

The impact of collaboration with a purchasing organisation and its affiliated organisations on purchasing performance

AN EMPIRICAL CASE STUDY BASED ON AN INSTALLATION COMPANY IN THE NETHERLANDS

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Summary

A purchasing organisation seems to be a cost-effective and well-organised link to the supply chain of an organisation. However, what is so interesting, unique and attractive about a purchasing organisation that makes organisations keen to collaborate with them? Also, why do larger organisations tend to leave purchasing organisations and start leveraging the benefit of purchasing themselves? In this study, the relationship between affiliated organisations, supplying organisations and purchasing organisations has been investigated. More specifically, to what extent should organisations collaborate with purchasing organisations and affiliated organisations. This study indicates that purchasing organisations bundle purchasing volumes of affiliated organisations to demand cost-saving advantages from supplying organisations. For this reason, organisations can get a hold of good market-based primary and secondary conditions, which organisations would not manage to get based on their purchasing volume alone, according to literature. Interestingly, however, this research indicates that organisations with large purchasing volumes can achieve better conditions from supplying organisations if they purchase independently, which contradicts volume bundling literature. In almost all cases, organisations within a purchasing organisation can purchase for the same conditions from supplying organisations. Providing the same conditions for affiliated organisations means that supplying organisations have to 'deal' with smaller organisations with small, infrequent, inefficient and sometimes few annual purchases resulting in many processes and operational costs for supplying organisations regarding, e.g. logistics, administration & sales. In short, organisations with large purchasing volumes are likely to place larger orders, resulting in less overhead costs for supplying organisations and thus eventually lead to better conditions. Besides, larger organisations feel unsatisfied with the allocation of cost savings advantages and undermine purchasing organisations to achieve better conditions. So, why do not all organisations with large purchasing volumes leave their purchasing organisation? Because purchasing organisations add value to their organisations and not only in terms of cost-saving advantages but also in other ways. For instance, purchasing organisations can support organisations with purchasing processes regarding legal and contractual terms, innovations, information sharing, economies of scale, et cetera. Organisations that lack overall (purchasing) efficiency are not expected to leave a purchasing organisation since they do not efficiently master previously mentioned concepts. Concluding, organisations start to reconsider affiliating or even leave a purchasing organisation if the disadvantages start to outweigh the advantages in terms of their interpretation of the concept of 'added value'.

The focal organisation 'Organisation S' is currently undergoing a lot of process innovation and standardisation. Currently, their internal purchasing efficiency is lacking because of being understaffed in terms of FTEs. According to 'Organisation S', the purchasing processes of 'Organisation S' will start to centralise in the near future. Creating purchasing synergy among the different locations of 'Organisation S' is vital for a centralised purchasing department. Optimising the internal purchasing efficiency and hierarchy is essential before ending the affiliation with their purchasing organisation. Becoming independent allows for many opportunities regarding strategic relationships, effectively purchasing based on the organisation's operational needs and cost savings by, e.g. location-wide managing tactical levers. However, do not underestimate the process of creating proper legal and contractual terms and the absence of making a fist regarding dysfunctional supplying organisations. According to organisations that left a purchasing organisation, bear in mind that ending the affiliation with a purchasing organisation and starting a centralised purchasing department brings risk and will not be beneficial in the first few years. Hereafter, efficient and effective purchasing becomes standard and allows an organisation to grow even further.

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1 Introduction

1.1 General information on ‘Organisation S’ (shortened from original)

‘Organisation S’ was founded in yyyy by XXXXXX as an installation company. ‘Organisation S’ mostly worked on electrical and water installations. In the following years, ‘Organisation S’ expanded its activities to gas installations. Over the years, more and more companies were taken over, and Organisation S’ staff grew exponentially. Nowadays, ‘Organisation S’ is a dynamic and stable SME with over XX FTEs and multiple locations (‘Organisation S’, 2021).

1.2 Research background and situation at ‘Organisation S’

In its existence, ‘Organisation S’ has taken over several installation companies and started new locations to keep up with the exponential growth of the construction industry. However, the locations taken over were not changed to the same corporate strategies, culture and workflows as other pre-existing ‘Organisation S’ locations. Existing corporate knowledge of ‘Organisation S’ was incorporated in the newly started locations. Over the years, all locations became more extensive and started to differ due to the different corporate styles.

Additionally, ‘Organisation S’ has three different divisions; residential-, non-residential- and retail buildings. Although ‘Organisation S’ is a large organisation with more than XX locations, ‘Organisation S’ does not have a centralised purchasing department. Purchasing and procurement are often made on a decentralised basis by anyone authorised to do so in the ERP-system 4PS. More precisely, approximately XX employees are authorised to purchase. On the other hand, ‘Organisation S’ employs a central purchaser who is responsible for, among other things, preferred supplier lists, framework contracts, local purchases and local warehousing. Besides the central purchaser, ‘Organisation S’ is affiliated with a purchasing organisation named ‘PO A’. ‘PO A’ is a purchasing organisation for installation organisations in The Netherlands and represents XX affiliated organisations (‘PO A’, 2021). The purchasing organisation (= ‘PO A’) combines the total spend of affiliated organisations to compete for, e.g. better prices and quality collectively. For this reason, ‘Organisation S’ can leverage the benefit of purchasing via the purchasing organisation toward non-critical and leverage purchases. In addition, it is not the case that procurement cost-saving advantages are lost in this way of decentralised purchasing.

However, it is stated that ‘Organisation S’ has the most purchasing spend among the affiliated organisations. The turnover of ‘Organisation S’ in yyyy was approximately XX million (€), and XX million (€) was spent on purchasing and procurement. XX million (€) of this XX

million (€) was used to outsource external resources. The turnover of ‘PO A’ in yyyy was approximately XX million (€), meaning that ‘Organisation S’ represents more than XX per cent of their turnover.

Based on the previously mentioned arguments, it can be concluded that ‘Organisation S’ is ‘one of the bigger fish’ within the purchasing organisation. Accordingly, this raises the question of whether a purchasing organisation is still beneficial for an organisation with this amount of turnover. Simultaneously, the question is raised whether affiliated organisations within a purchasing organisation should have the same purchasing spend.

To conclude, these arguments support the essence of investigating Organisation S’ relationship with a purchasing organisation and thus the importance of this study.

1.3 Aim of this research and business problem translated into research questions.

The aim is to use literature and theories to determine whether a purchasing organisation is beneficial for larger organisations like ‘Organisation S’. This study investigates why an organisation should collaborate with a purchasing organisation and to what extent an organisation should collaborate with a purchasing organisation to increase purchasing performance. The emphasis on purchasing performance is on; the total costs ownership, quality improvement, purchasing and procurement cost-saving advantages and supplier relationships.

This research is an empirical case study based on an installation company in The Netherlands and focuses on the relationship with the purchasing organisation. More specifically, the focus is on the impact of collaborating with a purchasing organisation for an organisation with a large volume of purchasing spend. Therefore, the following research question has to be answered;

“To what extent should SMEs (and in particular the focal firm: ‘Organisation S’) collaborate with purchasing organisations and affiliated organisations or deploy other purchasing alternatives to increase purchasing performance?”

The following sub-questions were formulated to help answer the research question;

- 1 How is the purchasing spend of ‘Organisation S’ distributed among suppliers and ‘PO A’?
- 2 What are the drivers and barriers for SMEs to affiliate with a purchasing organisation? And in the case of ‘Organisation S’ regarding its purchasing organisation?

- 3 At which point should the individual SME (and in particular ‘Organisation S’) reconsider the affiliation with a purchasing organisation?
- 4 What are purchasing alternatives, other than a purchasing organisation, that effectively increase purchasing performance?

1.4 Theoretical relevance and contribution of this research

The theoretical relevance of this research is to provide more information and knowledge regarding the field of investigating relationships with purchasing organisations. Therefore, this research is based on existing literature in purchasing and supply and data gathered from an installation company based in The Netherlands. There is currently a gap in the existing literature on the relationship between purchasing organisations and proportionally large affiliated organisations. Therefore, this research aims to extend knowledge and information about relationships with purchasing organisations and proportionally large affiliated organisations and narrow the gap in the existing literature. Additionally, this research contributes to an increase in the efficiency and effectiveness of Organisation S’ purchasing spend.

1.5 Preview

To achieve the aims of this research, this paper consists of the following parts. Chapter 1 introduces the reader to the research background and research questions. After that, Chapter 2 states all literature regarding the research. Chapter 3 explains how research was conducted and based on which methodological approaches. In Chapter 4, the results of this research are presented to the reader. Furthermore, Chapter 5 elaborates on the discussion and coherences between the literature in Chapter 2 and the results in Chapter 4. Chapter 6 concludes this research by answering all research questions. Lastly, Chapter 7 discusses the current limitations of this research and possible future research.

2 Theory

Chapter 2 reviews the literature on the importance of strategic purchasing and collaboration with purchasing organisations. First, the purpose of the literature in this study will be discussed. Second, important definitions used in this research will be defined. The third and final section will discuss and review the literature on the role of purchasing, collaboration and affiliation with a purchasing organisation.

2.1 Purpose of literature in this study

Literature is needed to understand where the business problem of ‘Organisation S’ might come from. In addition, knowing whether to collaborate and affiliate with a purchasing organisation requires extensive theoretical research, which can be done via a literature review. To better understand the literature review section, an overview of the essential definitions, concepts and terms, related to strategic purchasing and purchasing organisations will be given. Additionally, literature is needed to answer the research questions, form the basis of this research, and justify the concluding advice based on substantiated arguments. To summarise, literature is an essential component of this research.

2.2 Definitions used in this study

An overview will be given of the several and most important definitions, terms and concepts used in this research. Therefore, the reader can better understand and put different theories into perspective.

Strategic purchasing

Strategic purchasing can be defined as “the process of planning, implementing, controlling and evaluating strategic and operating purchasing decisions for directing all activities of the purchasing function toward opportunities consistent with the firm’s capabilities to achieve its long-term goals” (Carr & Smeltzer, 1997, p. 201). In addition, Carr and Smeltzer (1999, p. 49) state that strategic purchasing requires purchasing strategies to align with the firm’s strategies. Therefore, in this research, strategic purchasing strategies are defined as strategies that align with the firm’s strategies so that all strategic purchasing decisions can be planned, implemented, controlled and evaluated to reach long-term goals.

Purchasing organisation

A purchasing organisation is defined as “an entity that utilises collective buying power to obtain significant discounts from suppliers, distributors and manufacturers” (Yang, Cheng, Ding, & Li, 2017, p. 1). This definition is used in this research; however, suppliers, distributors, and manufacturers are collectively called ‘suppliers’.

Decentralised purchasing departments

“Decentralised purchasing is the process of purchasing resources, goods and services without reference to the central purchasing department” (McCue & Pitzer, 2000b, p. 402). Thus, in this research, decentralised purchasing departments can be defined as the different purchasing entities that can make purchases without referencing the central purchasing department at ‘Organisation S’.

Purchasing performance

Purchasing performance is a broad concept and therefore has several definitions. A short interview was held to conceptualise what ‘purchasing performance’ means in this case study. In short, in this research, purchasing performance is defined as total costs of ownership, quality improvement, purchasing and procurement cost-saving advantages and supplier relationships.

2.3 Literature review

The literature needed to conduct this research and answer the research question and its sub-questions will be discussed in the following paragraphs.

2.3.1 The role and increasing importance of strategic purchasing

Over the decades, the role of purchasing has changed from a strategic perspective. The changing role of purchasing is related to management attitudes, the nature of markets, the nature of customers, business operations and society. On average, depending on the type of industry, purchasing costs are between 50 per cent and 80 per cent of the turnover of an organisation (Bals, Schulze, Kelly, & Stek, 2019, pp. 6-10). The added value of organisations is declining, and the latitude for improving organisations based upon production costs is limited. Therefore, the importance of strategic purchasing and thus the role of purchasing within an organisation is continuously increasing (Behzadifar, Martini, Behzadifar, Bakhtiari, & Bragazzi, 2020, p. 120; Nair, Jayaram, & Das, 2015, p. 9). However, the purchasing department in organisations is not

growing proportionally with the significance of purchasing, is not empowered and is not ready to take on this changing role. There are a few reasons why purchasing departments are lagging.

The first reason for purchasing departments lagging is that organisations unproductively fixate on cutting costs. In other words, organisations tend to focus on cost savings to increase profits. However, increasing profits comes from delivering organisational objectives as a team (Driedonks, Gevers, & van Weele, 2010, pp. 113-114; Eatough, 2014). Therefore, aligning purchasing synergy with corporate and business strategies should be one of the main tasks of the CPO. In addition, business managers only perceive purchasing strategies as helpful if the purchasing strategies help business managers to realise their objectives, meaning the purchasing strategies should be built upon the corporate and business strategies (Rozemeijer, Van Weele, & Weggeman, 2003, pp. 11-12).

The second reason for purchasing departments lagging is that purchasing departments tend to be too isolated from the organisation's markets and lack expertise and knowledge about those specific markets. Accordingly, other departments within the organisation do not want to cooperate with purchasing, and thus they tend to isolate purchasing (Eatough, 2014). Although integration of the purchasing function increases efficiency and firm performance, cross-functional integration is not encouraged by all departments within organisations (Foerstl, Hartmann, Wynstra, & Moser, 2013, p. 709). For example, business managers are profit- and loss responsible, meaning that they will be careful not to become dependent on the purchasing department. Therefore, the purchasing department should not exclusively focus on negotiating corporate contracts for common commodities and services (Rozemeijer et al., 2003, p. 12). Also, purchasing departments should focus on retraining and other educational activities to maximise market knowledge and communicative skills needed to align with other departments (Schulze, Bals, & Johnsen, 2019, pp. 19-20). Besides (re)training and other educational activities, the purchasing department should focus on harmonisation and standardisation whilst actively supporting and committing to the objectives of the business managers (Eatough, 2014; Rozemeijer et al., 2003, p. 12).

