy document, and due to the content of this document, this thesis has to be confidential. I also got access to internal procedure documents, purchasing statistics data and spend analysis. The purchasing statistics data included purchase statistics from the periods [01.01.2017 to 31.08.2017] and [01.01.2017 to 31.21.2017]. The data from the first period was the basis for the spend analysis that was conducted in the beginning of the category management implementation. The data from the second period was used to conduct another spend analysis in this research.

In addition to these company documentations, I collected secondary data from literature documents, such as books, online publications, research publications, and literature from different portals (e.g. ScienceDirect, Oria, ProQuest).

3.3 Validity and reliability

Four tests are commonly used to establish the quality of any empirical social research (Yin 2009); (1) construct validity, (2) internal validity, (3) external validity and (4) reliability. *Construct validity*, concerns about identifying correct operational measures for the concepts being studied (Yin 2009). In this research, I have used data triangulation (see figure 4), which increases the construct validity as multiple sources of evidence essentially provide multiple measures of the same phenomenon (Yin 2009). To ensure the trustworthiness of the interviews, I have recorded and transcribed the interviews. I have also had the opportunity to ask follow-up questions continuously, and the purchasers have reviewed the documentation to ensure that there were no misunderstandings. *Internal validity* is only relevant for explanatory or causal studies, thus not relevant in this descriptive case study. *External validity* is about defining the domain to which a study's findings can be generalized (Yin 2009). In this single-case study, theory has been used to compare the practice in the single-case and illustrate if this is "theoretical correct". Reliability concerns about consistency.

(Yin 2009) explains reliability as followed:

"The objective is to be sure that, if a later investigator followed the same procedures as described by an earlier investigator and conducted the same case study all over again, the later investigator should arrive at the same findings and conclusions" ((Yin 2009), p. 45).

However, Thomas (2011) argues that in a case study were there is only one case (which is the case in this thesis) the expectations about reliability declines. He states that one cannot assume that a repeated investigation of one case, conducted by different people at a different time, would result in the same findings. In this research, the likeliness of a achieving the same results and conclusion with a later investigation is limited. The single case that has been investigated in this thesis is in constantly change and even if an investigator conducted this case study the exact same way as I did, she would probably not achieved the same findings.

4.0 Empirical background

In this chapter, the empirical data that is obtained during this research will be presented.

4.1 Organization background

As mentioned in the introduction, the case that is being studied in this thesis is Sperre Industri AS (also referred to as "Sperre"), which develops and manufacture starting-air compressor systems for shipping, offshore and power plant markets (Sperre 2018). The headquarters and production is located at Ellingsøy, Norway, and has sales- and service offices in Shanghai, Singapore and Rotterdam (Sperre 2018).

Sperre was established in 1938 by Ole Sperre and was, until recently, a part of family owned Sperre Mek. Verksted AS. February 2018, Norvestor VII L.P. and Norvestor VII OS L.P. (Norvestor) signed an agreement to acquire Sperre form Sperre Mek. Verksted AS. Now, Norvestor owns 94% of the shares and the management team holds the remaining shares (Baalerud and Nustad 2018). Figure 5 shows the company structure after the change of ownership. The CEO of Sperre, Ole Nustad, had the following statement in the press release:

"Through this acquisition, we are starting a new chapter in Sperre's already longstanding history, while continuing our commitment towards our customers and partners. The thorough process leading up to this change of ownership, has provided us with the reassurance that our strategy, values and legacy will be well taken care of under the ownership of Norvestor. We are truly humble and excited." (Baalerud and Nustad 2018)

Sperre has a high focus on customer service, and has a "life cycle concept" were they promise "any part within 48 hours" regardless if the compressor is new or 30 years old (Sperre 2018). This statement has been essential for Sperre ever since Vigra Airport opened in 1958, and is one of the reasons why they are renowned worldwide. However, this concept requires that they have all the spare parts available in stock, either completed or ready to be put together in no time, which then again lead to a high inventory level. The sale of spare parts is one of Sperre's main sources of income, and to prevent the risk of piracy copies, many of the parts of Sperre's compressors are specialized.

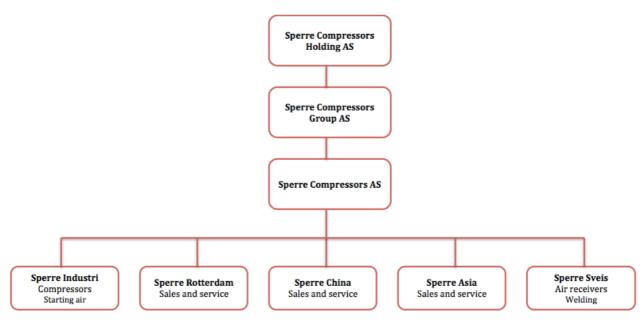


Figure 5 - Company structure

4.2 Organizational structure

As mentioned in the introduction (section 1.1), Sperre has recently reorganized the purchasing department. The reorganization was decided by the top management with the intention to enable the purchasers to do more strategic work in addition to traditional procurement operations. This section will present how the purchase department in Sperre is structured, both before and after the reorganization.

4.2.1 The structure of the purchasing department

Sperre has a decentralized purchasing structure², as Sperre Industri AS is a business-unit within Sperre Compressors Holding AS (figure 5). Sperre is fully responsible for all its purchasing activities and for its own financial results.

Before the reorganization, the purchasing department consisted of one purchasing manager and two purchasers, where the purchasers reported to the purchasing manager, and the purchasing manager reported to the CEO (figure 6). The purchasing manager had the overall responsibility for the department, including budget, contracts and annual negotiations. The purchasers were to do operational tasks, such as placing purchase orders,

² Were all business-unit managers are responsible for their own financial result (Van Weele 2014)

register order confirmations, maintaining product- and supplier information, in addition to register incoming invoices. All delays and price changes had to be reported to the purchasing manager.

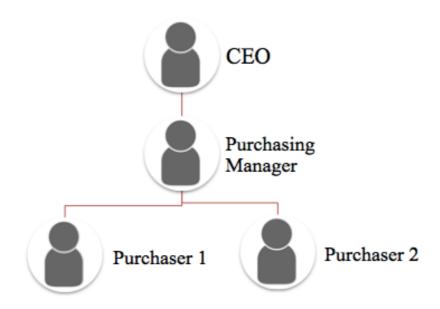


Figure 6 - Structure of purchasing department before business transition

In several cases, members of both sales department and technical department conducted the sourcing themselves without including the purchasing department before after entering into an agreement with a supplier. The role of the purchasing department was in these cases only to do the administrative work. This resulted in a purchasing department that operated only as an operational function, and they had no control over the agreement that was entered into. The management of Sperre knew that this was a problem that had to be taken care of, and the implementation of category management was one of the initiatives for handling this issue. By identifying categories and dedicate the responsibility to one of the purchasers, the ownership and responsibility of a category is clearer.

Jon Kvalø joined Sperre as CFO in March 2017, and got the responsibility of both the purchasing department and the finance department. He wanted the purchasing department to do more strategic work, in addition to have a flatter structure. This formed the basis for the reorganization of the department. Today, the purchasing department at Sperre consists of two Senior Supply Chain Managers and one Supply Chain Coordinator. The two senior supply chain managers, Tor-André Ulla Eiken and Magne Sandvik, has equally authority

and responsibility, and has both a strategic and operational role in the department. The supply chain coordinator, Birthe Gundersen, has both procurement and financial responsibilities, but is not doing as much strategic work as Sandvik and Eiken. Gundersen has responsibility of the procurement e-mail, which is receiving all order confirmations, incoming invoices and other internal and external inquiries. The department is reporting to the CFO.

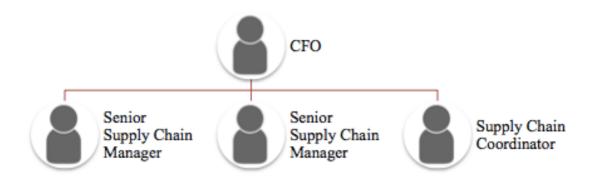


Figure 7 - Current structure of purchasing department

After the reorganization, Eiken and Sandvik started to work on developing a new sourcing strategy for the purchasing department, and in the autumn of 2017, Eiken and Sandvik presented the strategy to the top management. Here, they presented category management as a new purchasing approach at Sperre, with the aim to "*find, develop and retain reliable, cost effective, competitive, competent, flexible and quality focused suppliers who contribute to Sperre's overall business strategy*" (Sperre 2017). This approach were accepted by the management and in the first group interview, one of the purchasers said the following:

"Organization and roles - was one of the comments when we presented this strategy. One of the things the CEO said was that the purchasing department had to be placed in the driver's seat..."

Senior supply chain manager, 26th January 2018

As Sperre had experienced some issues regarding the sourcing responsibility, the implementation of category management was intended to direct the category ownership and responsibility to the purchasing department.

4.2.2 Category teams

As mentioned in section 2.2.3, Dumont (2014) identified three different types of teams. In this case, the team is organized as Team type 2 where the core team consists of a full-time category manager and the extended team consists of people who play a supporting role. The extended team does typically not have responsibility for any part of the spend within the category (Dumont 2014).

In this case, one of the three purchasers is the category manager (or category owner), which forms the core team. Figure 8 illustrates the category owner of the different categories. The category owners have been chosen based on experience, in addition to any desires. For example, Eiken has experience with castings and had therefore a desire to be the owner for the castings-categories. Sandvik has been manager at the electrician firm Elmo, which makes him a natural choice as owner of the electronics category. Gundersen was internally transferred to the purchasing department from the logistics department in August 2017. After almost 10 years at the logistics department, Gundersen was the best fit for the logistics category.



Figure 8 – Category owner

Sperre states that the category owner "shall have the overall responsibility for the day-today handling of issues, regular meetings and reviews, annual negotiations, etc" (Sperre 2017). This indicates that it is the category manager who is responsible for the category sourcing strategy, and should secure the best possible agreements. However, since Gundersen is quite new in the procurement field, she is not going to conduct any negotiations. This should be handled by Eiken, with the present of Gundersen. The extended team consists of employees from other departments that may provide support in terms of knowledge about a certain product, the market or supplier. The members of the extended team do not have any responsibility of the category. Still, only two categories have an established extended team. When a cross-functional collaboration is required in the resisting categories, the participants of the team are to some extent random. Even though the category team is not established, the members of the purchasing department work close together and act as a team in all categories. The product owner is also usually included in meetings with the supplier, in addition to the production manager in special cases.