The third reason for purchasing departments lagging is that purchasing departments rely on basic purchasing processes that support the organisation's current and future needs. However, these processes are too slow in today's fast environment (Eatough, 2014; Safar, Sopko, Bednar, & Poklemba, 2018, pp. 626-627). Therefore, it is vital to have skilled and superior purchasing personnel who can consult more advanced purchasing processes and thus react quicker and better, e.g. market changes. Researchers have found that purchasing personnel need to acquire more competences needed to understand the current change in digitalisation

and atomisation (Bals et al., 2019, p. 10). These competencies rely on more advanced purchasing processes that support fast organisational processes.

The fourth and final reason for purchasing departments lagging behind is that purchasing departments act without inquiry. The purchasing department is not programmed, encouraged or incentivised to do much more than reviewing suppliers and negotiating terms (Eatough, 2014). In other words, purchasing departments are more interested in effectiveness rather than in efficiency (Fearne & Fowler, 2006, p. 286). Therefore, the purchasing department only uses face value costs rather than total costs and other product-related features. By involving business management and local purchasing management early in the centralised purchasing activities, the CPO can create a capable support base for new centralised purchasing activities and processes based on the synchronisation of corporate behaviour of the business managers and the purchasing departments (Eatough, 2014; Rozemeijer et al., 2003, p. 12). Moreover, purchasing in value-creating processes, e.g. product development processes or multidisciplinary innovation processes, enables purchasing to focus more on organisational efficiency (Nijssen, Biemans, & De Kort, 2002, p. 287).

To conclude, if purchasing departments can grow simultaneously with the importance of strategic purchasing, then the purchasing department is, based on previously mentioned arguments, able to leverage the benefit of strategic purchasing.

The benefit of leveraging strategic purchasing comes in many forms. From an internal organisational perspective, strategic purchasing is essential because it enables opportunities to contribute to the long-term profitability of the organisation (Carr & Pearson, 2002, p. 1050). According to the Resource-Based View, opportunities can create a competitive advantage with a firm's resources, e.g. assets, capabilities, organisational processes, firm attributes, information and knowledge (Barney, 1991, p. 101). The aforementioned firm's resources do not generate competitive advantage independently, but some of these resources can be strategically purchased to generate opportunities and outperform other firms (Barney, 2001, p. 649).

From an external organisational perspective, strategic purchasing has a profound impact on the supply chain performance and enables collaborative buyer-supplier relationships to originate. The key to succeeding in collaborative buyer-supplier relationships is communication and having mutual benefits among buyers and suppliers (Paulraj, Lado, & Chen, 2008, p. 59). For this reason, suppliers will also benefit from their relationship with the buyer and are more likely to invest in a relationship (Paulraj, Chen, & Flynn, 2006, p. 118). Collaborative buyer-supplier relationships that are strategically oriented lead to superior performance by generating

relational rents. More specifically, a relational rent is jointly generated competitive advantage in an exchange relationship by combining the buyer's and supplier's interfirm knowledge, idiosyncratic/relational assets and resources/capabilities (Dyer & Singh, 1998, pp. 675-676; Lindgreen, Révész, Glynn, & Sánchez-Rodríguez, 2009, p. 170).

Concluding, strategic purchasing is important from an internal and external organisational perspective. Purchasing competitive resources and having relational rents within buyer-supplier relationships enables an organisation to perform better, have higher quality, better cost management, and overall competitive advantage.

2.3.2 Experience curve theory, transaction cost economics theory and the extended resource-based view theory as motives for purchasing consortia

The essence of strategic purchasing has been discussed in the previous paragraph. However, not all organisations can enable strategic purchasing. Enabling strategic purchasing is especially difficult for smaller organisations and for organisations that have an underdeveloped purchasing department. On the other hand, these organisations tend to join purchasing organisations (Wicks & Hall, 2000, pp. 512-513). Purchasing organisations are independent organisations that purchase in extreme volumes by combining purchasing spend and demand of affiliated organisations. More specifically, purchasing organisations represent dozens of affiliated organisations, which usually operate in the same type of industry. Thus, purchasing organisations bundle volume and can negotiate, e.g. better prices and quality with suppliers in the same type of industry (Yang et al., 2017, p. 1). As mentioned earlier, the question is raised what motives organisations have to join a purchasing organisation.

There are several complementary theoretical motives why organisations join a purchasing organisation. One of these is the 'experience curve theory'. This theory describes how experiences increase effectiveness and efficiency toward strategic issues in production processes—for example, repeating a product life cycle analysis increases the effectiveness and efficiency of the analysis by better, e.g. forecast prices, analysing cost components, and making competitive cost comparisons (Day & Montgomery, 1983, pp. 56-57). According to researchers, the experience curve theory is also applicable in purchasing context, and it is stated that the experience curve theory explains the contribution of a purchasing organisation. More specifically, purchasing organisations have more experience in purchasing and are also more likely to gain new experiences (Arnold, 1996, p. 13). Thus, purchasing organisations increase their effectiveness and efficiency in purchasing processes based on the experience curve theory.

For this reason, organisations with hardly any experience regarding purchasing are more likely to join a purchasing organisation (Tella & Virolainen, 2005, pp. 163-164). To conclude, purchasing organisations tend to have more experience in purchasing processes. Therefore, the purchasing processes of purchasing organisations are optimised with a focus on effectiveness and efficiency based on their prior experiences. The larger the purchasing organisation, the larger the number of experiences and the larger the cost savings. Based on the experience curve theory, a motive for organisations to join a purchasing organisation is to use the purchasing organisation's effective and efficient purchasing processes.

The transaction cost economics theory is another theoretical motive why organisations join purchasing organisations. The fundamental basis of this theory describes that the 'reach' (= boundaries) of an organisation can be explained by transaction costs. Meaning, the organisational level of vertical integration can be explained by all costs associated with the operating of the organisation (Williamson, 1989, pp. 45, 60-61). Furthermore, vertical integration depends on the internal and external transaction costs (Burke, 1998, pp. 5-6). Internal transaction costs are costs associated with activities needed for operation within the organisation. On the other hand, external transaction costs are associated with outsourcing activities needed for the organisation's operation. If internal transaction costs are higher than external transaction costs, organisations should always outsource these activities. If the external transaction costs are higher than internal transaction costs, organisations should always integrate these activities into the organisation itself. Integrating activities within organisations allows for the opportunity to grow, whereas outsourcing requires downsizing of organisations (Yousuf, 2017, pp. 133-134). In other words, internal and external transaction costs explain the rationale for make or buy decisions. In the context of purchasing organisations, the transaction cost theory explains why organisations outsource purchasing activities and thus expand the level of vertical integration and join a purchasing organisation (McIvor, Humphreys, & McAleer, 1997, pp. 169-170). Moreover, when it comes to purchasing materials, purchasing organisations tend to have lower internal transaction costs than an organisation on its own. Even though organisations have to pay external transaction costs to be affiliated by a purchasing organisation, the internal transaction costs of the organisation on its own are still higher than paying for the internal and external transaction costs of a purchasing organisation. Therefore, organisations are more likely to outsource purchasing material to a purchasing organisation (Tella & Virolainen, 2005, pp. 162-163). To summarise, the transaction cost theory describes why organisations achieve effectiveness and efficiency by minimising transaction costs. For example, as mentioned earlier, organisations with underdeveloped purchasing departments

have low effectiveness and efficiency regarding purchasing processes. According to the transaction cost theory, these organisations have high internal transaction costs and are more likely to cooperate with other organisations. Overall, the transaction cost theory describes another motive for joining a purchasing organisation.

Strategic purchasing is essential, and since the added value is declining, organisations are looking for other options to generate more organisational performance. Joining a purchasing organisation is one option, but a purchasing organisation is not ‘part’ of the organisation itself. However, a motive of why organisations join purchasing organisations can be found in the theory of the extended resource-based view. This theory derives from the theory of the resource-based view of Barney, which has an internal focus. The extended resource-based view literally ‘extends’ the resource-based view (= ERBV) by adding an external aspect to the theory. Furthermore, the ERBV focuses on collaboration with other organisations to generate competitive advantage with external resources. To put it differently, the ERBV aims to generate competitive advantage from a market perspective instead of an organisational perspective, meaning with other organisations in a particular market (Mathews, 2003, pp. 116-117). Moreover, collaborating instead of competing with other organisations in the same market allows organisations to increase profit and growth than organisations that do not collaborate (Arya & Lin, 2007, p. 719). Additionally, collaborating with other organisations can be seen as an external resource, and therefore a purchasing group can be seen as an external resource. It is stated that a purchasing group, in the context of the ERBV, improves long-term performance for all affiliated organisations (Popli, Ladkani, & Gaur, 2017, p. 27). Concluding, another motive for organisations to join a purchasing organisation is the extended resource-based view. The added value of organisations is declining, and therefore organisations tend to seek competitive advantage from external resources rather than internal resources. For this reason, organisations are likely to join a purchasing group based on the prior mentioned theory.

Overall, the most common motives for organisations to join a purchasing organisation have been discussed in this paragraph. In short, the experience curve theory, the transaction cost economics theory, and the extended resource-based view theory all complement each other and show, theoretically, why organisations tend to collaborate with a purchasing organisation.

2.3.3 Bundling purchasing volumes and sharing knowledge, information and innovation as advantages of a purchasing organisation

In the previous paragraph, multiple theoretical motives why organisations join purchasing organisations have been discussed. However, in this paragraph, the advantages of a purchasing

organisation will be discussed. More precisely, what are the advantages of being affiliated with a purchasing organisation?

One of the most notorious advantages of a purchasing organisation is the possibility of bundling purchasing volumes. Purchasing volumes can be bundled in two different manners; bundling single items and mixed bundling. Bundling single items are bundling purchasing volume of one particular item, e.g. bundling electrical wires. Mixed bundling is the process of bundling purchasing volume of different items in one quotation (Thanassoulis, 2007, pp. 2-4). Both types of bundling purchasing volumes open up opportunities for lower purchasing prices or cost savings advantages. As a consequence, purchasing in larger volumes increases the amount of discount given by the supplier considerably, which eventually leads to a lower purchasing price for an organisation (Polychronakis & Syntetos, 2007, p. 439; Schütz, Kässer, Blome, & Foerstl, 2020, pp. 4-5). According to prior research, bundling purchasing volumes also increases negotiation power and allows for even more cost-saving advantages (Tella & Virolainen, 2005, p. 167). Besides cost savings advantages, an increase in negotiation power allows for more quality of purchased items. For this reason, negotiating for more quality is another advantage of a purchasing organisation (Nollet & Beaulieu, 2005, pp. 13-14; Schütz et al., 2020, p. 10).

Joining a purchasing organisation allows for affiliated organisations to share knowledge and information. However, sharing organisational and competitively sensitive knowledge and information does not sound appealing to most organisations. Consequently, when it comes to sharing strategic knowledge and information regarding suppliers and competitors, purchasing organisations should always integrate measures that limit the number of trust issues and thus increase confidentiality among affiliated organisations (Nollet & Beaulieu, 2003, p. 10). An advantage of sharing knowledge and information is that it increases the ability to generate relational rents, meaning an increase in the likelihood of working closely together (Dyer & Singh, 1998, pp. 675-676). Organisations affiliated with a purchasing organisation usually operate in the same type of industry. Therefore, these organisations are likely to purchase items used for the same applicability. However, the same applicability does not imply that these items are used in the same way. For this reason, organisations can mutually learn from each other by sharing knowledge and information (Schotanus, 2007, pp. 98-100). Benefits derived from mutually sharing knowledge and information within a purchasing organisation are an improved product design, being more responsive and efficient as an organisation, and opportunities for sharing risk agreements (Lawson, Cousins, Handfield, & Petersen, 2009, p. 22). For the reasons mentioned above, sharing knowledge and information is an advantage of collaborating with a

purchasing organisation and its affiliates. Although, it should be mentioned that these advantages only apply to organisations that are willing to expose their organisational knowledge and information.

Sharing knowledge and information is an advantage of collaborating with purchasing organisations and their affiliated organisations. Also, joined organisations can share processes. To be more precise, these organisations can share logistic and purchasing processes to increase internal efficiency and effectiveness (Schotanus, 2007, pp. 98-100). In addition, the amount of internal and external transactions reduces by combining logistic and purchasing processes among affiliated organisations. According to the transaction cost theory, this results in decreased transaction costs, which is beneficial for collaborating organisations (Tella & Virolainen, 2005, p. 167). Moreover, purchasing organisations employ high skilled purchasing personnel to comply with the needs of all affiliated organisations. This personnel can work efficiently in purchasing processes and have a deep understanding of various purchasing processes and techniques. For this reason, organisations with lagging purchasing departments can use purchasing organisations with high skilled purchasing personnel to their advantage (Nollet & Beaulieu, 2005, pp. 12-13). Overall, sharing processes with purchasing organisations leads to reducing costs and increasing quality by working more efficiently.

2.3.4 The disability to start strategic relations and the limited flexibility regarding strategic purchasing as disadvantages of a purchasing organisation

In the previous paragraph, multiple theoretical motives why organisations join purchasing organisations have been discussed. However, in this paragraph, the disadvantages of a purchasing organisation will be discussed. More precisely, what are the disadvantages of being affiliated with a purchasing organisation?

Despite collaborating with a purchasing organisation has its advantages. There are also disadvantages to being affiliated with a purchasing organisation. First and foremost are the costs involved in collaborating with a purchasing organisation. To be an affiliate of a purchasing organisation, organisations have to pay for a yearly 'subscription'. Although the costs related to this 'subscription' are recovered via the cost-saving advantages, a purchasing organisation has to offer (Tella & Virolainen, 2005, p. 164). However, there are more disadvantages of a purchasing organisation. For instance, when collaborating with a purchasing organisation, an organisation loses the ability to choose its suppliers. It implies that organisations stop

purchasing at their current suppliers and start purchasing at the suppliers affiliated with the purchasing organisation. Moreover, switching to predetermined suppliers also disables the possibility to choose which suppliers are preferred for organisations (Sieweke, Birkner, & Mohe, 2012, p. 133). Every organisation has unique products or services that require particular applicability of purchased items. Usually, these ‘special’ items, and other items, are purchased from preferred suppliers. In a purchasing organisation, an organisation has to purchase these ‘special’ items on its own and therefore loses the benefit of cost savings advantages, e.g. volume bundling (Walker, Schotanus, Bakker, & Harland, 2013, p. 9).

Additionally, to the prior mentioned disadvantage, purchasing organisation reduces the amount of flexibility regarding strategic purchasing. Strategic purchasing requires purchased items to align with the corporate and business goals (Rozemeijer et al., 2003, pp. 11-12). Therefore, if an organisation within the purchasing organisation wants to align strategic purchasing by purchasing items in line with their business strategies, the purchasing organisation affiliates also have to cooperate. For instance, organisation X suddenly wants to purchase sustainable and green items only because it aligns with their new organisational goals. Consequently, the purchasing organisations and their affiliates probably will not be in line with the organisational goals of organisation X. Therefore, organisation X is not able to meet their intended purchasing strategies by purchasing via purchasing organisations (Janda & Seshadri, 2001, pp. 303-304; Pan & Fong, 2010, p. 187). It can be concluded that organisations lose their flexibility concerning strategic purchasing when joining a purchasing organisation.

A downside to purchasing organisations is that it disables strategic relationships with suppliers. Purchasing organisations tend to show their purchasing power to suppliers by negotiating for as many cost savings advantages as possible (Lascelles & Dale, 1989, pp. 14-15). As mentioned in the advantages, this is for affiliated organisations beneficial in terms of costs. However, if suppliers feel being ‘forced’ or neglected, they will obstruct the relationship. Accordingly, organisations should work intensively with suppliers to create a competitive advantage, which is impossible in a purchasing organisation (Autry & Golicic, 2010, pp. 96-97). Competitive advantage can be created if organisations stimulate suppliers to improve their performance and capabilities towards that specific organisation (Krause, Handfield, & Tyler, 2007, p. 529). Concluding, a disadvantage of purchasing organisations is the disability to start strategic relationships and create competitive advantage with suppliers. Positive buyer-supplier relationships yield an increase in the supplier’s performance in terms of, e.g. costs, quality, manufacturability and the possibility of becoming a preferred customer. Indeed, this is essential because the suppliers’ input is the output of an organisation towards its customers.

2.3.5 Allocating cost-savings advantages in relation to the purchasing spend of an organisation

The motives that organisations have to join a purchasing organisation have been discussed. Also, the advantages and disadvantages of collaborating with a purchasing organisation have been investigated. In this paragraph, the focus is on the organisation's size compared to the size of the purchasing group and its affiliates.

Purchasing organisations bundle the purchasing spend of their affiliated organisations and use this volume to demand cost savings advantages from suppliers. However, some of the affiliated organisations have more purchasing spend than other affiliated organisations. Eighty-seven per cent of existing purchasing organisations do not allocate cost savings to individual organisations concerning their purchasing spend. Moreover, purchasing organisations use the equal price method for all joined organisations (Schotanus, Telgen, & de Boer, 2010, p. 58). The equal price method is a method in which affiliated organisations can purchase items for the same price as other organisations within the purchasing group, disregarding their added value to the purchasing organisation, e.g. their purchasing spend (Schotanus, 2005, p. 2). On the other hand, the same principle applies for allocating costs of the purchasing organisation; meaning costs are evenly divided among joined organisations (Schotanus, 2005, p. 2; Schotanus et al., 2010, p. 58). Because of this allocation method, organisations that have a significant share in purchasing organisations feel unsatisfied and have the feeling that smaller organisations profit more. Thus, larger organisations are more interested in allocating savings and costs based on a particular relation of their impact on the purchasing organisation (Nollet & Beaulieu, 2005, p. 14). Furthermore, the equal price and equal-cost method is a method that should be used when organisations have similar purchasing spend in the purchasing organisation (Nagarajan, Sosic, & Zhang, 2010, p. 11). Instead, purchasing organisations should take the impact of each and individual organisation into account. It would allow for fair distributed cost savings advantages and cost allocations. When distributing gains and costs to each organisation, smaller organisations will not profit as much from larger organisations as they used to. However, smaller organisations still save costs with this type of allocation method, and smaller organisations also have indirect advantages, e.g. the ability to learn from the more prominent organisations (Schotanus, 2007, pp. 199-200). In conclusion, purchasing organisations are less desirable for organisations with over a large share of the total purchasing organisation's volume (Schotanus, 2007, p. 158).

2.3.6 Multiple sourcing as opposed to single sourcing to mitigate supply risk

A purchasing organisation helps organisations effectively purchase all bulk items needed for their operational activities. However, is this purchasing via a 'single' source tactful or do multiple sources offer benefits over single sources. In this paragraph, the possible advantages of multiple sourcing toward bulk products will be discussed.

In terms of single-sourcing, there are two different main distinctions. The first distinction is that organisations have a supplying source for each resource, product and service. The second distinction is that organisations have one supplying source for all resources, products and services (Treleven & Bergman Schweikhart, 1988, pp. 95-96). Organisations are also likely to have multiple supplying sources for items, in other words, multiple sourcing. Multiple sourcing is what is called when organisations purchase the same item from multiple suppliers. Usually, these are bulk items (i.e. routine and leverage items) and thus substitutable from each other (Chiang & Benton, 1994, pp. 609-610).

Using a purchasing organisation is a form of single sourcing in which an organisation uses the purchasing organisation and affiliated suppliers as a supplying source for all bulk items. However, it could be sensible to use multiple sourcing instead of the prior mentioned single sourcing. One of the advantages that multiple sourcing offers is that it enables organisations to mitigate supply risk by enlarging their amount of supplying sources and thus increasing supply reliability (Wang, Gilland, & Tomlin, 2010, p. 29). For this reason, organisations always have a supplying source for particular items. However, multiple suppliers will cause a decrease in the ability to generate strategic partners. On the other hand, pooling with multiple suppliers will result in a price decrease, and thus organisations enjoy the best price scenario (Yu, Zeng, & Zhao, 2009, pp. 790-791). Furthermore, multiple sourcing is particularly interesting in environments with a low supply risk, meaning in environments in which items are not rare or hard to get. In most scenarios, items with low supply risk are non-critical and leverage items (= bulk items). Therefore, organisations with multiple supplying sources dominate suppliers regarding bulk items with low supply risk. In other words, if suppliers do not comply with the organisations' needs, organisations can 'simply' switch to a supplier that does comply with their current needs (Costantino & Pellegrino, 2010, pp. 35-36).

Besides price reductions, multiple sourcing allows an organisation to be flexible in responding to external threats. For instance, multiple sourcing allows an organisation to respond if one supplier fails to deliver an item or if an organisation needs to obey a new law or regulation regarding items. To protect the organisation's production, organisations can quickly place orders at another supplier to supply that item (Ghodsypour & O'brien, 2001, p. 17). Moreover,

this is especially important because supply chains are becoming more exposed to risk due to the tight interdependence among suppliers. Therefore, the flexibility organisations need regarding bulk items are growing as supply chains become tighter (Berger & Zeng, 2006, p. 259). To summarise, multiple sourcing effectively reduces supply risk and enhances the organisation's ability to adapt.

Furthermore, multiple sourcing allows for logistic and warehousing opportunities. For example, Just-in-time, also known as JIT, is a logistic opportunity for organisations that emphasise very precise and strict planning. In other words, JIT allows organisations to order and purchase items under the strict condition that these goods are delivered at a specific time or place (Bertelsen & Nielsen, 1997, p. 2). From an organisational perspective, JIT is advantageous because it reduces an organisation's distribution and warehousing capacity (Horta, Coelho, & Relvas, 2016, p. 1). Additionally, purchased items can be delivered to external locations, e.g. construction sites, according to specific planning. For this reason, cost savings and efficiency can be increased (Kim, Azari-N, Yi, & Bae, 2013, p. 654). However, a supplier becomes a necessary shackle in the organisation's supply chain in these scenarios, which is not desired. Therefore, if a supplier cannot deliver on that specific date and place, the organisation fails to produce. To counter this, organisations should have multiple supplying sources. Thus if one supplier cannot deliver 'just-in-time', an organisation can mitigate the risk of reduced production by contacting a supplier that can deliver 'just-in-time' (Hong & Hayya, 1992, p. 180). In short, multiple sourcing allows organisations to place orders and purchase items that can be delivered whenever the organisation needs those particular items delivered. Moreover, multiple sourcing opens up opportunities to schedule and plan more efficiently and thus helps saving costs.

Overall conclusion, having multiple supplying sources for bulks items can be favourable for some organisations. Organisations use multiple sourcing to mitigate supply risk and supply chain disruptions by having multiple reliable suppliers for bulk items. In addition, multiple sourcing permits organisations to be flexible in pooling with their suppliers, which results in the best price scenarios for organisations. Consequently, organisations dominate their suppliers and can change suppliers if suppliers are not willing to cooperate. However, it should be stated that this 'buying dominance' only applies to substitutable (bulk) items. Besides prior mentioned advantages, multiple sourcing also makes just-in-time deliveries possible. JIT enhances the organisation's ability to increase logistic efficiency and effectiveness.

2.3.7 Kraljic's purchasing categories

From an operational perspective, purchased goods and services are typically divided into commodities or categories. So purchasing departments can manage suppliers and strategies according to specific categories and commodities of goods and services, enhancing effectiveness and efficiency (Rendon, 2005, pp. 8-9). Commodities are resources, goods and services that are interchangeable and can be seen as the same, e.g. PVC tubes. In contrast, categories are different resources, goods and services but typically share a common attribute, e.g. electrical components.

From a strategic level of perspective, commodities and categories can be divided into strategic categories. In 1983, Peter Kraljic introduced a matrix to determine which supply strategy is needed to exploit purchasing power and reduce supply risks for certain procured and purchased goods and services (Kraljic, 1983, p. 110). However, exploiting purchasing power is more a trait of a strategic purchasing function than a trait of an operating purchasing function. Therefore, the purchasing function has to become strategic to employ strategic purchasing and supply strategies for particular goods and services (Kraljic, 1983, p. 117).

The Kraljic matrix describes a company's need for strategic purchasing and supply strategies toward goods and services based on two factors. The first factor is the importance of the purchased or procured goods and services, which can be explained by, e.g. value-added with a product line, the percentage of raw materials in total cost. In short, the first factor importance of purchasing is measured via the profit impact of that good and service. The second factor is the complexity of the supply market of a good and service, which can be explained by, e.g. supply scarcity, level of technology, material substitution, entry barriers and market conditions. In short, the second-factor complexity of the supply market is measured via the supply risk of that good and service (Kraljic, 1983, p. 110). As previously mentioned, the purchasing function must professionalise to assess the company's situation regarding the previously mentioned two factors. As a result, the purchasing function can determine the purchasing and supply strategy that a company needs to exploit purchasing power and reduce supply risks for certain procured and purchased goods and services.

The Kraljic matrix is based on two factors, which both have two values; low and high. Consequently, the matrix consists of four categories; 'Leverage items, strategic items, non-critical items and bottleneck items' (i.e. purchased resources, goods and services) (Kraljic, 1983, p. 111). The four categories are illustrated in an adapted and modified overview in figure 1.

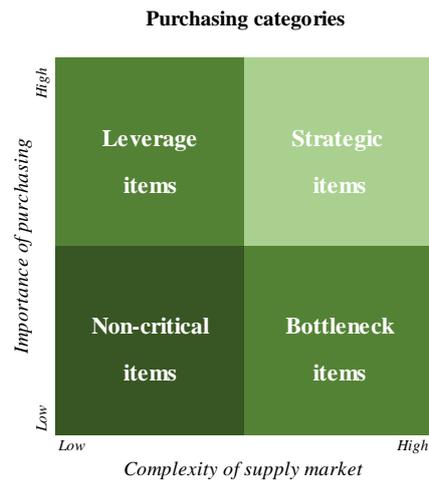


Figure 1. Overview of Kraljic's purchasing categories (adapted and modified from Kraljic, 1983, p. 111)

Leverage- and strategic items have a high level of significance of purchasing because they are relatively expensive compared to other purchased items. Consequently, leverage and strategic items tend to have a higher profit impact due to the previously mentioned larger margins. However, leverage items have a low supply risk in comparison with strategic items. Leverage items can be purchased from dozens of suppliers, and these items are abundant in supply. Both characteristics result in causing a low supply risk. On the other hand, strategic items can usually be purchased from very few suppliers, and these items have a natural scarcity in supply. Both characteristics result in causing a high supply risk (Caniels & Gelderman, 2005, pp. 144-146; Kraljic, 1983, p. 111).