The 'transmissions'-category is one of the categories were a team is established. Sandvik is the category owner for this category, thus forms the core team. The market of this category has a high degree of difficulty and Sandvik has handled the problems encountered since the summer. Since he already was involved in the issues that had occurred, he was given the responsibility of this category when category management was implemented. The extended team of this category consists of Eiken and the product owner. Eiken is handling the commercial support, which includes the agreement with the supplier, and the product owner contributes with technical support. As this is a category with high supply risk, and regular team meetings are therefore necessary to reduce the risk of having an out-of-stock situation. This team has scheduled meetings once a month, in addition to meetings when needed, where following aspects are discussed:

- Current supply status
- Eventual changes in lead-time or price
- Estimation of potential shortcomings
- Actions to prevent any issues to escalate

The second category with an established team is 'motors'. This team consists of Sandvik as the category owner, thus the core team, and Eiken and the product owner as the extended team. This team worked together with a recent source change. Even though Sandvik is the category owner, Eiken was the one in lead in this source change. This because Eiken had worked with a source change in this category before category management was implemented and the category responsibility divided. Thus, Eiken continued with the source change in collaboration with Sandvik and the product owner. In this case, they have no scheduled meetings as the sourcing is recently changed and is currently stable.

4.3 The categorization

In this section, a description of Sperre's categorization process will be presented. This includes the way Sperre conducted the spend analysis and how they determined the categories.

4.3.1 Spend analysis

A segmentation of third-party spend into categories is a required step when implementing category management (O'Brien 2015). Sperre conducted a spend analysis in their categorization process, and this was the first time a spend analysis has been done by a purchaser. The CFO is regularly conducting spend analysis, but these analysis has an overall perspective and includes variables from different divisions.

The spend analysis was conducted in September 2017, and was based on vendor spend in the period 01.01.2017 to 31.08.17. Since Sperre does not have an own spend analysis tool, they had to extract vendor spend data from their ERP system into an Excel file. The analysis was then conducted partly manually by one of the purchasers. The extracted raw data consisted of vendor number and name, and purchases and balance in local currency (NOK). The vendors were ranked based on the vendor portion of purchase, from the highest portion of purchase to the lowest. Since this data was extracted from the vendor list in their ERP system, all vendors that have received a payment from Sperre during the period of time were included. Meaning investments, agent honorary, and other spend that was not relevant for the categorization also was included. These data lines was deleted from the Excel file, remaining only addressable spend. The total value of purchases was at 168 mill NOK, but 62 mill NOK was non-addressable spend and thus excluded from the analysis.

The remaining 105 mill NOK was considered as addressable. However, it is not economic to expend effort working on small spend areas, and the Pareto principle is therefore typical

to apply (O'Brien 2015). Sperre applied this principle, which resulted in 82 mill NOK as the total category spend. The remaining 22 mill NOK represents spend areas that are too small to be economically sound to work on. Figure 9 presents the segmentation of third-party spend.

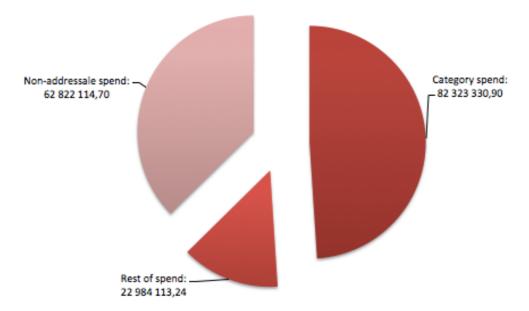


Figure 9 - Third party spend segmentation

When the areas of spend was defined, Sperre divided the suppliers into categories based on what the supplier is providing. The scope of the categories varies widely, which may indicate that some of the categories are too widely defined. As figure 12 shows, the 'valves and measuring equipment'-category has a spend at over 16 mill NOK, which is twice as much as the second largest category. 'Valves and measuring equipment' includes different kinds of valves, in addition to measuring equipment. A sub-categorization of this category could be feasible as it would help separate non-substitute products into market facing categories.

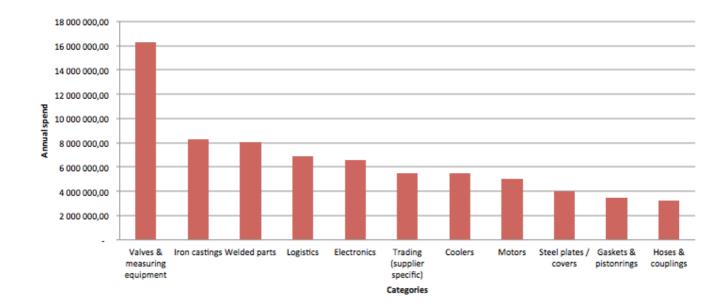


Figure 10 - spend per category

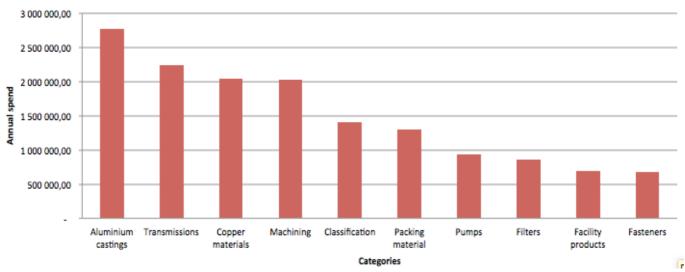


Figure 10 - continued

Appendix 2 shows a censored version of the spend analysis results. The result shows which category the suppliers are included in, if the category is direct or indirect, and if the supplier is a 'one of a kind'-supplier. A supplier is considered as an 'one of a kind'- supplier if the supplier is especially important for Sperre's business. The most common reason for being 'one of a kind'-supplier is that the supplier is providing specialized Sperre products. Other reasons can be close partnership with the supplier or heavy investments.

Even though this spend analysis is conducted in accordance with the literature, some factors in the results may cause misinterpretations. The first issue is that the spend data

that is used shows the purchase portion per supplier, which in the cases were one supplier is included in more than one category, it is not possible to calculate the category spend. Here, three suppliers are included twice:

- Supplier 12 is included in 'copper' and 'coolers',
- Supplier 14 is included in 'steel' and 'coolers',
- Supplier 16 is included in 'aluminium' and 'coolers'.

This makes the illustrations in figure 10 not reliable in these four categories, as the supplier value of these three suppliers is included twice. The second factor is the definition of the 'motors' category. Sperre are procuring both diesel motors and electro motors. However, Sperre does almost only use electric motors and the diesel motors are purchased in such a small volume that the supplier of these motors are not included in the results. This means that the 'motors'-category actually consists only of electro motors, and represents the 'electro motors' spend, not the 'motors' spend. However, since the category is called 'motors', it indicates that this category includes both types.

4.3.2 The categories

In addition to the 21 different categories that was identified in the spend analysis, two extra categories was identified. These two categories are 'consumables' and 'service and maintenance'. The 'consumables'-category includes office supplies, paper cups, etc., and is mainly provided by one large supplier, but smaller suppliers may also be used. 'Service and maintenance' includes maintenance agreements and repairs. Sperre's operational manager handles these agreements, but Gundersen has the commercial responsibility. Table 3 shows a list over the direct and indirect categories that have been identified. In Sperre, direct categories include all material that is included in the Bill of Material (BOM). It is also the entire product range, after sale products and spare parts. The indirect categories include products and services that are supporting the production and enable the organization to function overall.

Direct categories	Indirect categories
Copper materials	Facility products
Aluminum castings	Packing material
Iron castings	Logistics
Steel plates/covers	Consumables
Valves & measuring equipment	Service & maintenance
Trading	Classification
Filters	
Machining	
Coolers	
Gaskets & piston rings	
Fasteners	
Motors	
Electronics	
Houses & couplings	
Transmissions	
Welded parts	
Pumps	

Table 3 – Identified categories

Figure 11 shows the number of supplier in each category. The 'service and maintenance'category is not included as the number of suppliers in this categories is unclear. As the figure shows, the number of suppliers varies from one to six suppliers. However, in some of the categories there are more suppliers than those specified in the analysis, but are too small to be focused on.



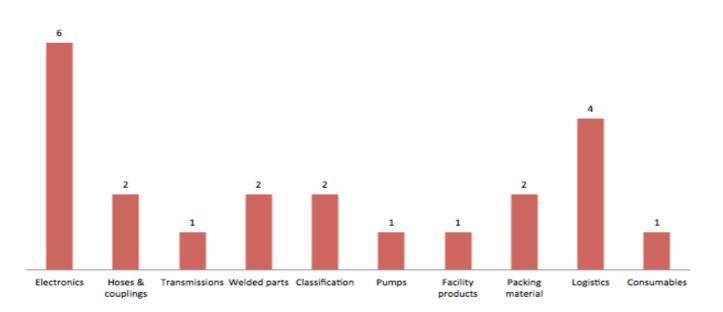


Figure 11 - continued

4.4 Process and tools

In this section, the procurement processes in Sperre will be explained and eventual tools will be presented.

4.4.1 Organization-wide processes

Sperre's purchasing procedures and guidelines is available for the whole organization on the intranet. These documents include description on operating procedures that is conducted in the ERP system. Framework agreements and supplier contracts however, is only accessible for the members of the purchasing department and the top management. Since category management was recently implemented in Sperre, they have not yet any documentation regarding category-sourcing processes. However, the necessity of this kind of documentation can be discussed. On one side, a category sourcing guideline or procedure is helpful if any of the purchasers has any doubt regarding the sourcing of any of the categories. It would also be a useful tool when new employees enter the department. On the other hand, such a document may also seem restrictive and could, in worst case, prevent the purchasers from being innovative and creative. The department consists currently only of three members at the time, and if there is any issues regarding the sourcing, this can be discussed between them.

4.4.2 ERP-system

Sperre uses the ERP-system Microsoft Dynamics NAV (NAV) and the majority part of the purchases shall go through this system. It is only members of the purchasing department, including the CFO that has access to the purchasing functions in the ERP-system. This ensures that the purchasers conduct all purchases.