Non-critical and bottleneck items have a low level of significance of purchasing because they tend to have a lower added value and profitability. However, non-critical items have a low supply risk in comparison with bottleneck items. Non-critical items are usually low-priced and can be purchased from many suppliers, resulting in an abundance of these items in the market, causing a low supply risk. In contrast, bottleneck items can usually be purchased from dominant suppliers, innovative suppliers or suppliers with new technology. For this reason, bottleneck items tend towards being a production-based scarcity item, hence have a high level of supply risk (Caniels & Gelderman, 2005, pp. 144-146; Kraljic, 1983, p. 111).

2.3.8 Strategies based on Kraljic's purchasing categories

Kraljic determined that purchased resources, goods and services (i.e. items) are divided into four categories. The items are distinguishable based on the importance of purchasing, measured via the profit impact of that particular item and based on the complexity of the supply market,

measured via the level of supply risk. More specifically, the level of supply risk is established by multiple factors among which; the scarcity, the pace and level of technology, possible material substitutions, market entry barriers, logistic costs, the complexity of logistics and market conditions of a particular item (Kraljic, 1983, p. 110). Additionally, Kraljic developed a helpful table to classify all purchased items into the theoretical categories, as shown in Appendix 2 (Kraljic, 1983, p. 112).

Each of the categories; leverage items, strategic items, non-critical items and bottleneck items have their own standardised, different and unique strategies to leverage and exploit the benefit of purchasing (Caniels & Gelderman, 2005, pp. 151-152; Gelderman & Van Weele, 2005, p. 25; Kraljic, 1983, p. 116; Monczka, Handfield, Giunipero, & Patterson, 2015, p. 212). Kraljic developed a purchasing portfolio matrix within the strategic item category. The purchasing portfolio matrix determines the type of strategy used within this specific item category based on the company and supplier strength, as shown in Figure 2. Appendix 3 shows the evaluation criteria, which are used to assess the company and supplier strength. After that, the purchasing matrix shows whether purchasing strategic items should employ strategies that exploit, balance or use diversity toward that particular strategic item. According to Kraljic, these purchasing strategies come with standardised strategic implications of several policy issues, as shown in Appendix 4 (Kraljic, 1983, pp. 112-115). For instance, if a company has a high company strength and the supply market a low supply market strength, the exploiting purchasing strategies can be deployed. Therefore, a company can spread its purchasing volume, reduce the price, and keep its inventory low based on a buyer dominance perspective. There is no need for contractual coverage, and the company can stay in touch with new suppliers and look out for substitution items. Concluding, the previously sketched situation is the ideal situation for a buying company to be in.

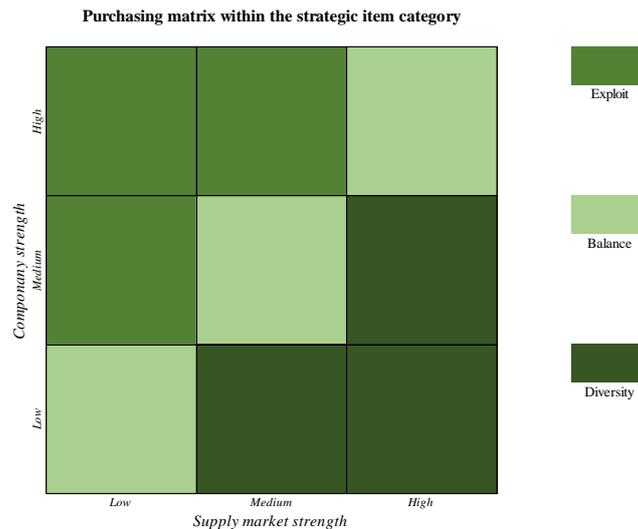


Figure 2. Kraljic's purchasing portfolio matrix within the categories (adapted and modified from Kraljic, 1983, p. 114)

At first, Kraljic and his successors stated that an approach in which purchasing power was exploited is needed for leverage items. Strategic items require an approach that forms a relationship with the supplier. Non-critical items require an efficient processes approach, and companies need to assure supply for bottleneck items (Gelderman & Van Weele, 2003, p. 208; 2005, p. 142; Kraljic, 1983, pp. 115-117). Although Kraljic's matrix shows the purchasing strategies that could be deployed toward strategic items based on a purchasing portfolio matrix, it is too limited (Gelderman & Van Weele, 2003, p. 208; Pagell, Wu, & Wasserman, 2010, pp. 57-58). Moreover, the Kraljic purchasing portfolio model, which Kraljic and many of his successors used, formulated only one strategic recommendation for each category (Gelderman & Van Weele, 2005, p. 142). Furthermore, this matrix helps purchasers develop appropriate strategies based on the classification of an item, but this does not necessarily imply only one strategic approach (Nellore & Söderquist, 2000, p. 263).

For these reasons, multiple researchers developed even more strategic approaches for each of the categories of Kraljic's matrix. Gelderman and Van Weele (2005) added nine strategies within the original Kraljic matrix. This research focuses on strategic purchasing strategies, and for this reason, only three out of the nine added strategies will be mentioned. First, maintain the strategic partnership, meaning that the buying company and the supplying company involve in an intensive relationship to improve a jointly generated profit or competitive advantage based on equality (Caniels & Gelderman, 2005, p. 144; Dyer & Singh, 1998, p. 662; Gelderman & Van Weele, 2005, p. 22). Also, items that currently reside in the leverage category can move to the strategic category under the condition that the supplier is

willing to create a competitive advantage and thus a strategic partnership (Gelderman & Van Weele, 2003, p. 214). Second, accept a locked-in partnership, meaning the supplying company has a dominant power position toward the buying company. Thus, the buying company just must accept this unfavourable position. For this reason, the buying company should use a carefully managed strategy that keeps a low profile, accept the terms of the supplier and focus on development with the supplier (Caniels & Gelderman, 2005, p. 144; Cousins, Lamming, & Squire, 2008, p. 52). And third, terminate a partnership; this is a 'last-resort' strategy that can be used when a supplier's performance or acting has become unacceptable. In this scenario, a buying company should always try to decrease its dependency and loosen the supplier (Caniels & Gelderman, 2005, pp. 144-145; Monczka et al., 2015, p. 221). However, buying firms that employ the previous mentioned last-resort strategy should always try to find a new supplier with less supply risk. Therefore, items previously classified as strategic should now be considered leverage items (Gelderman & Van Weele, 2003, p. 214).

In addition to the strategies, objectives can also be measured using the Kraljic matrix based on three levels; the item, category and matrix level. The item level can be used to measure objectives based on a specific item or item commodity. The category level can be used to measure objectives based on the categories. For instance, increase the number of items in the leverage category by five per cent. The matrix level can be used to measure the whole matrix's objectives, for instance, maximise the number of items within the leverage item category via standardisation (Gelderman & Van Weele, 2003, p. 212).

2.3.9 Tactical sourcing levers for improving organisational performance

Tactical sourcing levers (i.e. tactical levers) are used to achieve strategic goals and can be defined as a set of approaches to improve organisational performance within a particular commodity group (Schiele, 2007, p. 279). Additionally, in later research, it is defined that increasing organisational performance with tactical levers requires a specific combination of tactical levers. In other words, using a 'wrong' combination of tactical levers results in negative organisational performance (Hespig & Schiele, 2015, pp. 147-148). For this reason, the lever analysis aims to avoid the risk of using an inappropriate combination of levers and systematically checks for potential cost savings with or from suppliers. The following three steps have to be followed to conduct a lever analysis; Data analysis, cross-functional lever selection and realising cost-saving activities. The first step concerns data analysis. In this step, resources, goods, and services will be classified as commodities in consultation with the purchasing department. After this initial classification, a cross-functional lever selection will

be initiated. For each commodity, potential chances and risks of actions per lever are mapped by a cross-functional team. Also, the possible actions are prioritised, and potential savings are estimated. In the final and last step, realising cost-saving activities, the previously prioritised actions are prepared for implementation (Schiele, 2007, p. 279; Schiele, Horn, & Vos, 2011, pp. 325-327).

There are seven tactical levers in total and two distinct categories of levers; commercial levers and cross-functional levers. Commercial levers are the first three levers (i.e. 1, 2 & 3) that the purchasing department can use without information from other departments. More specifically, commercial levers try to exploit existing benefits and profits. Cross-functional levers are the last four levers (i.e. 4, 5, 6, & 7) that need to be discussed with other departments because the levers also interfere with other departments' processes, for instance, product optimisation. Commercial levers are meant for exploring new benefits and profits (Schiele, 2019, p. 67; Schiele et al., 2011, pp. 322-323).

Lever 1, volume bundling; In general, volume bundling combines two or more items into one single request for quotation (i.e. RfQ). A supplier will competitively quote upon this RfQ and therefore increase the buying organisation's purchasing performance, which leads to an increase in organisational performance (Schoenherr & Mabert, 2008, p. 81). For example, strategic activities that could be deployed by pulling the previously mentioned lever are; supplier reduction, bundling in brands and regions, optimisation of ongoing series, packaging, purchasing integrated spare parts and bundling with competitors.

Lever 2, price evaluation; price evaluation is the process of checking whether purchased items are 'worth' the price paid. Price analysis helps a buying organisation estimate whether the buying organisation pays a fair price compared to the market and other buying organisations (Simons & Coate, 2010, p. 378). In other words, price analysis uses specific techniques to determine competitive prices and analyses suppliers' bids and cost structures. For example, strategic activities that could be deployed by pulling the previously mentioned lever are requesting technical alternatives, investing in cost valuation, determining target prices, direct buy, cherry-picking by buyers, calculating total costs ownership, and life cycle analysis.

Lever 3, expanding the supplier base; in most cases, expanding the supplier base will benefit the buying organisation in several ways. By having more extensive supplier availability, buying organisations can leverage the benefit of inter-rivalry among suppliers. Meaning, buying organisations can demand price reductions and better quality (Kekre, Murthi, & Srinivasan, 1995, pp. 387-388). Furthermore, increasing the number of suppliers will reduce the supply chain risk and supply uncertainties and thus increase the reliability and availability of items

(Song, Dong, & Xu, 2014, p. 522). For example, strategic activities that could be deployed by pulling the previously mentioned lever are; global sourcing, localisation, building up suppliers and having parallel suppliers.

Lever 4, product optimisation; optimising items with other departments than the purchasing department reduces cost price and increases efficiency by improving items' applicability. Improving the applicability of items can be done by eliminating or substituting unnecessary and unwanted components in particular items (Haug, Hvam, & Mortensen, 2012, p. 474). Moreover, optimising items with other departments and strategic suppliers' inclusion allows a buying organisation for a more competitive advantage by jointly limiting an item's complexity and reducing its over-engineering. It allows for higher quality and an improved design, which is perfectly suitable for a buying organisation (Schiele, 2010, p. 139). For example, strategic activities that could be deployed by pulling the previously mentioned lever are; early involvement in development teams, product and material standardisation, innovations and concept competitions, technical simplification and material substitution, modularising, demand-side management, and investing alternative production methods.

Lever 5, process optimisation; jointly optimising the processes of interaction between a buying- and a supplying organisation reduces the process variance in the supply chain. Invested time, spent money, quality and technology involved can be reduced by minimising the process variance (Nabhani, Uhl, Kauf, & Shokri, 2018, p. 1). Also, by including suppliers early in the optimisation process, processes can be uniformised and better coordinated, resulting in more flexibility. More specifically, jointly streamlined processes allow a buying organisation to respond quicker upon market changes (Schiele, 2010, p. 139). For these reasons, a buying organisation can be more efficient and one step ahead of the competition, which improves organisational performance. For example, strategic activities that could be deployed by pulling the previously mentioned lever are; capacity management, having quality conversations, optimising logistics, process standardisation, streamline ordering- and storage policies and analysing the value stream.

Lever 6, optimisation of the supplier relationship; the process of establishing a strategic relationship with preferred suppliers to enhance mutual organisational performance (Gadde & Snehota, 2000, p. 304; Hald & Ellegaard, 2011, pp. 905-906). As mentioned in Levers 4 & 5, having strategic relationships with suppliers allows for uniformising products and processes with preferred suppliers increases the organisation's ability to respond quickly to market changes, be more innovative, reduce costs and increase quality (Schiele, 2010, p. 139). For example, strategic activities that could be deployed by pulling the previously mentioned lever

are; supplier development, preferred customer status, drafting contracts, participating in development investments, transfer of authority in quality management, strategic alliances and joint ventures.

Lever 7, cross-commodity optimisation; the process of strategically optimising and balancing interrelated commodities by applying the same tactical levers. Applying the same levers allows for interrelated categories, like PVC tubes and electrical wires, to be simultaneously optimised (Hesping & Schiele, 2016, p. 381; Schiele et al., 2011, p. 323). For example, strategic activities that could be deployed by pulling the previously mentioned lever are; coordination of purchasing levers, optimisation interfaces, volume bundling with other product groups, optimise accord logistics, coordination of supplier strategies, partnerships between suppliers.