There are four different types of procurement policies: (1) spec. orders, (2) fixed reorder point, (3) lot-for-lot and (4) two-bin system. The first type, *spes. orders*, is procurement of high value, customized products. Here, each purchase order has to be linked to a sales order. This type of purchase is conducted twice a week, in addition to rush orders that are conducted right away after request from the sales coordinator. The second policy, *fixed reorder point*, is based on parameter settings in the ERP system. When a product reaches a certain stock level, it will appear on a planning worksheet in the ERP-system with a predetermined reorder quantity. The first working day of every week, one of the

purchasers goes through this worksheet and places the orders. This is done to ensure supply of standard parts for production and aftersales. This task is equally divided between the purchasers, meaning one purchaser is conducting this task every third week. Products with the third policy, *lot-for-lot*, are only to be purchased when required. This includes products that have a high value, and that cannot withstand long-term storage, such as castings. The last policy is a "*two bin system*", which is used to secure a continuous stock level of low-value items that are essential for the production. The supplier delivers the items in bins or boxes and when there are only two boxes left, a new order is placed with the supplier. The supplier sends a order confirmation to Sperre, and Gundersen, which is responsible for handling order confirmations, creates a PO and informs the supplier what PO-number to mark the delivery with. This way, Sperre secure regular refills without having to manually control the stock level.

In addition to procurement based on policies, Sperre uses quotes. Here, employees from other departments can make a quote consisting of desired product, in correct amount and requested delivery date. The purchase department has to approve the quote and convert it to a purchase order, before it can be sent to the supplier.

Sperre also uses the invoice approval software Compello. To be able to conduct a payment, the incoming invoices have to be linked to a purchase order number within Comello, before it is transferred to NAV. This ensures that the invoiced price matches the price registered in NAV. However, in cases where the purchases have not been conducted through a purchase order, the invoice has to be approved by the person responsible for that order. Purchases related to the 'service and maintenance'-category is an example on this. Here, the operational manager is handling the agreements, and should therefore also approve the invoices to make sure that the invoiced price matches the agreed price.

4.5 Possible effects of category management

4.5.1 Cost savings within 'logistics'

As mentioned earlier, Gundersen has the responsibility for the 'logistics'-category. As she has been working at the logistics department for almost a decade, she was well aware of the discount agreements Sperre has with the different transportation companies. She noticed that they paid higher prices for domestic pickups by Schenker, than what they pay for dispatches by Bring at the logistics department. After looking into the discount agreements, she figured out that the Bring also offers the same discount domestic pickups, and that Schenker was being used for the domestic pickups was used out of habits. After this discovery, Bring has taken over these pickups, which is conducted several times a month. Screenshot 1 shows the price of a delivery from Elverum to Ellingsøy by Schenker, and Screenshot 2 shows the price of the same delivery by Bring. The prices are shown exclusive VAT. Here, the price offered by Schenker is 1125,00 NOK while the price offered by Bring is 504,50 NOK, which results in a cost saving at 620,50 NOK per delivery.

This pickup is occurring several times a month and sometimes even several times a week. If assuming Sperre has four pickups from Elverum to Ellingsøy per month, this results in an annual cost saving at 29 784 NOK, as:

> 620,50 *NOK* × 4 = 2 482 *NOK* 2 482 *NOK* × 12 = 29 784 *NOK*

Dato	Sendingsnummar	TI	Fia poststed	Referanse	Sender	hnA	Enh	Vekt	Volum
29.12	70529510222523544	6057	2406 ELVERUM	1661/1	NORSE	1	kl	54	173
	FB vekt 54	Koder	SG	Frakt 1125	5		Beløp	and the second sec	1125.00



Sum avtalepris u/mva	Sum avtalepris u/mva består av:		Annen informasjon om beregningen:		
Hovedavtale Innland-Stykkgods	Frakt	kr 504,50	Sum avtalepris m/mva	kr 630,62	
		kr 504,50	Fraktberegnet vekt	54 kg	
kr 504,50			Transporttid	1 virkedag	
	1		Sendingen er beregnet som styl 2500 kg	kkgods pga vekt under	
			Henteoppdrag for totalvekt und kr 261,00	ler 100 kg belastes med	

Screenshot 2 – Price offer Bring

4.5.2 Cost savings within 'Electro motors'

In the sub-category 'electro motors', Sperre operate with single source, as this increases Sperre's leverage and negotiation power. As the previous supplier continuously increased their prices, Sperre decided to do a source change. Even though Sandvik is the category owner, Eiken was in lead of the source change. This because Eiken has been working with an alternative supplier even before category management was implemented. According to Eiken, the challenge related to finding a suitable supplier was not related to the product, but the service level the supplier offered. The previous supplier offered a high service level, thus was one of the criteria that had to be fulfilled to carry out the source change. Eiken considered several suppliers, yet there was only one supplier that offered the service level Sperre required. After an inspection of the manufacturing site with the product owner and Sandvik, the supplier was accepted as a new supplier. Eiken had experienced some resistance from the top management regarding this source change, however, after conducted some supplier research they discovered that all of Sperre's competitors used the same supplier, thus the supplier had to be good enough for Sperre as well.

After a negotiation of the prices, Sperre achieved a major cost reduction, which is estimated as approximately 40% cost reduction of the category. I am not able to show the price reduction per motor, as the motors provided by the new supplier are replacing a larger range of motors provided by the old supplier. This is why the cost reduction is only estimated

5.0 Case analysis

In this chapter, Sperre practice of category management will be reviewed in conjunction of the success factors presented in section 2.2. This will provide an insight in how far Sperre have come in a successful category management implementation.

5.1 evaluation of The practice of category management in Sperre

5.1.1 Categorization process

Spend Analysis

As explained earlier, a segmentation of third party spend is the first requirement when applying category management. When Sperre implemented category management in the autumn of 2017, they conducted a spend analysis using spend data from 01.01.2017 to 31.08.2017. By using only a part of the annual spend, the analysis may not present the actual spend situation. A repeating statement in the literature is that spend analysis should represent the annual spend, thus spend data from twelve months is to be preferred. As mentioned in section 4.3.1, spend analysis is not conducted in a regular basis by the purchasing department. By conducting spend analysis annually, Sperre may become more aware of their current position, and enable them to pay attention to category spend and reveal opportunities and/or challenges regarding sourcing.

A spend analysis with data from twelve months will naturally change the basis for the categorization. To demonstrate the difference between a spend analysis based on eight months and a spend analysis based on twelve months, I conducted a second spend analysis using spend data from the time period 01.01.17 to 31.12.17. For the analysis to be comparable, I conducted the second spend analysis the exact same way as Sperre did in the first analysis. As shown in figure 12, this analysis resulted in a category spend at approximately 111 mill NOK. This is 70 mill NOK more than the spend analysis of eight mounts, meaning 70 mill NOK of the spend is not included in the categories.

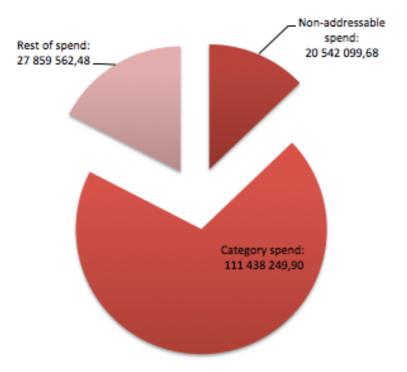


Figure 12 - Sector diagram of third party spend

According to White (2013a), a spend analysis may help an organization realize how many suppliers there are within one category. The numbers of suppliers tend to increase over time, which in turn increases administrative cost, as more work is required in managing the supplier and handling the incoming invoices (White 2013a). Table 4 presents a comparison of the number of suppliers included in the categories after the two spend analysis.

	Nr. of suppliers after first spend analysis (8 months)	Nr. of suppliers after second spend analysis (12 months)
Electronics	6	4
Houses &	2	2
couplings		
Transmissions	1	1
Welded parts	2	1
Classifications	2	1
Pumps	1	1
Facility products	1	1
Packing material	2	2
Logistics	4	3
Consumables	1	1
Copper materials	1	1
Aluminum castings	2	2
Iron castings	2	2
Steel plates/ covers	2	2
Valves & measuring eqt.	5	5
Trading	2	1
Filters	2	1
Machining	2	1
Coolers	3	3
Gaskets & piston rings	3	2
Fasteners	1	1
Motors	1	1

Table 4 - Number of suppliers, comparison

The number of suppliers in each category varies from one to six suppliers after the first spend analysis, while the number varies from one to five after the second analysis. In addition, the total number of suppliers is nine suppliers less than the numbers of suppliers after the first spend analysis.

Since the number of suppliers decreased from the first spend analysis to the second spend analysis, this may imply that there is possibility for Sperre to reduce number of suppliers. This because spend areas that seemed to be large enough to be focused on, turns out to be

not. Here, Sperre may aggregate the smaller spend areas with the larger spend areas. This will increase their attractiveness with the suppliers, which may strengthen their negotiation power and lower their costs.

Definition of the categories

As mentioned in section 2.2.1, it is essential that the categories reflect their market-facing nature in order to gain maximum potential from category management (O'Brien 2015). In addition, O'Brien (2015) states that the categories have to be large enough to find opportunities and small enough to work on. In this case, some of the categories seem to be too widely defined. As shown in figure 13, the 'valves and measuring equipment'-category accounts for approximately 22% of the total category spend. This is twice the size compared with the second largest category, which may imply that the category is too widely defined.

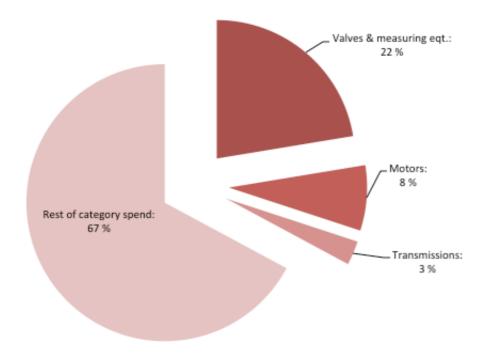


Figure 13 - Sector diagram of category spend

As mentioned in section 4.1, it is important for Sperre to protect the after sales market since this is their main income. To protect this market and prevent the customers from buying spare parts elsewhere, Sperre specialize a large portion of purchased parts.