2.3.10 Creating purchasing synergy to optimise purchasing performance

Purchasing is a strategic function that has the most potential impact on a firm's long-term profitability. Besides, purchasing should be organised so that purchasing strategies support the overall organisational strategy, which leads to an increase in the level of organisational performance (Carr & Smeltzer, 1999, p. 49; Rodríguez-Escobar & González-Benito, 2017, p. 1196). However, it is harder to organise and align purchasing strategies for organisations with decentralised purchasing departments than organisations with a centralised purchasing department; although this is more complicated, it is not impossible. Organisations with decentralised purchasing departments can concentrate on inter-organisational synergies. More specifically, organisations can concentrate on purchasing synergies. Purchasing synergy is defined as the added value if multiple decentralised purchasing departments jointly share items, information and knowledge (Rozemeijer, 2000, p. 7). However, acquiring purchasing synergy requires an organisation to centralise its purchasing departments without compromising the effectiveness and efficiency of decentralised purchasing (Rozemeijer, 2000, pp. 7-8). For this reason, organisations tend to centralise or fully decentralise. On the other hand, organisations can also benefit from centralising and decentralising certain items or item groups (i.e. categories or commodities) (Gelderman & Semeijn, 2006, p. 210). In particular, decentralisation is preferred and needed due to different individual customer preferences. Moreover, some items can be better decentralised due to their characteristics, such as volume, logistics, and profit margins (Quintens, Pauwels, & Matthyssens, 2006, p. 882). Concluding, optimising purchasing synergy requires organisations to balance between centralisation and decentralisation toward certain purchased items.

2.3.11 The optimal balance between centralisation and decentralisation of purchasing departments

In this paragraph, drivers for centralisation and decentralisation of the purchasing departments. Accordingly, organisations need to balance between centralisation and decentralisation toward certain purchased items. If organisations can establish an optimal balance, organisational performance will significantly increase.

As mentioned earlier, creating purchasing synergy allows an organisation to leverage the benefit of purchasing. Centralising purchasing opens up the opportunity to standardise and harmonise purchased items by limiting decentralised purchasing departments' power. For example, decentralising purchasing departments can only purchase items that the centralised purchasing department has approved. Additionally, it is stated that centralisation is a driver to assure professionalism toward suppliers and standardising purchased items is a driver to assure professionalism toward customers (Karjalainen, 2011, p. 96; McCue & Pitzer, 2000b, p. 401).

Also, centralisation allows decentralised purchasing departments to bundle their internal demands. Bundling internal demands allows an organisation to have more negotiation power over suppliers. For this reason, centralisation reduces costs by standardisation of purchased items and by centralisation, which enhances organisational performance (Karjalainen, 2011, pp. 94-95; Rozemeijer, 2000, pp. 6-7).

Another advantage of centralisation is the internal alignment of advanced purchasing strategies within decentralised purchasing departments. Therefore, decentralised purchasing departments are internally structured and coordinated in the same way. Employing standardisation of strategies, decentralised purchasing departments follow and apply standard strategies with optimal purchasing performance guidelines, significantly increasing organisational performance (Dameri, Benevolo, Rossignoli, Ricciardi, & De Marco, 2012, p. 465; Rodríguez-Escobar & González-Benito, 2017, p. 1196). Moreover, opportunities can be lost if decentralised purchasing departments do not cooperate and share knowledge (Dameri et al., 2012, p. 466).

On the other hand, leveraging the benefit of purchasing can also be done via decentralising certain purchased items. Decentralisation allows purchasing departments to make independent purchasing decisions. Therefore, decentralisation opens up possibilities for decentralised purchasing departments to experiment with purchased items and purchasing strategies. It is stated that having the opportunities to experiment and purchase independently increases the decentralised purchasing department's incentives. Thus, it can be concluded that this increases the decentralised purchasing departments' motivation to improve (Arnold, 1999,

p. 168; Tommasi & Weinschelbaum, 2007, p. 381). Additionally, decentralisation can stimulate internal competition between different decentralised purchasing departments, which leads to an increase in purchasing performance (Arnold, 1999, p. 168)

Another argument favouring decentralisation is that decentralised purchasing departments tend to have a faster process flow due to the flat organisational structure. For this reason, decentralised purchasing departments can quickly respond upon, e.g. supply problems and other suddenly emerging problems. Besides, decentralisation facilitates local suppliers' choice, enhancing a faster service with shorter delivery times (Arnold, 1999, p. 168; Knoppen & Sáenz, 2015, p. 127; Matthyssens & Faes, 1996, p. 3). Moreover, although centralisation offers the benefit of more purchasing power, decentralisation offers the benefit of adapting to local circumstances and local rules and regulations. However, the ability to comply with local rules and regulations is primarily beneficial in international organisations (Knoppen & Sáenz, 2015, pp. 128-129).

Concluding, purchasing decisions and strategies, determined by the centralised purchasing department, are communicated via top-down communication to the decentralised purchasing departments. It allows an organisation to create purchasing synergy, standardisation, power over suppliers, bundling demands, and strategically planning to purchase and align decentralised purchasing departments with strategic purchasing strategies. However, purchasing decisions and strategies can also be determined by decentralised purchasing departments. Decentralisation opens up the internal competition, dedication to experimenting, new knowledge, fast processes, and adaptability. More specifically, certain items have other characteristics and require another strategic approach than others. Therefore, an optimally hybrid structure of centralisation and decentralisation toward particular items or item groups is recommended (Dameri et al., 2012, p. 468; Karjalainen, 2011, p. 96; Mikalef, Pateli, Batenburg, & van de Wetering, 2015, p. 636). This conclusion is in line with the previously discussed literature. For example, the Kraljic matrix mentions that strategic items should be centralised, whereas non-critical items should be decentralised.

3 Methodology

In this chapter, the method of conducting qualitative research will be defined and discussed. At the same time, this chapter allows the reader to evaluate this research's validity and reliability. This research is an empirical case study based on an installation company in The Netherlands. It aims to develop theoretical advice, based on literature and theories, to determine whether a purchasing organisation is beneficial for larger organisations and to what extent an organisation should collaborate with a purchasing organisation to increase purchasing performance. When implemented into the organisation, this theoretical advice will increase purchasing performance by, e.g. reducing the total costs of ownership, improving quality, enhancing purchasing and procurement cost savings advantages, and improving supplier relationships of purchased resources, products, and services (i.e. items). Consequently, by leveraging the benefit of purchasing, the opportunity to generate competitive advantage arises from an internal- and external perspective.

3.1 The empirical research cycle

As mentioned earlier, this qualitative research focuses on theory, which means that the eventual advice is based on theory, primarily from academic literature. However, to systematically conduct research, the empirical research cycle of A.D. de Groot was used. According to de Groot (1961, p. 29), the empirical research cycle consists of five distinct phases, which can be repeated if necessary.

Phase 1: Observation

The first phase is the observation phase. In this phase, the business problem of 'Organisation S' is identified. Additionally, to conduct good research, the business problem has to be delineated. Therefore, this research's scale of scope must be identified precisely and formulated into a research question (de Groot, 1961, pp. 29-30). Chapter 1 of this research is used for phase 1.

Phase 2: Induction

The second phase is the induction phase. In this phase, the assumption is made that the research question is too broad to answer at once. Therefore, several sub-questions are formulated to answer the research question better. It is stated that these sub-questions must be formulated so that they are distinctive from each other and can be analysed differently. Furthermore, these

sub-questions must be formulated and analysed to be answered based on theory and gathered data. Moreover, the supposed theory needed to understand and answer the sub-questions must be discussed and reviewed (de Groot, 1961, p. 30). Paragraph 1.3 and Chapter 2 of this research is used for phase 2.

Phase 3: Deduction

The third phase is the deducting phase. In this phase, measuring and operationalising sub-questions and theories are defined to verify the research outcomes. Besides, this phase allows the researcher to be transparent with the applied research methodology, which improves reliability and validity (de Groot, 1961, p. 31). Chapter 3 of this research is used for phase 3.

Phase 4: Testing

The fourth phase is the testing phase. In this phase, the previously analysed theories are applied to gather data from the organisation and other parties. Therefore, employees of ‘Organisation S’, critical suppliers, ex-suppliers and other purchasing organisations will be interviewed. The gathered data will be analysed with the previously analysed and discussed theories. Furthermore, this phase results in a section in which conclusions are drawn upon the analysed data. Additionally, the research and its sub-questions are answered (de Groot, 1961, pp. 31-32). Chapter 4 of this research is used for phase 4.

Phase 5: Evaluation

The fifth phase is the evaluation phase. In this phase, the advice given to ‘Organisation S’ to determine to what extent they should collaborate and affiliate with the purchasing organisation is discussed. Also, the research and its limitations are discussed in this phase. On the other hand, this phase might conclude that more theory or more data is needed to provide a more substantiated answer to the research question. In that case, the cycle needs to be repeated (de Groot, 1961, pp. 33-34). Chapters 5 and 6 of this research are used for phase 5.

3.2 Data collection

The theoretical knowledge used in this research was collected via a literature review, which can be consulted in Chapter 2, ‘Theory’. Company data (i.e. internal data) is needed to analyse the problem of ‘Organisation S’ based on literature. Therefore, some of the data used in this research were collected via semi-structured interviews with employees of ‘Organisation S’. The other semi-structured interviews were held with critical suppliers of ‘Organisation S’, ex-

suppliers (= ex-partners of a PO), and other purchasing organisations (other than ‘PO A’) to ensure trustworthiness. By doing so, trustworthiness is guaranteed by combining the different perspectives concerning purchasing and purchasing organisations. Therefore, the eventual results will not be biased toward one or two particular perspectives. Additionally, these interviewed employees had different functions and had variety in their experience with purchasing. Other internal data needed for this research consists of pre-existing documents of ‘Organisation S’ and data that could be retrieved via the ERP system of ‘Organisation S’.

3.2.1 Sample

As previously mentioned, the internal data was collected via semi-structured interviews with Organisation S’ employees, critical suppliers, ex-suppliers, and other purchasing organisations (i.e. other than ‘PO A’). Twelve employees with different perspectives will be interviewed with a semi-structured interview in total. The participating participants were carefully selected in consultation with the Director Major Shareholder (i.e. DMS), Chief Operating Officer and professor consultant to ensure the effectiveness and useableness of these semi-structured interviews. The selected participants were asked via email whether they wanted to participate in this research. The selected participants can be found in Table 3.1: ‘Interview Participants’.

Table 3.1

Interview Participants

Participant Number	Participants’ function	Participants’ organisation	Years of experience	Interview date
Nr. 1	DMS	Internal organisation	yy	yyyy-mm-dd
Nr. 2	DMS	Internal organisation	yy	yyyy-mm-dd
Nr. 3	COO	Internal organisation	yy	yyyy-mm-dd
Nr. 4	CPO	Internal organisation	yy	yyyy-mm-dd
Nr. 5	RD*	Critical supplier	yy	yyyy-mm-dd
Nr. 6	KAM**	Critical supplier	yy	yyyy-mm-dd
Nr. 7	RD	Critical supplier	yy	yyyy-mm-dd
Nr. 8	CFO	Ex-supplier	yy	yyyy-mm-dd
Nr. 9	CPO	Ex-supplier	yy	yyyy-mm-dd
Nr. 10	CEO	Purchasing organisation	yy	yyyy-mm-dd
Nr. 11	CPO	Purchasing organisation	yy	yyyy-mm-dd
Nr. 12	CEO	Purchasing organisation	yy	yyyy-mm-dd

*Region director

**Key account manager

3.2.2 Information regarding the participating interviewees

As previously mentioned, the category ‘participants’ info’ contains all information regarding the participant. The category contains four unique codes describing and explaining some variables of the primary information source, namely the participants, used for this research. Twelve participants (n=12) contributed to this research. The youngest participant was 36 years old, and the oldest participant was 69 years old at the time of the interview. The age was normally distributed among the participants, with an average age of approximately 53 years and a median of approximately 54 years. Regarding participant’s work experience, the least amount of work experience was 10 years, and the highest amount of work experience was 40 years. Again, the average work experience was approximately 29 years and a median of approximately 31 years. All participants have at least been involved with some sort of purchasing (or sales) activities during their entire professional career. In other words, on average, participants have had 29 years of experience in purchasing (or sales) related processes. Additionally, all participants had a function related to purchasing (or sales) and had direct and or leading functions. Interestingly, none of the participants completed a study in purchasing management. Most participants have rolled into purchasing or a function responsible for the internal purchasing and sales department. Concerning the level of education, participants graduated at secondary vocational education (n=4), higher professional education (n=7) and university education (n=1).

3.2.3 The interview

During the COVID circumstances, it is not uncommon to work from home, and thus the possibility was given to have the interviews online. Therefore, the participating employees were asked via email whether they wanted the interview to be held online via a Teams meeting or offline in their organisation. Depending on their preference, the interviews were either recorded in Teams or manually recorded. Additionally, the email sent contained standard information about the research, e.g. the interview duration and interview protocol. Furthermore, the participants were asked in the email if they had time available between 17 May 2021 and 4 June 2021. After that, the invitation for the interview was sent to all selected participants.