Standard products and specialized products require different sourcing strategies, and should therefore be managed as two individual sub-categories. This way, the category manager may manage the sub-categories individual, but be able to act on any issues or synergies between the two categories. Figure 14 presents three categories and possible sub-categories.

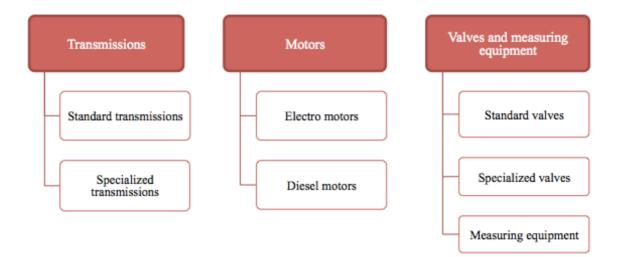


Figure 14 – Suggested sub-division of categories

The 'transmissions'-category includes all types of bearings, both standard and specialized bearings. Here, optimum category segmentation would be to work on 'standard transmissions' and 'specialized transmissions' as individual categories, but with 'transmissions' as the overarching area.

As mentioned in section 4.3.1, the motors category actually represents only one type of motors, 'electric motors'. This should be a sub-category within the overarching category 'motors', together with the second sub-category 'diesel motors'. Since the diesel motors are provided in such a small volume, this sub-category will not be focused on in this research.

As mentioned, the 'valves and measuring equipment'-category has the highest spend and accounts for approximately 22% of total category spend. The majority part of this category is different types of valves, both standard and specialized valves, but does also include measuring equipment, which is valves-technology. A sub-division of this category could be beneficial. Figure 14 presents a suggested sub-division, however, this is quite roughly

divided and a more accurate division would be even more beneficial. This should be done in collaboration with a team consisting of individuals that has knowledge of these products.

5.1.2 Strategic sourcing

As stated in the literature review, it is important that the sourcing strategy supports overall strategy and connects with the way the end customers is satisfied. Sperre's vision is to be *"the preferred life cycle partner within air compressor systems in Marine, Power Plants and E&P³ markets" (Sperre 2018).* To be able to reach this vision, customer satisfaction is crucial, and the "life cycle concept" (ref. section 4.1) is an important part of the way Sperre satisfies their customers. It is therefore essential that the sourcing strategies ensure that Sperre has all spare parts available at any time. As mentioned earlier, a large portion of the parts Sperre is procuring, is specialized. This is quite contradictory to what the literature presents. Most authors points to the advantages of using standardized products, such as economic of scale, aggregate spend to achieve leverage, increased negotiation power, etc. However, in Sperre's case, the specialized products ensure that the customers acquire spare parts only from Sperre. The after sales market accounts for the majority of Sperre's earnings, thus an important market to protect. The specialized products make it even more important that Sperre has the spare parts available when the customer needs it, as the customer are dependent on Sperre.

The second pillar of category management is breakthrough thinking, and O'Brien (2015) states that "breakthroughs need to be hunted down with determination and the will to challenge". To be able to spot breakthroughs, it is required an open mind and sinking into every piece of knowledge about the category (O'Brien 2015). The specialization of products may limit the possibilities for breakthrough thinking. Suppliers who are producing the specialized products are considered as a key-supplier (or one of a kind supplier) within Sperre. In these cases, Sperre has used a lot of time and resources to develop a good relationship with the supplier. This increases the barrier to change suppliers, as a source change would be highly time consuming and entail a larger risk. It

³ Exploration and Production

may also seem that Sperre is a bit restrained when it comes to hunting down breakthrough in categories were the current sourcing strategy is working fine. A supplier who is "working just fine" will also increase the resistance to change from other departments or top management.

It is stated in the literature that to be able to develop the best possible sourcing strategy for a category, it is required to work cross functional with individuals from relevant departments who has sufficient knowledge about the product and/or market. In addition, a good sourcing strategy is worth nothing if it cannot be implemented. It is therefore required that the members of the category team had the ability to drive changes. Both cross-functional teams and data-collection at Sperre will be further discussed later (section 5.1.3 and 5.1.4).

The first step in the strategic souring process is to categorize purchases into strategic or nonstrategic buckets (Johnson, Leenders, and Flynn 2011). This helps to determine where to allocate resources, and prevents overinvestment in nonstrategic categories or underinvestment in strategic categories. As mentioned in section 2.2.2, Kraljic's purchasing portfolio is the most commonly used methodology for undertaking category management and developing sourcing strategies (Cox 2015).

Kraljic's Purchasing Portfolio

This methodology may help Sperre identify which categories are worth putting energy and resources in. Figure 15 presents which of the four quadrants the three categories (1) transmissions, (2) electric motors and (3) Valves and measuring equipment, is placed in. An explanation is presented below.

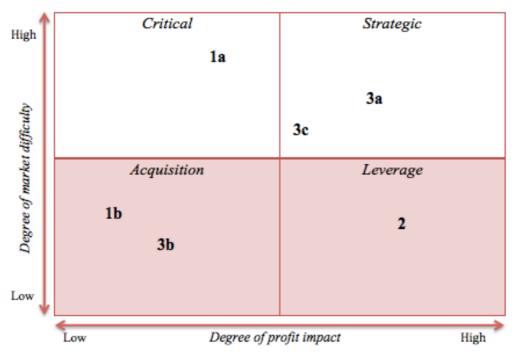


Figure 15 – Category position within Kraljic's purchasing portfolio

Transmissions (1)

The transmissions category does, as mentioned, consist of both specialized transmissions (1a) and standard transmissions (1b). Since the specialized transmissions are of high importance, Sperre consider this sub-category as a strategic category. When a category is considered as a strategic category without actually being a strategic category, the risk of missed opportunities and wrongfully strategy deployment increases. The market characteristics indicate that the supplier does not consider Sperre as a strategic category. Taking the profit impact and the degree of market difficulty into consideration, it shows that the specialized transmissions are placed in the critical quadrant, while the standard transmissions are placed in the acquisition quadrant:

• *Profit impact*: The transmissions category represents only 2% of the total category spend, however, these products has a high impact on the final products quality, as poor quality on the bearings may have serious consequences. This implies that the category has some degree of profit impact. The specialized transmissions (1a) have a higher degree of profit impact than the standard transmissions (1b), as the specialized transmissions are ensuring after sales income, thus affects the organizations profit. The standard transmissions are also provided in a significantly smaller volume.

• *Market difficulty:* The degree of market difficulty is very high in the specialized transmissions category (1a). The supplier in this category is providing supply to a large range of industries (e.g. the automotive industry). This makes Sperre a small customer in comparison, which results in a low priority with the supplier. In addition, one kind of specialized needle bearings that Sperre is procuring from their supplier is produced in one single factory in Europe. This puts Sperre in a vulnerable position, as their volume is relatively small in comparison to other customers. There is no reason for Sperre to switch to another supplier in Europe, as the needle bearings is provided from the same factory and thus puts Sperre in the same position. If Sperre decides to change supplier, they have to find a supplier outside Europe, which will increase transportation costs. The market difficulty of the standard transmissions (1b) is not as high as the specialized, and can be provided by several suppliers.

According to O'Brien (2015), the potential return within categories placed in the critical quadrant and the acquisition quadrant, are small. Time and effort have to be invested in critical categories, as these categories entail high risk. Acquisition categories, however, warrants little effort and energy, and as the market is easy, there are small or no risk involved (O'Brien 2015).

Because of Sperre's size, they has low negation power and low strength of portion within the market, which means that the power is on the suppliers side, thus this is a *supplier-dominated segment*. O'Brien (2015) presents a table over purchasing approaches (ref. Appendix 3), and here it is suggested that the standard transmissions (1b) should "*exploit where possible*". In this case, Sperre should do their best to "effect best prices and terms, consider standardization of products and consolidation of suppliers" (O'Brien, 2015). As the potential returns are small, Sperre should not invest much time and resources in this sub-category. Monczka et al. (2011) suggests that categories within the acquisition quadrant should simplify the acquisition process by increase the role of systems and reduce the buying effort. In this case, the category team should try to find suppliers that can automate the purchasing process to the greatest extent possible (Monczka et al. 2011). In the case of the specialized transmissions (1a), Sperre should *diversify* as strategic response (appendix 3). Here, Sperre should seek alternatives or ways to move out of the

critical quadrant. O'Brien (2015) suggests two distinct actions to move from the critical quadrant into strategic or leverage; aggregate spend or change specifications. In this case, Sperre may move from critical to strategic by aggregate the spend from both subcategories into one supplier. This may give Sperre more negotiation power, which may be used either in negotiation of better terms with the current supplier, or offer the entire volume to a new supplier. However, if this action does not work and they still are in the critical quadrant, Sperre should consider standardizing the products. The uniqueness of these products makes the market more difficult than necessary and a decreasing of this uniqueness might help Sperre out of the critical procurement situation.

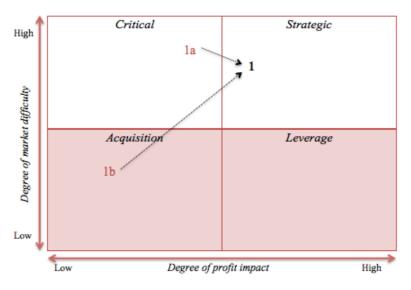


Figure 16 - Shifting position from critical to strategic

Electric motors (2)

This sub-category has recently gone through a source change, and by assess the profit impact and the market difficulty, shows that the electric motors (2) are placed in the leverage quadrant:

- *Profit impact*: The electric motors represents approximately 8% of the total category spend and is among the top 10 largest categories. In addition, motors have a high impact on the quality of the final product, which also increases the degree of profit impact.
- *Degree of market difficulty:* As mentioned, Sperre has recently conducted a source change of electric motors (2), which is presented in section 4.5.2. Sperre had the

opportunity to choose between different suppliers, which indicate that the market consist of several suppliers, thus has a low degree of difficulty.

According to O'Brien (2015), it s worth putting time and effort into maximizing the overall position within categories placed in the leverage quadrant, as the potential return are high. In this case, Sperre has invested a lot of time and resources in the source change of the electric motors, and the cost savings seem to be very high. In this case, Sperre has a good position within the market, and should therefore have an *exploit* strategy reaction. Here, O'Brien suggest that the organization should have an arm's length supplier relationship, use hard negotiation methods and use the competition to the full. It is also suggested that there should be short-term commitments. However, Knoppen and Sáenz (2015) state that strangling of suppliers with shot-tern cost-driven requests despite past efforts to develop long-term relationships may cause negative consequences. Sperre should therefore rather focus on developing a medium/long-term relationship with the new supplier.