3.2.4 Semi-structured interviews to assure in-depth knowledge and discussions

This research used semi-structured interviews to gather internal and external data. A semi-structured interview is an interview where the interviewer collects information by asking

predetermined open-ended questions (Jamshed, 2014, p. 87; Longhurst, 2003, p. 105). Moreover, semi-structured interviews allow the researcher to dive deeply into a topic and better understand the provided answers. Besides, the researcher can ask follow-up questions to receive consistent answers across different interviews (Harrell & Bradley, 2009, p. 27). More specifically, this research opted for semi-structured interviews, as these have illustrated flexible enough to allow complete responses, yet without significantly refraining from the interview content. Moreover, semi-structured interviews are uniquely characterised by allowing comparability while simultaneously allowing participants to elaborate beyond initial responses. These characteristics induce an interview structure that yields pertinent and rich data (McIntosh & Morse, 2015, pp. 1-2). Another advantage of semi-structured interviews is studying the participants in real-time, meaning that the researcher can use his observations to determine whether he should ask follow-up questions (Segal, Coolidge, O'Riley, & Heinz, 2006, p. 124). However, semi-structured interviews are time-consuming, labour intensive and require refinement from the interviewer (Newcomer, Hatry, & Wholey, 2015). Overall, in this case, study and type of qualitative research, semi-structured interviews and excellent analysis are necessary.

When developing the interview protocol, there are two crucial components. Firstly, keep in mind that introducing the researcher to the participating selected employee is essential. Also, this introduction should include elements of duration, confidentiality, consent, options to withdraw and what the data is used for (Rabionet, 2011, p. 564). The second component consists of the actual questions, which are generally open-ended, grouped by topic and in a particular order (Harrell & Bradley, 2009, p. 52). To further refine the interview protocol's quality, it is advised to explain specific definitions to the interviewee (Rabionet, 2011, p. 565).

To summarise, semi-structured interviews were used in this research to assure in-depth knowledge, good quality, discussions and inter-comparability. The interview protocol can be found in Appendix 1.

3.3 Data analysis

The collected data must be carefully and systematically analysed to draw conclusions and answer the research question and sub-questions. This research uses an inductive approach by forming codes and categories based upon summarised transcriptions, as can be read in the following paragraph. The interviews held for this research were semi-structured, which allows the researcher to identify codes easier than non-structured interviews. This is because interview questions were asked in the same order, so logically speaking, interviewee answers were also

gathered in the same order. The same analysing method was used multiple times to maximise the analysed data's consistency to ensure validity and reliability. Besides, the summarised transcripts were sent to the participants for confirmation. Each response was placed under only one code to maintain the exclusiveness of the codes mutually.

3.3.1 Data reduction, data reorganisation and data representation to methodically approach and analyse interviews

Analysing interview data generally consists of three phases; data reduction, data reorganisation and data representation (Roulston, 2014, p. 301).

The first phase is data reduction, meaning that the researcher reduces his original data to obtain the significance in the participants' answers (Roulston, 2014, p. 304). Specifically, the original data in this research was collected via recordings. The 'denaturalism' method of transcribing recordings is preferred to reduce the amount of information. Using this method removes the stutters, pauses, unnecessary and unrelated answers and other non-verbal forms of communication (Oliver, Serovich, & Mason, 2005, pp. 1273-1274). Additionally, the transcript is written summarising, meaning that the participant's answer to a particular question is transcribed into a coherent whole. For this reason, the researcher is assured with a reader's friendly transcription that assists the researcher to analyse better the transcriptions (Hsieh & Shannon, 2005, pp. 1285-1286; Widodo, 2014, pp. 103-105).

The second phase is data reorganisation, meaning that the researcher is reorganising the summarised transcribed data to create codes and categories for inter-comparability between the interview answers (Roulston, 2014, p. 305). The reorganising process of the summarised transcribed data of each participant started by creating open (initial) codes. In practical terms, open (initial) codes were created by breaking sentences apart into terms and phrases. These words, terms and phrases of each interview were then investigated to find similarities and differences regarding the given answers (Alsaawi, 2014, p. 153; Theron, 2015, p. 5). Identifying essential words, terms and phrases were done by highlighting these segments, which is vital for distinguishing different responses (Alsaawi, 2014, p. 153; Blair, 2015, pp. 19-20, 26). After this identification, the highlighted segments were labelled to create open (initial) codes and categories, followed by reducing overlap and redundancy among the different open (initial) codes and categories (Creswell & Poth, 2016, pp. 38-39; Theron, 2015, p. 8). Also, it is stated that this labelling process is a systematic cycle of reading, finding similarities, creating key concepts and revising and adjusting the open (initial) codes and categories (Alsaawi, 2014, p. 153). To efficiently label and categorise open (initial) codes and other text segments, Atlas-TI

was used. Atlas-TI is a user-friendly programme that allows the researcher to efficiently create codes and a table that can be used as a coding scheme. For example, the first column (i.e. category, known as ‘group’) shows constructs or broad topics. The second column (i.e. open code) displays reformed definitions or explanations for column 1. More specifically, the second column shows similar responses that led to variations within categories or groups. The final column is used for the interviewee’s words, terms or phrases, which have been highlighted as mentioned earlier. Moreover, repetitions within one answer were reported as only one frequency of the code. Besides, Atlas-TI enables the opportunity for the researcher to easily add more codes if necessary to explain certain constructs, knowledge or theory better. An example of a coding scheme can be found in Table 3.2.

Table 3.2

Coding scheme as an example

Category - groups	Open code	Interviewee’s words, terms or phrases
Construct X	Definition A	Interviewee’s words, terms or phrases, referring to definition A.
	Definition B	Interviewee’s words, terms or phrases, referring to definition B.
Construct Y	Definition C	Interviewee’s words, terms or phrases, referring to definition C.
	Definition D	Interviewee’s words, terms or phrases, referring to definition D.

The third and final phase is data representation, meaning that the researcher compares and analyses the final codes and variations within answers to create a substantiated and generalisable overview of given answers (Roulston, 2014, pp. 305-306). The third phase will focus on drawing overall conclusions based on the final codes and variations of given answers. Therefore, the coding scheme helps the researcher systematically provide a clear summary that allows interpretation of the final codes and variations (Alsaawi, 2014, p. 153; Wellard & McKenna, 2001, p. 184). In conclusion, phase 3 concretises the participants' interview answers to provide a substantiated overall conclusion toward certain constructs, processes and theories, which can then be discussed on similarities with the literature of Chapter 2.

3.3.2 Analysing purchasing spend via the ABC analyses to determine and define the critical suppliers of ‘Organisation S’

To determine how the purchasing costs of ‘Organisation S’ are divided, a spend analysis has to be executed. A spend analysis can be defined as “an analysis of expenditures along dimensions

as a type of commodity or service and suppliers, numbers of contracts and expenditures, and other variables showing how current money is spent on goods and services” (Moore, Grammich, Chenoweth, & Mele, 2011, p. 7). In other words, the purchasing spend of ‘Organisation S’ will be analysed. All expenditures or costs will be divided into different categories. By doing so, the purchasing spend of ‘Organisation S’ will show insight in, e.g. critical suppliers.

The ABC analysis is used to evaluate and divide suppliers into three different categories based on their turnover. The first category is category ‘A’. Category A is the most critical category and contains the least amount of suppliers. More specifically, the suppliers in category A take up approximately 80 per cent of total purchasing spend. In other words, in this category, the most valuable and most critical suppliers are classified. Usually, the number of suppliers represented in this category is between 5 and 20 per cent of the total number of suppliers, but this percentage heavily depends on the type of organisation (Ng, 2007, pp. 344-345). The second category is category ‘B’. Category B contains essential suppliers to the organisation. However, these suppliers take up roughly 15 per cent of the total purchasing spend. Typically, the number of suppliers representing this category is 15 to 30 per cent of the total number of suppliers (Ng, 2007, pp. 344-345). The third and final category is category ‘C’. Category C is the least important category for the organisation. Suppliers in this category are not critical and are not used that often. Therefore, these suppliers take up 5 per cent of total purchasing spend. Additionally, these suppliers stand for 50 to 80 per cent of the total number of suppliers (Ng, 2007, pp. 344-345). On a side note, the 20 per cent that controls 80 per cent of the total purchasing spend of an organisation is known as the Pareto principle. In addition, it should be mentioned that the previously mentioned numbers are not exact and, therefore, can be different in every research (Chu, Liang, & Liao, 2008, pp. 842-843).

Conducting an ABC analysis generally consists of six basic but distinguishable steps. The first and most obvious step is to determine the goal of the ABC analysis. In this research, the ABC analysis aims to recognise the most critical suppliers of the organisation (Rusanescu, 2014, p. 19). The second step is to collect raw data of the purchases made in a certain period. More precisely, raw purchasing data can be the total amount of orders or total purchasing spend in a specific period (Rusanescu, 2014, p. 19). In this study, the raw purchasing data collected consisted of information on the total purchasing spend per supplier and was collected with the help of the Chief Purchasing Officer and the Enterprise Resource Planning program of the organisation (= 4PS). Furthermore, the raw purchasing data was collected over a period of one year to maximise trustworthiness. The raw purchasing data used in this research originated in

the period of *yyyy-mm-dd* until *yyyy-mm-dd*. The third step is to filter and sort the raw purchasing data in descending order. Therefore, the purchasing spend per supplier was determined, and to what extent this was not yet the case, the purchasing spend of the same supplier was combined. Afterwards, the suppliers were sorted in descending order based on the purchasing spend per supplier, resulting in a descending list of suppliers (Rusanescu, 2014, p. 19). The fourth step is to calculate the impact of each supplier and corresponding purchasing spend on the total purchasing spend of all suppliers. Calculating the impact of each supplier can be made by dividing the purchasing spend of supplier X by the total purchasing spend of all suppliers (Rusanescu, 2014, p. 19). It results in a percentage of the impact of purchasing spend. Adding this percentage into a cumulative percentage allows the researcher to analyse the suppliers. An example of step four can be seen in Figure 3.

Supplier Name	Total €	Spend %	Cumulative €	Cumulative %
Supplier 1	€ 9.920.516	10%	€ 9.920.516	10%
Supplier 2	€ 8.291.669	8%	€ 18.212.185	18%
Supplier 3	€ 6.697.421	7%	€ 24.909.605	24%
Supplier 4	€ 5.955.704	6%	€ 30.865.309	30%
Supplier 5	€ 3.929.576	4%	€ 34.794.885	34%
Supplier 6	€ 3.432.407	3%	€ 38.227.292	37%
Supplier 7	€ 3.135.109	3%	€ 41.362.401	41%
Supplier 8	€ 3.122.379	3%	€ 44.484.780	44%
Supplier 9	€ 2.828.059	3%	€ 47.312.838	46%
Supplier 10	€ 2.098.274	2%	€ 49.411.112	48%

Figure 3. Example of calculating the impact of each supplier in Excel (randomised numbers)

The fifth step is establishing the borders of each category (= ABC). As mentioned earlier, the borders for each category are not exact. It is important to remember the goal of the ABC analysis and work toward this goal (Rusanescu, 2014, p. 19). In Figure 4, it can be seen that 10 per cent of the suppliers are classified as A and have a total combined purchasing spend of 82 million euros, which is roughly 80 per cent of the total spend. Thirty per cent of the suppliers have a combined purchasing spend of 97 million, which is roughly 95 per cent of the total spend. Category B is the combination of suppliers in category A and category B.

	% of suppliers	# of suppliers	% Spend	Spend
A	10%	49	81%	€ 82.383.796
B	30%	149	96%	€ 97.553.767
C	100%	499	100%	€ 102.039.961

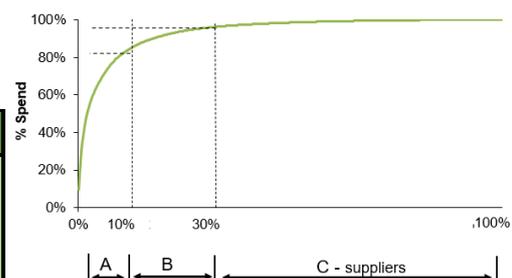


Figure 4 & 5. Example of ABC classification (randomised numbers)

The sixth and final step is analysing the suppliers and ABC categories. In this step, depending on the goal of the analyses, an in-depth analysis can be executed. For instance, it analyses whether multiple suppliers are used for the same type of item (Rusanescu, 2014, p. 19). However, this study aims to determine the most critical and most valuable suppliers and determine the purchasing spend on the purchasing organisation 'PO A'. Based on the previous executed analysis, this can be analysed.

In conclusion, to define the most critical and valuable suppliers of an organisation and define the purchasing spend on a purchasing organisation, an ABC analysis can be executed.

4 Results

This chapter shows the process of analysing data from the internal purchasing spend and interviews. First, the process of analysing the internal purchasing spend will be shown. Second, the process of analysing the transcripts will be explained and discussed.

4.1 Purchasing spend of ‘Organisation S’ and defining and determining critical suppliers of ‘Organisation S’ via the ABC analysis

The purchasing spend of ‘Organisation S’ has been analysed via the methods described in Chapter 3 Paragraph 3.3.2. However, for obvious reasons (competitively sensitive information), the analysed data is fully anonymised using percentages and fictive supplier names. Figure 6 shows the ABC results for ‘Organisation S’ in three different categories. The 155 A-suppliers account for 87 per cent of the total purchasing spend of ‘Organisation S’. Additionally, 40 per cent of the purchasing spend (87 per cent) is purchased via the purchasing organisation. There are in total 310 B-suppliers responsible for 10 per cent of the purchasing spend of ‘Organisation S’. Again, 1 per cent of their share in purchasing spend (10 per cent) is accounted for by the purchasing organisation. The final category contains the C suppliers. The 1,087 C-suppliers account for 3 per cent of the total purchasing spend of ‘Organisation S’. The purchasing organisation is not used for the C suppliers. Figure 7 visualises the purchasing spend of ‘Organisation S’ relative to the supplier categories (A, B & C).