Valves and measuring equipment (3)

This category has been roughly divided into three sub-categories; (3a) specialized valves, (3b) standard valves, and (3c) measuring equipment.

- *Profit impact:* The 'valves and measuring equipment'-category is the largest category, which accounts for 22% of the total category spend (ref figure 13). In this case, the specialized products are the majority. In addition, these products ensure earnings from the after sales, thus specialized valves (3a) have a high profit impact. The standard valves (3b) on the other hand, has a low profit impact as these products are purchased in a much smaller volume. The last sub-category, measuring equipment (3c) does also consist of specialized products that are branded with Sperre's name and item number. The measuring equipment measures different parameters, and has a high degree of impact on the final product, thus has a high profit impact.
- *Degree of market difficulty:* The standard valves (3b) can be procured by several different suppliers, thus has a low degree of market difficulty. The specialized valves (3a), however, has a high degree of market difficulty. This because the barrier to change supplier of specialized products are higher than with standard products. Sperre has developed a close relationship with the main supplier of

specialized valves over many years. The measuring equipment (3c) does also have a high degree of market difficulty, as the products are specialized.

Sperre procures a large volume of valves, thus can be considered as an attractive customer. This indicates that Sperre has a good position within the market. The sourcing response Sperre should use is *balance* in the 'specialized valves'- category and 'measuring equipment'- category. Here, it is suggested that Sperre develop and nurture relationship, but still maintains a degree of arms length and ability to switch away. Even though Sperre has a close relationship with the supplier of specialized valves, they should not "role out" the possibility to switch supplier sometime in the future. This may cause missed opportunities and missed cost savings.

The 'standard valves'- category should have exploit as sourcing reaction, were it is suggested that Sperre use competition and consolidation of suppliers to achieve best price and terms (appendix 3). Also in this case, Sperre should increase the role of systems and reduce the buying effort.

As mentioned earlier, two actions are suggested by O'Brien (2015) to move from the critical quadrant into strategic or leverage; aggregate spend or change specifications. By standardize the measuring equipment, Sperre may move from the strategic quadrant to the leverage quadrant. Then it could be beneficial to take advantage of the competition by using e-auctions or other eBusiness tools to achieve the best price and terms (O'Brien 2015, Johnson, Leenders, and Flynn 2011).

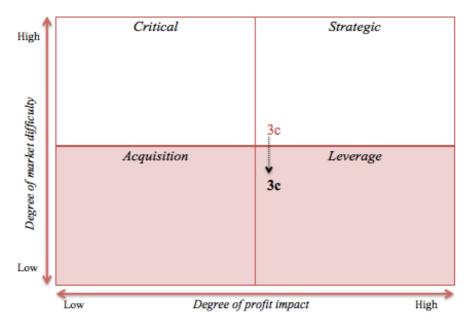


Figure 17 – Shifting position from strategic to leverage

5.1.3 Cross-functional category team

The literature is clear about the connection between cross-functional teams and successful category management. As outlined in section 4.2.2., Sperre has a team structure where the core team consists of a category owner, while representatives from other departments form the extended team. However, in most of the categories the extended team is not established and the members of this part of the team are in some cases random. This may cause confusion regarding the member's roles and responsibility.

Some of the barriers that O'Brien (2015) is presenting related to strategically sourcing is to get the departments to talk to each other and work together, in addition to the conflict of having different interests. Sperre has all of its employees gathered at the headquarters at Ellingsøy, which facilitates easily interaction and communication between the departments. This is one of the reasons why the purchasers have not established a category team in all of the categories, as the barrier of contacting the necessary person and discuss eventual sourcing possibilities or/and issues is low. However, the risk of sub-optimization is probably higher with this type of collaboration. It is natural that individuals within different departments have different interests and different opinions on what should be focused on. It might also lead to more resistance to change, if the individuals are satisfied with the way things are. When cross-functional teams are established and individuals from

different departments are participating, the resistance may be reduced and the issue of suboptimization removed. When working together in a category project, individuals will most likely feel some degree of responsibility, thus think further than their own departments interest. According to O'Brien (2015) lack of involvement is the precursor to resistance and by involving the departments the change is affecting, this resistance can be reduced. O'Brien (2015) states that the ideal team size is between three and eight people. The team size will naturally vary depending on the size and importance of the category.

As mentioned earlier, there are only two categories that have established team that has been, and/or still are, working on the category sourcing strategy. These are the 'motors'category and the 'transmissions'-category. As outlined in section 4.2.2, the team of the 'transmissions'-category consists of Sandvik as the core team, and Eiken and the product owner as the extended team. Since the supply situation in this category is highly critical, Sperre should consider recruiting more members to the extended team. As sourcing strategy has a connection with the way the organization is satisfying the end customer, a member of the after sales department may be natural to include in the external team. This department communicates with the customers, thus has a high interest in any changes that may occur. However, it is not necessary for all of the team members to participate in every meeting, and the representative from the after sales department could therefore participate, for example, once a quarter. By reducing the required participation, it will also be easier to get acceptance from the representative.

According to FuturePurchasing (2017), 'leaders' within category management are more likely to invest in behavioral skill training and the 'selling' of category management internally. In return, these firms' have a higher level of savings than the 'follower'. This indicates that investing in training and development when implementing category management will give long-term benefits. In Sperre's case, it would be beneficial to invest training for the cross-functional teams to ensure everyone is well aware of what category management is really about. O'Brien (2015) states that a high-level introduction to the process, in addition to ongoing bursts of training in specific tools or techniques throughout the process is enough. As of today, Eiken is the only one in the purchasing department who knows how to conduct the spend analysis, which makes the department dependent on him when a spend analysis should be conducted. An introduction of conduction of a spend analysis would be beneficial.

5.1.4 Comprehensive data

As stated several times in the literature review, it is necessary to have sufficient knowledge when developing and managing a sourcing strategy. Information about total annual purchase volume, stakeholders forecasted requirements and external market research is mentioned as essential (Monczka et al. 2011). Information about total annual purchase volume is achieved through conduction of spend analysis. As shown earlier, Sperre conducted a spend analysis based on eight mounts. This spend analysis gave Sperre an indicator on the spend situation, however, as it consisted of data from eight mounts, it did not give them the correct picture on the annual spend.

An essential first step towards creating a sourcing strategy is to summarizing the insights. Here, SWOT is a useful tool to help collect these insights into cohesive form (O'Brien 2015). Before presenting category management as a new procurement strategy, Sperre conducted a SWOT analysis, which is presented below as figure 18. Here, Sperre addresses their internal strengths and weaknesses, and the external opportunities and threats. Sperre mention low attractiveness as an internal weakness and their negation strength as an external threat, which are important factors to be aware of when developing a sourcing strategy.

 Strengths (internal) Competence through senior personnel Sperre a solid company, thus an attractive customer Service minded attitude Well-functioning ERP system (NAV) 	 Opportunities (external) Utilize purchasing power synergies with other companies Digitalization of Supply Chain – supplier integration Optimization (reduction) of commodity suppliers
	 Reduction of compressor range = larger series Further outsourcing of machining and assembly Increased inventory turn through utilizing NAV better
 Weaknesses (internal) NAV system competence need strengthening Low-volume outsourced products – little attractiveness Lack of CNC competence - challenging vs. outsourcing Handling of quality issues and delivery performance need improvement Coordination with Goods-receipt, including quality control No proper inventory analytic and forecasting tools in ERP 30 years availability promise a strain on inventory 	 Threats (external) Outsourced machining – cost, capacity, quality and delivery performance Negotiation strength – Sperre relative small vs. several suppliers Supplier solidity – financial strength Ability to protect «genuine spares parts» Currency fluctuations Increasing cost (Norway a high cost country)

Figure 18 - SWOT analysis

Sperre conducts regular analysis of suppliers' delivery precisions, which may identify eventual improvement potential. However, this is only conducted by the purchasers. Best-practice organizations involve the category team in the evaluation of the suppliers. By reviewing scorecard performance, continuous improvement projects and any corrective actions that has been taken with suppliers, the team has the same basis for evaluation of the current suppliers (Partida 2014). This will give them the opportunity to evaluate if the investments in the supplier are giving positive results, or if they need to reconsider the sourcing strategy.

5.1.5 Organizational acceptance

As mentioned in section 4.2.1, Sperre has had some issues regarding the sourcing responsibility. Members of other departments conducted the sourcing themselves and included purchasing at a stage where it was too late to change the terms of the agreement. This is, according O'Brien (2015), a consequence when individuals within other departments are developing the relationship with the supplier. To prevent this, Sperre implemented category management, where the aim was for the purchasing department to take charge of the sourcing. The reorganization of the purchasing department proves that the top management acknowledges the purchasing function as a strategic function. The approval of implementing category management does also indicate that the top management has accepted the approach. However, it might seem that Sperre has not acknowledged the scope of organizational involvement category management require. O'Brien (2015) states that "if the organization views category management as just a purchasing-led initiative and just one of the many initiatives within the business, then resources required are unlikely to be made available". Sperre has not invested any resources in the implementation of category management, and the lack of determined cross-functional teams may indicate that Sperre views this approach as a procurement initiative.

Category management is not only a process, but is also a philosophy, which needs to become significant business wide and demand the winning of hearts and minds beyond the bounds of the procurement team (O'Brien 2015). As previously stated, securing executive support may be challenging, as there always will be competition about the resources within an organization. Getting support for approaches were the results might not be visible right away is specially challenging. However, in Sperre' case, they have two cases of cost savings to refer to. The cost saving within the 'logistics'-category is rather small in the bigger picture, but is proves the importance of using right knowledge when evaluating or creating a sourcing strategy. In addition, the larger cost saving within the 'electro motor'-category shows the result of doing a drastic source change.

5.2 Evaluation of the outcome of category management

In this section, the outcome of category management implementation (which was presented in section 4.5) will be evaluated and discussed whether these benefits are due to the implementation or not.

5.2.1 Cost savings within logistics category

As mentioned in section 4.5.1, Gundersen achieved a cost saving when changing the transporter of a domestic pickup. But is this saving a result of the category management implementation, of would it have been achieved by using whichever purchasing approach? Gundersen, as supply chain coordinator, has both purchasing and financial responsibilities, and due to this, she reviews every incoming invoice. This way, she may detect aspects that the two other purchasers do not, which was the case when she detected the price of the current pickup. When she saw the price they were paying, she noticed that this was much higher than the price they paid at the logistics department. However, since Gundersen was transferred from the logistics department to the purchasing department before the implementation of category management, this discovery would probably happened no matter which approach that were used. This indicates that the discovery of the cost saving had nothing to do with the category management implementation.

The execution of the change however, may have been carried out due to the implementation. This because Gundersen has the responsibility of the logistics category, thus has the responsibility and the decision-making authority. If the purchasing department had a traditional purchasing structure, Gundersen would have had to report this discovery to the purchasing manager, which would have the decision-making authority. As this is a rather small cost saving, this change would probably been given low priority and maybe not even been completed.

Since I am not in possession of a crystal ball which can tell "what would happened if...", this is based on a lot of assumptions. However, the mentioning of the importance of assigning an owner to each category based on use and knowledge is consistent in the literature, which can be verified by this case. In addition, the category management objective is to search for cost reduction, and it is possible that Gundersen was extra aware

of the prices, as Sperre has had high focus on cost savings after the implementation of category management.

Thus, the answer to the initial question; yes, this may seem to be a result of the implementation of category management, as this approach assigns the individual with relevant knowledge the overall responsibility and the decision-making authority.

5.2.2 Cost savings within electric motors

Another cost saving that has been achieved after the implementation of category management is related to the sub-category electric motors. The same question is asked in this case; is this saving a result of the category management implementation, of would it have been achieved by using whichever purchasing approach?

Eiken started to search for an alternative supplier within this category long before the implementation of category management. However, he stated in the first interview that he have always worked as if they used category management. He searched the market for a new provider of electric motors that would give Sperre better prices and terms than the current supplier. After reviewing different suppliers and cooperation with Sandvik and the product owner of motors, they arrived at a conclusion of changing supplier. Monczka et al. (2011) states that it is important to identify the major suppliers in a market, as this tells you what the world prefers and whom the world is buying from. After conduction a supplier research on the potential supplier, Sperre detected that this potential supplier also provides motors to their main competitors. Since this supplier was good enough for them, they had to be good enough to Sperre as well.

Even though this process started before the implementation of category management, it may seem as the cost saving is a result of category management. This because has been a cross-functional collaboration, with the aim of doing a radical change to achieve a radical cost saving.

6.0 Conclusion

The aim of this section is to present the main conclusions form the research and the answers to the research questions.

How does the company practice category management?

After reviewing the practice of category management in Sperre, it is clear that they are on the right track toward a successful implementation of category management. In the introduction, it was questioned if they have "not started", "basic" or "improving" category management. Sperre has clearly started the implementation of category management, and this research indicates that Sperre has "basic" category management. However, the research reviles that Sperre have some improvement potential to achieve an optimal category management implementation.

First of all, the research points to the importance of conducting annual spend analysis, which is not the case in Sperre. They should therefore implement an annual spend analysis to leverage the benefits of spend visiability and to be able to detect opportunities for cost savings. I will also suggest that Sperre introduce Sandvik and Gundersen to the conduction of spend analysis. This will increase their understanding of the categories basis, in addition to make them less dependent on Eiken.

Further, the findings in this research indicate that the purchasers should convince the top management that category management is an organization wide approach, which is worth invest in. Sperre has already achieved two cost savings after implementation of category management, which is a valid prof on the effect category management entails. This also indicates that investments in category management will pay off, which leads to the next suggestion for improvement.

Another finding in theis research is that Sperre has not created cross-functional category teams for every categoris. This leads to the suggestiong of creating cross-functional category teams. By using teams in defining accurate sub-categories, they may gain maximum potential from category management. When the team consists of members from different departments with different knowledge, there is a better basis for developing sourcing strategies. Here, the team may both evaluate current supplier and new suppliers,

and by being open minded and hunt for breakthrougs, they may achieve radical cost savings. The use of the purchasing portfolio may also help the team get an overview of their current position, and it also can help them in developing strategy.

What is the outcome of the use of category management?

The literature presents several benefits of using category management. This research can validate the importance of assigning each category a category owner based on their knowledge. Sperre achieved a saving after assigning a former member of the logistics department the responsibility and decision-making authority of the logistics category. It is also proven that active searching of a better supplier, breakthrough thinking and the ability to drive change are keywords that connects cost savings with category management.

However, it is clear that there is a common understanding in the literature that the benefits do not realize themselves. It is required that the whole organization embraces the approach, and work together in developing the optimal sourcing strategy that delivers cost savings.

7.0 Limitations and further research

This research does also include some limitations.

Firstly, my knowledge of the Sperre's purchased products is limited, which resulted in a roughly sub-division of the categories. This is the reason why I have suggested that the team members works together in dividing the categories into appropriate individual market-facing categoris.

Secondly, the actual cost savings presented in section 4.5 has not been measured in this research, thus the size of the cost savings are just assumptions. In the logistics category case, the cost saving is quite new, thus has no measuring basis. An annual cost saving can be measured in the next spend analysis, but until then only an estimated saving is provided. The savings related to the electric motors category has not been conducted as only estimated savings is possible to provide, and this would take more time than I had available. This because several motors that was provided by the previous supplier, has been replaced by one standard motor, in addition, some specifications has been changed which will affect the price.

And lastly, due to the time restriction, I did not have time to go deeply into all of the categories. The reader should therefore be take into consideration the possibility of undetected aspects.

This research has laid the foundation for further researches. It is a common statement in the literature is that the use of technology makes the purchasing function more effective. The use of e-procurement tools in category management is an interesting research topic, and one suggestion for further research is to investigate this aspect. Sperre has expressed their desire to increase digitalization within their supply chain, and an investigation of the combination of category management and e-procurement tools can detect opportunities for large savings.

Another interesting further research is to investigate if the improvement suggestions presented in this thesis will provide the results that the literature claims to deliver.

References

- (CIPS), Chartered Institure of Procurement & Supply. 2011. "Advanced Category Management " CIPS South Africa Conference 2011, South Africa.
- (GAO), Government Accountability Office. 2004. Best Practices: Using spend analysis to help agencies take a more strategic approach to procurement.
- Bruning, K.C. 2018. "What is a hard benefit?". WiseGEEK, accessed 28.03.18. http://www.wisegeek.com/what-is-a-hard-benefit.htm.
- Brynhildsvoll, Ivar. 2011. *Prinsipper for bedre innkjøp*. 2 ed. Bergen: Fagbokforlaget Vigmostad & Bjørke AS.
- BusinessDictionary. 2017. "Category management." accessed 28.11.2017. http://www.businessdictionary.com/definition/category-management.html.

Baalerud, Per-Ola, and Ole Nustad. 2018. Norvestor invests in Sperre.

- CIPS. "Category Management ". Chartered Institute of Procurement & Supply, accessed 28.11.17. <u>https://www.cips.org/knowledge/procurement-topics-and-skills/strategy-policy/category-management/category-management-model/</u>.
- Cox, Andrew. 2015. "Sourcing portfolio analysis and power positioning: towards a "paradigm shift" in category management and strategic sourcing." *Supply Chain Management: An international journal* 20 (6):717-736. doi: 10.1108/SCM-06-2015-0226.
- CSCMP. 2017. "CSCMP Supply Chain Management Definitions and Glossary." Council of Supply Chain Management Professionals, accessed 28.11.2017. <u>http://cscmp.org/CSCMP/Educate/SCM_Definitions_and_Glossary_of_Terms/CSCMP/Educate/SCM_Definitions_and_Glossary_of_Terms.aspx?hkey=60879588-f65f-4ab5-8c4b-6878815ef921.</u>

Dumont, Richard. 2014. "Purchasing Category Management in Practice." Master Department of Technology Management and Economics, Chalmers University of Technology (E2014:095).

Dutton, Jonathan. 2011. The state of the art of category management Melbourne.Eisenhardt, Kathleen M. 1989. "Building Theories from Case Study Research." *The Academy of Management Review* 14 (4):532-550.

- FuturePurchasing. 2017. "Collaborating for Categroy Management Success Bridging the Performance and Value Gap - The 2016-17 Global Category Management Leadership Report." Future Purchasing Consulting Limited, accessed 07.05.18. http://www.futurepurchasing.com/catman-leadership-executive-summary-report-2017.
- Harrison, Alan, Remko van Hoek, and Heather Skipworth. 2014. Logistics Management and Strategy - Competing through the supply chain. 4th ed. United Kingdom: Pearson Education Limited.
- Hawkins, Timothy G., Mark E. Nissen, and Rene G. Rendon. 2014. "Leveraging strategic sourcing and knowledge management to improve the acquisition of knowledge-based services." *Journal of public procurement* 14 (2):215-251.
- Johnson, P. Fraser, Michiel R. Leenders, and Anna E. Flynn. 2011. *Purchasing and supply chain management*. 14th ed: McGraw-Hill.
- Knoppen, Desirée, and María J. Sáenz. 2015. "Purchasing: Can we bridge the gap between strategy and daily reality?" *Business Horizons* 58:123-133.
- Kraljic, Peter. 1983. "Purchasing must become supply management." *Harvard Business Review*.
- Monczka, Robert M., Robert B. Handfield, Larry C. Giunipero, and James L. Patterson. 2011. Purchasing and supply chain management 5th ed: South-Western Cengage Learning

- O'Brien, Jonathan. 2015. Category management in purchasing: A strategic approach to maximize business profitability. Third edition ed: Kogan Page.
- Partida, Becky. 2014. "The value of category management team." Spend Matters, accessed 28.03.18. <u>http://spendmatters.com/2014/02/01/value-category-management-teams/</u>.
- Partida, Becky. 2015. "Category Management: Stratgic and tactical benefits." Spend Matters, accessed 28.03.18. <u>http://spendmatters.com/2015/02/07/category-management-</u> <u>strategic-tactical-benefits/</u>.
- Qualres. 2008. "Semi-structured Interviews." Robert Wood Johnson Foundation, accessed 03.05.18. http://www.qualres.org/HomeSemi-3629.html.
- Smith, Alison. 2017. "Category Management Critical Success Factors." Future Purchasing accessed 28.03.18. <u>http://www.futurepurchasing.com/blog/2017/11/06/category-management-critical-success-factors.</u>
- Sperre. 2017. Sperre Industri Sourcing Strategy 2017-2020.
- Sperre. 2018. Sperre Industri AS, accessed 03.01.18. http://www.sperre.com/.
- Surbhi, S. 2016. "Difference Between Primary and Secondary data." Keydifferences.com, accessed 03.05.18. <u>https://keydifferences.com/difference-between-primary-and-secondary-data.html</u>.
- Thomas, Gary. 2011. *How to Do Your Case Study: A Guide for Students and Researchers:* SAGE Publications.
- Trautmann, Gerhard, Virpi Turkulainen, Evi Hartmann, and Lydia Bals. 2009. "Integration in the global sourcing organization - an information processing perspective." *Journal of Supply Chain Management* 45 (2):57-74.