	% of suppliers	# of suppliers	% Spend	% PO*
A	10%	155	87%	40%
B	30%	310	10%	1%
C	100%	1087	3%	0%

Figure 6. ABC-results of ‘Organisation S’ (*purchasing organisation)

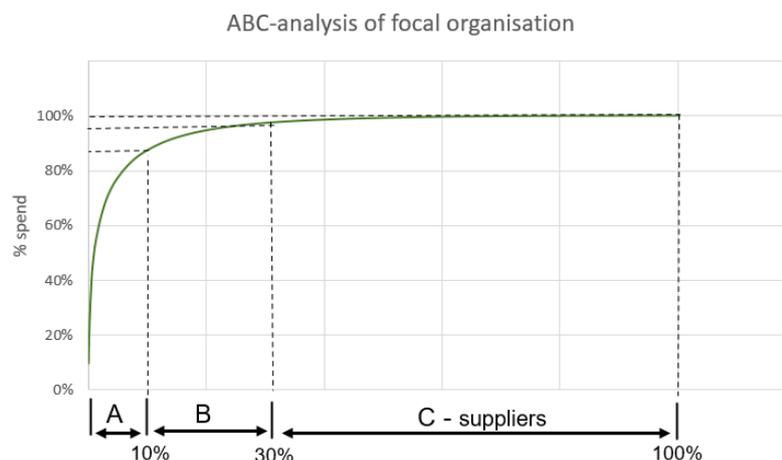


Figure 7. ABC-analysis of ‘Organisation S’

To be more informative and to draw more precise conclusions upon the purchasing spend, another analysis has to be made. As previously concluded, 41 per cent of the purchases of ‘Organisation S’ is purchased via a purchasing organisation, but 40 per cent is purchased with 155 A-suppliers. To determine whether all A-suppliers are affiliated with the purchasing organisation and to determine the size of A-suppliers, a cross-section has to be made. Figure 8 dives deeper into the analysis. In this figure, the relation between the purchasing organisation and the total purchasing spend of ‘Organisation S’ has been established. ‘Organisation S’ has two A-suppliers that account for 10 per cent of the total spend. Both suppliers are supplying organisations of the purchasing organisation. Furthermore, ‘Organisation S’ has six A-suppliers that are responsible for 30 per cent of the purchasing spend. Seventy-eight per cent of this 30 per cent is bought via the purchasing organisation. Moreover, 16 A-suppliers represent 50 per cent of the purchasing spend and 69 per cent of this 50 per cent is spent via the purchasing organisation. There are 1,552 suppliers, and 41 per cent of the total purchasing spend is spent via the purchasing organisation. Conclusions will be drawn upon this data analysis in Chapter 6.

	% of spend	# of suppliers	% PO*
A	10%	2	100%
B	30%	6	78%
C	50%	16	69%
D	100%	1552	41%

Figure 8. Spend in relation to the purchasing organisation (*purchasing organisation)

4.2 Interview results

For this research, multiple structured interviews were held with employees of ‘Organisation S’, critical suppliers of ‘Organisation S’, purchasing organisations and organisations that left a purchasing organisation. The process of carefully and systematically analysing the gathered data will be visualised and explained. All taped interviews were transcribed in a summarising way and followed the ‘denaturalism’ procedure described in Chapter 3. It was done to reduce the amount of data and to assure a reader-friendly transcription. After this, the summarised transcripts were uploaded in AtlasTI, a programme for well-organised and effective coding. To generate a code in AtlasTI, sentences, words, terms, and phrases must be highlighted.

Furthermore, these highlighted parts can be provided with a code, as shown in Figures 9 and 10.

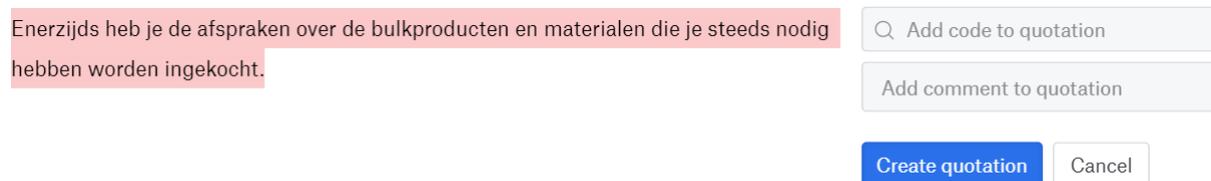


Figure 9. Process of generating codes in AtlasTI

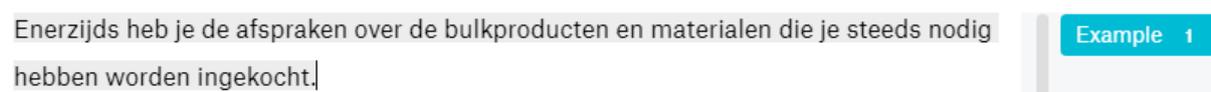


Figure 10. Example of a generated code in AtlasTI

In addition, the number indicated behind the code shows how many times that particular code has been used in all data. For example, the code 'Example', as shown in figure 7, has only been used once. Eventually, after systematic reading and highlighting text fragments, all summarised transcripts were coded. However, to reduce the number of codes and enrich the data, some codes were merged into a new, more suitable code. Finally, all applicable codes were categorised into different groups to understand certain fundamental concepts better and to be able to provide answers to the research questions better.

There are five different distinguishable categories – groups used to understand key concepts better and provide an overview of all codes. The first category is regarding internal purchasing efficiency, which displays eight codes correlated to the internal purchasing efficiency of the interviewee's organisation. The second category is the disadvantages of purchasing organisations. In other words, it shows why organisations tend to dislike collaborations with purchasing organisations in this category. This category covers six codes. On the other hand, the advantages of purchasing organisations are shown in the third category. Thirteen codes have been assigned to describe the advantages of a purchasing organisation. The fourth category is regarding the purchasing alternatives. This category shows all the different codes associated with purchasing alternatives. In total, seven different codes were assigned to this category. The fifth and final category consists of sixteen codes associated with collaborating with a purchasing organisation.

To conclude, all codes have been assigned to different categories. AtlasTI assists the researcher by being able to generate a coding scheme for each category automatically. The main

findings of each category and their corresponding coding scheme will be discussed in the following paragraphs.

4.2.1 Results; internal purchasing efficiency

As previously mentioned, there are five different distinguishable categories to explain and conceptualise the key concepts used in this research. Table 4.2 shows the category ‘internal purchasing efficiency’ and contains all codes regarding purchasing efficiency in the interviewee’s organisation. In other words, these eight codes try to explain why purchasing is vital and to what extent or why purchasing should become more vital in a particular organisation. The codes used in this category and the combined interviewee’s answers will be elaborated in the section under table 4.2.

Table 4.2

Coding scheme based on the category ‘internal purchasing efficiency’

Category - groups	Open code	Total amount
Internal purchasing efficiency	Lack of internal (purchasing) efficiency	21
	Internal purchasing processes	14
	External purchasing processes	13
	Confidence in purchasing	10
	Project- and serial purchasing	10
	Internal and external communication	9
	Strategic decision-making	7
	Lack of cost-driven	5

Strategic decision-making regarding purchasing is a concept developed and integrated within purchasing organisations and in their affiliated organisations. Interviewees state that strategic decisions are made on the type of product and are incredibly crucial for affiliated organisations. For instance, strategic decisions toward a heat pump have an enormous impact on the affiliated organisations. Affiliated organisations need to educate service and installation engineers and provide courses based on and for that specific heat pump. Additionally, it is essential for affiliated organisations that they have the opportunity to buy spare parts for that heat pump for the next 15 years.

“It is very important to make strategic decisions based upon the type of products because technical installation components have a life expectancy of over 15 years. For this reason, spare parts have to be available for a long term.” (Interviewee, installation organisation)

On the other hand, strategic decisions can also be made on an operational basis. For example, in affiliated organisations, the technical aspects of different resources, goods and services are judged by employees who will work with this particular product. By cross-functional decision-making, affiliated organisations ensure that the purchases are aligned with the practical needs of that particular purchase.

According to the focal firm, project managers who are responsible for projects lack a feeling of being cost-driven. Mainly this has to do with the fact that project managers are responsible for delivering a project on a specific date. In other words, project managers are judged based on delivering a project on time, not on whether or not they managed to save on project purchases. For this reason, project managers tend to order resources, goods and services instead of purchasing. Moreover, interviewed CPOs of multiple organisations state that ordering instead of purchasing is more harmful than it looks on the surface. Project managers are mostly not aware of the agreements and conditions of the purchasing organisation and in combination with being profit and loss responsible, project managers thus tend to order cheaper products from suppliers outside the purchasing organisation. This is also known as maverick buying and is at the end of the year not the cheapest, safest and most qualitative route. Although according to the interviewees, the by the purchasing organisation selected suppliers appear to be more expensive, these suppliers offer better quality and pay out a bonus at the end of the year making them by far cheaper than competitor suppliers outside the purchasing organisation in terms of total life costs and quality.

“Purchasing directly from a supplier often results in lower gross purchasing prices, however, undermining affiliated supplying organisations results in a loss of yearly bonus. Besides, usually the quality of these suppliers does not meet the quality standard of our organisation.”
(Interviewee, installation organisation)

Interviewees of installation and purchasing organisations mention that project managers are responsible for profit and loss and have a strict deadline and therefore order resources, goods and services instead of purchasing them. Besides, project managers of the focal organisation tend to order from the cheapest supplier because the quality and the bonus of the by the purchasing organisation selected suppliers is not calculated in the profitability of the project managers of ‘Organisation S’. Based on the reasons mentioned earlier, purchasing departments are more interested in effectiveness than efficiency. Nevertheless, project managers are free to

purchase and are not held accountable for ordering at lesser preferred suppliers, which is why Maverick buying occurs.

Above mentioned statements are also related to internal and external communication. The role of purchasing is acuminated on human interaction and thus requires good communication. Purchasing organisations say that they communicate a lot with affiliated organisations and suppliers by having multiple meetings with affiliated organisations yearly to discuss topics like preferred suppliers, new affiliates and possible collaborations to enhance the support of affiliated organisations. Thus, a purchasing organisation tries to tie the relationships with affiliated organisations and supplying organisations so that purchasing organisations can quickly adapt to changes and so that purchasing organisations can make decisions earlier. In the case of the focal firm, there are many decentralised locations with different purchases processes. Interviewees of the focal firm state that new employees are not adequately informed about the purchasing processes, and so even more differences in purchasing processes occur. Also, the purchasing department is undersized and cannot cover the needs of all locations of 'Organisation S'. There is a lack of communication and collaboration with other locations resulting in a violation of the centralised purchasing decisions. In theoretical terms, purchasing departments are isolated from other departments.

Overall and based on interviewees of 'Organisation S', the dynamics between the centralised purchasing department and other locations of 'Organisation S' is mainly lacking because there is a capacity problem.

"The current role of purchasing is reactive instead of proactive, meaning that project managers order instead of purchase". (Interviewee, installation organisation)

Also, the centralised purchasing department does not purposefully make purchasing decisions nor forecast or keep track of current market developments and is yet reactive. Besides, the CPO states that there is no clear purchasing policy. In other words, it is unclear who is responsible for what purchasing processes. Again, the focal organisation is working on process-oriented purchasing. However, the current purchasing department cannot fully tackle issues related to internal purchasing efficiency. Final note: The current availability of digital information related to purchasing is unclear, e.g. the system cannot filter on supplier level and manufacturer level. It is vital to consult more advanced purchasing processes via digitalisation to support the fast organisational processes of today.

4.2.2 Results; advantages and disadvantages of a purchasing organisation

As previously mentioned, there are five different distinguishable categories to explain and conceptualise the key concepts used in this research. Table 4.3 shows the categories ‘advantages of a purchasing organisation’ and ‘disadvantages of a purchasing organisation’ and consists of nineteen codes explaining the advantages and disadvantages of purchasing organisations. The codes used in these categories and the combined interviewee’s answers will be elaborated in the section under table 4.3.

Table 4.3

Coding scheme based on the categories ‘advantages and disadvantages of purchasing organisations’

Category - groups	Open code	Total amount
Advantages of purchasing organisations	Information sharing	18
	Diversity within the purchasing organisation; also in terms of conditions	16
	Togetherness of affiliates	15
	Broad conditions	13
	Innovation	13
	Type of purchasing organisation	13
	Volume and bonus advantages	13
	Economies of scale	12
	Legal and contractual terms	9
	Digitalisation	8
	Efficiency purchasing organisation	7
	Added value	7
	Automation	4
Disadvantages of purchasing organisations	Flexibility in and with suppliers	9
	Flexibility in product choices	9
	Purchasing policy and strategy of purchasing organisations	8
	Costs associated with purchasing organisations	8
	Position regarding competitors	5
	Willingness to share information	4

The most obvious, and most frequently mentioned by all interviewees, advantage is that purchasing organisations offer a volume and bonus advantage that most organisations do not achieve when purchasing alone. A purchasing organisation bundles the volume of all affiliated

organisations and uses this volume to leverage the benefit of purchasing with suppliers. For affiliated organisations, a purchasing organisation offers added value because of their market position. Therefore, affiliated organisations can purchase resources, goods and services for a market-based price and are additionally eligible for bonuses. Supplying organisations (wholesalers) state that they offer bonuses for purchases made via a purchasing organisation, e.g. a bonus for a percentage of market share (meaning the volume of one affiliated organisation divided among supplying organisations). Also, interviewees mention that suppliers offer a bonus, and manufacturers offer a bonus if an organisation chooses to use a particular brand of a specific manufacturer. However, interviewees also state that a bonus has its difficulties because a bonus is not incorporated in purchasing prices. A bonus is paid out at the end of the year to all affiliated organisations of the purchasing organisation. Besides, a bonus is not fixed and can be variable depending on the purchases of an organisation and the purchases of affiliates. Therefore, it can be difficult for affiliated organisations to calculate sharp quotations and, in some cases, price themselves out of the market due to these prices.