- Van Weele, Arjan J. 2014. *Purchasing and supply chain management*. 6 ed. United Kingdom: Cengage Learning EMEA.
- Webb, Jonathan. 2015. "What is category management?". Forbes, accessed 28.11.2017. https://www.forbes.com/sites/jwebb/2015/12/23/what-is-category-management/2/ - 72e5d8174ae4.
- White, Jonathan. 2013a. "Second step toward procurement savings." *Government procurement* 21 (5):n/a.
- White, Jonathan. 2013b. "What is 'Spend'?" *Government Procurement; Cleveland* 21 (2):n/a.
- Yin, Robert K. 2009. Case study research: design and methods. 4th ed: Sage Publications.

Appendix

Appendix 1 – Hard and soft benefits possible from category management. Adopted from O'Brien (2015) p. 35

Benefit type	What is typically possible	What is required in order to realize these benefits
Hard, tangible b	enefits	
Cost reduction	10-20 per cent reduction in the price of bought in goods and services	 Business must organize itself so as to implement category management effectively Low category maturity Non-difficult market Ability to drive organizational change Category is generic - low differentiation Category ha "added value" components
Improved value and effectiveness	 Improved efficiency Reduces waste Additional value Sustainable results 	 Cross-functional working Means to identify and pursue opportunities (eg. Lean or Six Sigma approaches) Active supplier involvement
Innovation	 Improved value proposition to our customer using supply base innovation Process improvements Process improvements Synergies from collaboration 	 Reason for suppliers to share or work on innovation (mutual benefit) Shared understanding and sharing goals or needs Collaborative joint working with key suppliers
Reduce supply chain risk	 Greater security of supply Reduced risk of brand damage (eg. through poor practice upstream in the supply chain) Reduced risk of loss (eg. of IP) through increased supplier and supply chain understanding 	 Cross-functional working – connect "sourcing" with "satisfying" Reason for suppliers to contribute (mutual benefits) Collaborative joint working with key suppliers
Soft benefits		
Total spend under management	 Greater transparency (especially relevant for public sector) Improved accuracy of spend breakdown Ability to prioritize resources Better framework agreements through improved market understanding (public sector) 	 Robust spend analysis Robust category segmentation
Cross-functional working	 Augmentation of results (through sharing and interaction) Alignment to a common purpose Ground swell of effort to deliver results 	 Organization-wide approach to category management and mandate to participate Executive buy-in Active promotion of initiative through the organization
Common language and ways of working	 Faster results Increased organizational capability 	 Single process and toolkit accessible and utilized by all – common templates Common learning and development

		program Language and process rigour expectations reinforced by senior team
Knowledge sharing	 Increased organizational capability Organizational learning 	 Means to sharing key information (category strategies, market insights, success factors etc.) Actively making time to share key learnings
Strategic sourcing	 Procurement as a strategic contributor to business success Customer value proposition shaped by supply chain possibilities 	 Procurement embraced as a strategic function Procurement "C" level/executive level representation

Appendix 2 – Analysis results

Vendor - Top 10 List Period: 01.01.17..31.08.17

Sperre Industri

Rank acc	cording to I	Purchases (L	CY)	Sum (80%) 82 323 330,90																						
/endor: [Date Filter	: 01.01.1731	.08.17						т	Т	Т	Т	т	М	MN	M	М	ТМ	νт	Т	В	т	М	MB	В	В
						Indirekte	Direkte	One of a kind	Copper	Au	Iron	Steel	Valves & measuring eq.	Gaskets & pistonrings	Fasteners	Motors	Hoses & couplings	Trading	Transmissions	Filters	Humps Mach parts	Coders	Welded parts	Classification	Pacangs Facany	Logistics
Rank	No.	Nar	ne	Purchases (LCY)	Balance (LCY)																					
	1	170803 Sup	oplier 1	10 450 676,62	5 366 905,60		x	x					x													
	2	171807 Sup	oplier 2	7 294 267,00	761 190,00		x	x															х			
	3	200194 Sup	oplier 3	6 667 379,99	952 886,23		х				x															
	4	200821 Sup	oplier 4	5 019 917,65	681 982,71		х									x										
	5	171970 Sup		4 994 715,92	2 219 713,99		х											x								
	6	200324 Sup		3 691 089,15	393 248,27	х																				x
	7	200097 Sup		2 662 579,90	488 639,03		х									x										
	8	171605 Sup		2 371 445,47	182 105,58		x										х									
	9	200285 Sup		2 261 958,03	644 862,33		x	x				х														
	10 11	170906 Sup 201385 Sup		2 239 403,32 2 207 038,26	245 915,78 247 504,99		x x	x						x					x							
	12	172206 Sup		2 042 653,50	92 184,88		x	x	x					^								x				
	13	201066 Sup		1 818 163,38	280 810,70		x	x					x													
	14	200603 Sup		1 770 367,84	0,00		x	x				х										x				
	15	170403 Sup	oplier 15	1 722 579,63	334 444,80		x						x													
	16	200283 Sup	oplier 16	1 673 891,16	103 471,83		x	x		х												х				
	17	200964 Sup	oplier 17	1 622 277,51	16 073,64		x				x															
	18	171601 Sup	oplier 18	1 613 306,82	169 586,88		x														x					
	19	171828 Sup	oplier 19	1 539 465,00	196 535,50	х																				x
:	20	170546 Sup	oplier 20	1 482 300,96	7 575,01		х						x													
	Period: Sperre I		8.17																							
	Rank ad	ccording to Pur	chases (LCY)	Sum (80%) 82 323 330	90																					
		22 1	70414 Supplier 21	1 145 433,	81 137 714	,24 x																			x	
			01425 Supplier 22	1 140 056		,00,	x									х										
			71928 Supplier 23 70401 Supplier 24	1 095 597, 937 960.		,00, ,00,	x			х											x					
			70606 Supplier 25	881 308																	^			×		
			70405 Supplier 26	859 418			x										x									
		32 1	71805 Supplier 27	823 602	36 48 552	,43	x									х										
			70707 Supplier 28	815 375		,00,	x						х													
			00992 Supplier 29 72101 Supplier 30	775 441, 765 135,			x															x	×			
			71134 Supplier 31	703 133,			x									x							^			
			70209 Supplier 32	695 230		,50 x																		x		
		40 1	72213 Supplier 33	676 544		,73	x							x												
			71339 Supplier 34	676 148			x								x											
			01440 Supplier 35 71202 Supplier 36	641 749 637 499			x									x							×			
			70333 Supplier 37	600 577,		,00	x									x							î			
			00305 Supplier 38	592 252			x							x												
		46 2	00530 Supplier 39	498 394	40 24 895	,50	x										1	ĸ								
			71110 Supplier 40	495 647																					x	
			70615 Supplier 41	442 901,			x												×							
			00284 Supplier 42 71858 Supplier 43	423 499, 415 640,		,00 ,00	x		1										x	x						
	_		71441 Supplier 44	414 772		,00 x																		x		
			72401 Supplier 45	397 218					Γ																	
			71210 Supplier 46	376 326			х																			
			71864 Supplier 47 00793 Supplier 48	350 726, 326 223,			x																			
			00046 Supplier 49	320 266																						

Vendor - Top 10 List Period: 01.01.17..31.08.17 Sperre Industri

Rank according t	to Purchases (LCY)	Sum (80%)			
		82 323 330,90			
62	172201 Supplier 50	319 112,63	147 104,09		x
63	201215 Supplier 51	312 475,41	0,00		x
64	171898 Supplier 52	310 526,63	77,63		x
65	171617 Supplier 53	307 582,52	48 374,00	х	
66	201337 Supplier 54	294 700,00	0,00	х	x
67	201046 Supplier 55	292 187,29	0,00		x
68	200604 Supplier 56	276 258,25	0,00		x
69	171940 Supplier 57	274 198,83	0,00		x
70	201191 Supplier 58	260 275,89	84 268,06		x
71	201454 Supplier 59	255 701,39	0,00	х	
72	201430 Supplier 60	255 400,00	0,00		x
73	200960 Supplier 61	245 587,30	30 884,86		x
74	170608 Supplier 62	244 646,41	0,00		x
75	200933 Supplier 63	238 639,00	8 000,00		x
76	172019 Supplier 64	237 838,56	10 626,55	x	
77	201212 Supplier 65	218 288,50	14 785,23		x
78	200401 Supplier 66	213 734,50	3 541,25	х	
79	201354 Supplier 67	210 943,00	0,00		x
80	171806 Supplier 68	206 669,56	59 515,50	x	
81	171908 Supplier 69	206 509,62	0,00		x
82	201387 Supplier 70	204 991,17	0,00		x
83	201148 Supplier 71	200 183,75	0,00		x
84	200371 Supplier 72	197 374,81	49 520,21		x
85	201096 Supplier 73	194 883,81	0,00		x
87	171419 Supplier 74	186 376,87	0,00		x
88	171832 Supplier 75	175 565,00	2 740,00		x
90	201424 Supplier 76	169 996,00	0,00		x
91	200773 Supplier 77	168 063,28	65 863,32		x
92	171448 Supplier 78	167 580,00	16 700,00	x	

Vendor - Top 10 List Period: 01.01.17..31.08.17

Sperre Industri

94 95 97 98 99 100 101 101 102 103	170133 Supplier 79 170609 Supplier 80 200859 Supplier 81 171882 Supplier 82 200874 Supplier 83 170705 Supplier 84 170308 Supplier 85 171826 Supplier 86 200872 Supplier 87	82 323 330,90 164 065,00 158 035,21 156 880,81 156 121,37 150 334,24 149 393,75 147 903,20 145 989,00	0,00 0,00 64 213,17 3 486,95 0,00 0,00 -12 875,00	x	x x x x
95 96 97 98 99 100 101 102	170609 Supplier 80 200859 Supplier 81 171882 Supplier 82 200874 Supplier 83 170705 Supplier 84 170308 Supplier 85 171826 Supplier 86	158 035,21 156 880,81 156 121,37 150 334,24 149 393,75 147 903,20	0,00 64 213,17 3 486,95 0,00 0,00	x	x x x
96 97 98 99 100 101 102	200859 Supplier 81 171882 Supplier 82 200874 Supplier 83 170705 Supplier 84 170308 Supplier 85 171826 Supplier 85	156 880,81 156 121,37 150 334,24 149 393,75 147 903,20	64 213,17 3 486,95 0,00 0,00	x	x x
97 98 99 100 101 102	171882 Supplier 82 200874 Supplier 83 170705 Supplier 84 170308 Supplier 85 171826 Supplier 85	156 121,37 150 334,24 149 393,75 147 903,20	3 486,95 0,00 0,00		x
98 99 100 101 102	200874 Supplier 83 170705 Supplier 84 170308 Supplier 85 171826 Supplier 86	150 334,24 149 393,75 147 903,20	0,00		
99 100 101 102	170705 Supplier 84 170308 Supplier 85 171826 Supplier 86	149 393,75 147 903,20	0,00		
100 101 102	170308 Supplier 85 171826 Supplier 86	147 903,20			x
101 102	171826 Supplier 86		-12 875 00		x
102		145 989 00	-12 01 0,00	x	
	200672 Supplier 87	140 000,00	20 996,25		х
103		134 137,50	0,00		x
	172003 Supplier 88	132 680,23	0,00	x	
104	201105 Supplier 89	132 328,74	24 529,56		x
105	170729 Supplier 90	128 632,81	5 820,46		x
108	171301 Supplier 91	119 826,98	7 807,84	x	
109	172217 Supplier 92	119 291,03	0,00		x
110	201349 Supplier 93	115 523,25	15 991,50		x
111	171819 Supplier 94	114 845,88	0,00		x
112	171855 Supplier 95	112 737,68	43 660,00		x
113	171821 Supplier 96	110 090,50	26 625,00		x
114	171804 Supplier 97	108 414,52	22 663,56		x
116	171314 Supplier 98	107 508,58	5 024,72		x
118	170203 Supplier 99	104 475,00	-105 275,00	x	
119	171115 Supplier 100	100 258,00	0,00	x	
120	171209 Supplier 101	91 471,82	665,00		x
121	171946 Supplier 102	90 359,29	3 241,00		x
122	201044 Supplier 103	86 665,17	0,00		x
123	200953 Supplier 104	83 708,46	8 605,31	x	
124	200448 Supplier 105	80 800,00	52 031,25		x
125		80 000,00	0,00	x	
126	200063 Supplier 106	73 437.98			

Vendor - Top 10 List Period: 01.01.17..31.08.17

Sperre Industri

Rank according to F	Purchases (LCY)	Sum (80%)			
		82 323 330,90			
128	171902 Supplier 108	70 321,00	3 875,00	х	
129	201504 Supplier 109	70 227,27	-40 144,71		x
130	171140 Supplier 110	70 000,00	0,00		x
131	170105 Supplier 111	69 894,18	-16,10	х	
132	200850 Supplier 112	68 748,00	0,00		x
133	200117 Supplier 113	68 499,69	2 862,50		x
134	200678 Supplier 114	66 572,66	6 126,48		x
136	200682 Supplier 115	59 112,04	0,00	х	
137	171868 Supplier 116	57 236,07	19 797,50	х	
138	200666 Supplier 117	51 895,00	0,00	х	
139	200694 Supplier 118	51 880,00	0,00		x
140	200667 Supplier 119	50 346,05	3 845,00	х	
141	171847 Supplier 120	49 389,86	0,00		x
142	170314 Supplier 121	49 169,00	36 893,00		x
143	201468 Supplier 122	48 914,20	0,00		x
144	171636 Supplier 123	47 742,50	11 828,52	х	
145	200989 Supplier 124	46 897,16	0,00	х	
146	170320 Supplier 125	46 206,50	6 908,00	х	
147	171223 Supplier 126	44 435,73	0,00		x
149	171845 Supplier 127	37 813,15	0,00	х	
150	171501 Supplier 128	36 154,94	2 352,50		x
151	201223 Supplier 129	35 000,00	0,00	х	
152	200928 Supplier 130	34 070,41	0,00		x
153	172112 Supplier 131	34 036,00	8 231,00	х	
155	171739 Supplier 132	32 516,68	0,00	х	
156	200427 Supplier 133	32 508,72	2 645,52	x	
157	201398 Supplier 134	32 377,18	0,00	х	
158	201219 Supplier 135	32 092,75	19 676,00	х	
159	200914 Supplier 136	31 545,00	0,00		x

Vendor - Top 10 List Period: 01.01.17..31.08.17

Period: 01.01.17..31.08.1 Sperre Industri

Rank according	to Purchases (LCY)	Sum (80%)			
404	174004 0	82 323 330,90	0.00		
161	171231 Supplier 137	30 122,30	0,00		x
162	201359 Supplier 138	29 615,34	4 373,50	x	
163	171102 Supplier 139	27 246,49	679,70		x
164	200809 Supplier 140	26 430,39	0,00		x
165	200255 Supplier 141	26 154,50	0,00		x
166	170501 Supplier 142	25 947,05	250,59		x
167	200826 Supplier 143	24 491,40	0,00		x
168	171335 Supplier 144	24 164,60	0,00	х	
170	200039 Supplier 145	23 332,00	0,00		x
171	200705 Supplier 146	23 087,92	0,00		x
173	200354 Supplier 147	22 600,00	0,00		
174	200044 Supplier 148	22 549,50	4 856,25	х	
175	170413 Supplier 149	22 402,80	0,00		x
176	170110 Supplier 150	20 749,17	0,00	х	
177	201050 Supplier 151	20 523,09	2 872,50		х
178	200535 Supplier 152	20 081,00	3 085,00	х	
180	171707 Supplier 153	18 595,54	18 444,40	х	
181	200936 Supplier 154	18 086,00	0,00	х	
182	171626 Supplier 155	17 642,25	0,00	х	
183	171727 Supplier 156	17 240,75	0,00	x	
184	170806 Supplier 157	16 787,26	4 350,00	x	
185	201126 Supplier 158	16 768,45	0,00	х	
186	171725 Supplier 159	16 257,32	1 531,00		x
187	200812 Supplier 160	15 682,87	6 196,50		x
188	200183 Supplier 161	15 650,37	0,00	x	
189	171731 Supplier 162	13 900,00	0,00	x	
190	201431 Supplier 163	13 696,40	0,00		x
191	201511 Supplier 164	13 584,48	0,00	x	
192	171456 Supplier 165	13 500,00	0,00	x	

Vendor - Top 10 List Period: 01.01.17..31.08.17 Sperre Industri

Rank according to Purchases (LCY)

nk according	to Purchases (LCY)	Sum (80%)				
		82 323 330,90				
193	200152 Supplier 166	13 408,00	0,00		х	
194	200216 Supplier 167	13 215,25	3 406,25	x		
195	170113 Supplier 168	12 981,50	0,00	x		
196	170145 Supplier 169	12 684,87	0,00	x		
197	171305 Supplier 170	12 579,00	0,00		x	
199	200128 Supplier 171	12 395,25	0,00		x	
200	171803 Supplier 172	11 859,46	0,00		x	
	Total	96 507 912,69	15 776 827,54			
	Total Purchases	105 307 444,14	20 837 478,83			
	% of Total Purchases	92 %	76 %			

Appendix 3 – Purchasing approaches in each quadrant of purchasing analysis. Adopted from O'Brien (2015) p. 217

Portfolio quadrant	Low strength of position within market	Good strength of position within market	Very high strength of position within market
Leverage	 Exploit where possible Do your best to use what power you have Shop around for the best deal Where possible build relationship with supplier to get best discounts 	Exploit Target pricing Short-term commitment Spot buying E-auctions Use competition to the Hard negotiations Maintain 'generic' (da Maximize profits Retain full flexibility (Arm's-length supplier relation and even slightly aggressive b	full y one) specification and ability to switch easily) onship managed by tough
Strategic	 Balance Built best relationship possible Work to keep supplier focused on your account Sell your potential as a good and long-term client Pursue the supplier for early access to innovation Work to build and maintain the best relationship possible, don't allow the supplier to overlook you 	Balance • Develop and nurture relationship • Focus on joint cost reduction, perhaps even open book costing • Jointly agreed continuous improving programs • Pursue innovation • Share risk and opportunities Collaborative supplier relationship focused BUT maintaining degree of 'arms length' and ability to switch away (move to Leverage) if necessary	Balance • Balance use of competitive strength against developing a relationship according to need • Manage relationship • Agree continuous improvement programs with supplier incentivization • Possibly use open book costing • Pursue innovation Managed 'prime supplier' relationship BUT maintaining degree of 'arms length' and ability to switch away (move to Leverage) if necessary
Critical	 Diversify Seek alternative or ways to mo Secure maximum value until al Manage risk and supply exposise contingencies Increase attractiveness to supplie Keep close to supplier and anticategory Careful and diplomatic Supplier Rel on maintaining and growing overall 	Iternatives becomes available ure carefully, consider lier, perhaps through bundling cipate their plans for this ation Management focused	Balance or Diversify If necessary seek alternative ways to move out of Critical OR work to balance and maintain position and manage risk Manage supplier closely to ensure power advantage can be maintained, of not diversify or develop attractiveness

Acquisition	Exploit where possible	Exploit
	 Do your best to effect best prices and terms, consider standardization of products and consolidation of suppliers Simplify ordering and payment process, automate 	 Simplify ordering and payment process, automate where possible Use competition, standardization of products and consolidation of suppliers to effect best price and terms Maximize intervention of purchasing resources
	where possible	Basic supplier relationship, possibly managed by a junior buyer
	Basic supplier relationship	