“Unfortunately, purchasing organisations stimulate bonus structures and not lower net purchases prices. Recently we lost a project because we priced ourselves out of the market.”
(Interviewee, installation organisation)

On the other hand, not all purchasing organisations work like that; some are more strict. Based on interview results of more strict purchasing organisations, strict purchasing organisations offer a fixed price (including bonus) for all purchased goods, meaning that affiliated organisations will calculate quotations more precisely. However, according to all purchasing organisations, organisations that affiliate with this purchasing organisation type have to fulfil the prescribed amount of purchasing spend; otherwise, they will be fined. In conclusion, organisations can choose a purchasing organisation without obligations to increase flexibility (when it comes to making choices, e.g. choosing a supplier) and to avoid the risk of getting fined. Organisations can also choose a purchasing organisation with obligations to increase profitability and calculate with more precision and be predictable.

“I can imagine that you make a conscious choice whether you want to be with a non-binding purchasing organization with slightly less return or whether you want to be with a tighter purchasing organization with more return.” (Interviewee, purchasing organisation)

Another advantage of being affiliated with a purchasing organisation mentioned by interviewees of installation and purchasing organisations is the economies of scale. Purchasing organisations tend to have a considerable volume and represent many organisations. In addition to the previously discussed volume and bonus advantages, purchasing organisations stand firm against supplying organisations if affiliated organisations encounter problems according to installation organisations. Supplying organisations are more likely to listen to larger organisations than to smaller organisations. Interviewees state that if any problems occur between affiliated organisations and supplying organisations, the purchasing organisation can mediate between parties and are more likely to find a suitable solution. Due to the economies of scale, purchasing organisations offer a broad scale of primary conditions regarding, e.g. fixed prices, availability of stock, logistics, financial- and innovative possibilities. Most interestingly according to installation organisations is that purchasing organisations have a broad scale of primary conditions for all kinds of supplying organisations.

“The price is not the only advantage of a purchasing organisation, also support regarding stock, logistics and financial and innovative possibilities.” (Interviewee, supplying organisation)

“All organisations profit from broad primary conditions, even organisations that hardly ever purchase a particular products profit from broad primary conditions toward this product” (Interviewee, installation organisation)

In other words, affiliated organisations that hardly ever purchase product X can purchase product X for reasonable prices and conditions, including bonuses, because other affiliated organisations within the purchasing organisation have a large purchasing spend for product X.

Purchasing organisations have more to offer than reasonable prices only, and this is their added value. The concept of the added value of a purchasing organisation depends on the needs of an affiliated organisation. According to supplying organisations, buyer-supplier relationships within a purchasing organisation are expected to last longer than individual relationships. However, this is mainly based on smaller organisations that are not large enough to operate independently. Because of the development of buyer-supplier relationships, affiliated and supplying organisations try to develop more innovation. Interviewees state that innovation is interesting from both perspectives. For instance, affiliated organisations are interested because innovative ideas can be adapted to their operational needs. At the same time, supplying

organisations mention that innovation opens up the possibility to bind affiliated organisations. Moreover, the supplying organisation only has to innovate their resources, goods or services once based on the operational needs of the organisations affiliated with the purchasing organisation. In addition, purchasing organisations state that innovating with and within purchasing organisations allows for sharing costs regarding innovation. Interviewees of larger installation organisations state that larger organisations are less likely to innovate with others within the purchasing organisation because they usually have particular operational needs, e.g. particular products.

“Larger organisations like ours have their own concern and specific wishes regarding innovation. To innovate or implement innovation specifically adapted to our organisation, I think innovation should be done on individual level.” (Interviewee, installation organisation)

Affiliated organisations also benefit from the legal and contractual terms of a purchasing organisation. Interviewees of purchasing organisations state that organisations, and especially smaller ones, overlook the legal and contractual terms quickly because it is an expensive aspect of an agreement. These interviewees also mention that purchasing organisations have strict and transparent contracts with supplying organisations so that affiliated organisations do not need to worry about any trouble regarding legal and contractual terms. Based on the interviews, having a good relationship with and faith in a supplier is a good thing. However, in today’s market, it is vital to have proper legal and contractual terms and, in particular, with a large amount of purchasing spend.

Furthermore, interviewees say that organisations affiliated with a purchasing organisation feel secured among other affiliates. For this reason, interviewees of affiliated organisations do not feel that they compete with each other and want to collaborate. The feeling of ‘togetherness’ allows for opportunities to share organisational information among affiliates. Typically, a director or a CPO does not have a group of like-minded people, such as within the purchasing organisation. Interviewees state that sharing organisational information is vital because two organisations know more than one, and if they learn from each other, they can develop even further. Additionally, due to the high level of diversity within the purchasing organisation, affiliated organisations can also develop in markets in which they did not operate or lacked know-how according to installation and purchasing organisations. However, not all information is being shared within a purchasing organisation. According to installation organisations, some information, for example, ‘individual’ prices, competitive information or

installation techniques, are only shared among organisations that have anything to offer in return.

“Installation techniques are sometimes shared with selected affiliated organisations, but only if we have a good relationship with these selected affiliated organisations.” (Interviewee, installation organisation)

And finally, the added value of a purchasing organisation can also be translated into terms of efficiency. Purchasing organisations feature a high level of (strategic) purchasing efficiency. Interviewees of purchasing organisations state that this efficiency level is reached by employing high skilled personnel with a senior background in purchasing or ICT. According to the interviewees, ICT and especially data is becoming increasingly essential in purchasing processes. Purchasing organisations are automating and digitising a lot in their processes and for affiliated organisations and streamlining digital processes with supplying organisations so that affiliated organisations can place orders within seconds. Furthermore, purchasing organisations offer digital systems in which affiliated organisations can check and monitor their purchase history and analyse. According to interviewees of installation and purchasing organisations, affiliated organisations are not always prepared and willing to make huge investments concerning ICT.

Purchasing organisations do have their disadvantages. All interviewees state that organisations within a purchasing organisation also have to account for costs associated with that purchasing organisation. The costs associated with a purchasing organisation is related to the size of the purchasing organisation. Interviewees mention that larger purchasing organisations can employ more personnel, rent their own buildings and even make ICT related investments. Stating the obvious, but purchasing organisations with a high number of affiliated organisations can divide their business costs among more affiliated organisations, which makes that these purchasing organisations are able to invest more on previously mentioned aspects without high business costs. However, according to the interview results, smaller purchasing organisations are likely to have lower organisational costs associated with operating and running the purchasing organisation. Having lower organisational costs results in a lower membership fee, which can be more beneficial for smaller organisations. To summarise, the benefits of purchasing organisations should outweigh the costs associated with the purchasing organisation in terms

of membership fees. Based on the interview results, in most purchasing organisations the membership fee is related to the purchasing spend of an affiliated organisation.

Another disadvantage mentioned by interviewees is the purchasing policy and strategy of a purchasing organisation. Purchasing organisations in this type of industry (installation industry) have a wide range of affiliated organisations. Some organisations are specialised in mechanical engineering, others are specialised in electrotechnical engineering, and some affiliated organisations are specialised in both disciplines. According to interviewees of purchasing organisations, the purchasing policy and strategy is determined based upon the disciplines and the strategies of all affiliated organisations. And, because of the diversity within the purchasing organisation, there is a global purchasing policy and strategy, which is not an exact fit in the strategy and vision of affiliated organisations according to interviewees of affiliated installation organisations.

“Every organisation is unique and therefore purchasing is adapted to our unique purchasing portfolio. A purchasing organisation can simply not fit in our unique purchasing portfolio and therefore we have to make additional agreements with supplying organisations in order to create this exact fit for our organisation.” (Interviewee, installation organisation)

Furthermore, interviewees state that an organisation commits to a certain extent to the choices made by a purchasing organisation. Therefore, sometimes the choices made by a purchasing organisation are not the organisation's choices. Based on the interviews, larger affiliated organisations have more issues with the ‘misfit’ of the purchasing policy and strategy than smaller affiliated organisations. Moreover, larger affiliated organisations mention that they believe that their purchasing policy and strategy is not adequately incorporated into the purchasing organisation, particularly regarding suppliers and product choices. Based on the interviews, flexibility in suppliers and flexibility in product choices is another disadvantage of purchasing organisations. Affiliated installation organisations within the purchasing organisation state that they usually have a preference for a particular manufacturer or supplier. Besides, based on the interviews of installation organisations, there are also scenarios in which affiliated organisations do not want to purchase from a specific supplier. Although some purchasing organisations offer flexibility, interviewees mention that disregarding the purchasing policy and strategy results in fewer bonuses and is thus not beneficial. Also, some purchasing organisations state that they do not offer flexibility and are strict, resulting in not even being able to switch between suppliers or manufacturers.

Finally, willingness to share information is based on two perspectives. Supplying organisations and manufacturers are not always willing to share information with the purchasing organisation. For instance, supplying organisations can be inhibited in the approach to purchasing organisations. Interviewees of supplying organisations state that supplying organisations do not want to share purchase prices and bonus tiers with purchasing organisations without any form of collaboration. Even interviewees of affiliated organisations state that they are not always willing to share information with associates. Despite being able to learn from each other, interview results show that organisations are more concerned about their position regarding ‘competitors’ (i.e. other associates). Moreover, purchasing organisations try to prevent organisations within the purchasing organisation from feeling that other associates of the purchasing organisation might be competitors. Significantly larger interviewed affiliated organisations state and feel that they strengthen their associates by sharing product knowledge and supplier knowledge without anything in return.

4.2.3 Results; purchasing alternatives

As previously mentioned, there are five different distinguishable categories to explain and conceptualise the key concepts used in this research. Table 4.4 shows the category ‘purchasing alternatives’ and contains 7 codes which explain possible alternatives for the collaboration with and within the purchasing organisation. The codes used in this category and the combined interviewee’s answers will be elaborated in the section under table 4.4.

Table 4.4

Coding scheme based on the category ‘purchasing alternatives’

Category - groups	Open code	Total amount
Purchasing alternatives	Information sharing (outsourcing)	18
	Exploiting own purchasing department	12
	Hiring purchasing personnel	11
	Selective manufacturer selection	5
	Internal bundling of volume	5
	Automation	4
	Local advantages	1

Purchasing alternatives can be deployed by an organisation that is or is not affiliated with a purchasing organisation. As previously mentioned, the ability to exploit purchasing alternatives depends on the type of purchasing organisation (strict or more flexible). Some purchasing

organisations allow purchasing alternatives to be found, and others do not. However, interviewees state that automation is a purchasing alternative that can always be used. Automation is streamlining internal purchasing processes to that of a supplying organisation. To be more precise, organisations can invest in ICT systems that provide the capability to place orders at supplying organisations automatically. Consequently, based on the interview results organisations can work more efficiently in terms of purchasing processes, but this requires an investment. Also, interview results show that organisations affiliated with flexible purchasing organisations can increase their bonus if they selectively choose manufacturers. Interviewees of purchasing organisations state that manufacturers benefit from selling their brand and offer additional bonuses to organisations that use their brand specifically. However, choosing one manufacturer is a form of single sourcing and is not preferred by interviewees of larger organisations. Larger organisations want to have the possibility to evaluate their suppliers based on, e.g. performance. Yet, in particular, committing to one supplier is not preferred, and thus, these organisations tend to follow a dual purchasing policy.

Another purchasing alternative is outsourcing. A purchasing organisation is a form of outsourcing. Nevertheless, outsourcing can also be used to acquire resources, goods and services to support the organisation's operational processes. Additionally, according to an installation organisation, outsourcing can also be translated into local advantages. Purchasing organisations usually operate on a national basis, whereas affiliated organisations are spread across the country. As a consequence, some organisations have local advantages in terms of possibilities to outsource. For instance, interviewees of supplying organisations state that they occasionally have showrooms nearby and offer the possibility to help and provide advice to customers of affiliated organisations. Hence, this type of collaboration is also a form of outsourcing.

Hiring purchasing personnel and exploiting a purchasing department is a purchasing alternative for purchasing organisations according to the interview results. Interview results state that organisations with a sizable purchasing spend can achieve better conditions when operating alone than in a purchasing organisation. However, in the first few years of operating in solitude, it will be less profitable based on the experiences of interviewed organisations that started their purchasing department. Interviewees mention that purchasing is not just simply ordering materials, but also providing good legal terms and conditions and being able to guide an organisation based on the purchasing policy and strategy. To be able to do so, interviewed organisations mention that they need more (skilled) purchasing and ICT personnel. In addition, interview results show that in decentralised organisations with multiple locations, there must

be a centralised purchasing department. In other words, agreements and conditions must be made on a centralised basis to leverage the most profitable conditions. Additionally, having a centralised purchasing department allows an organisation to bundle volume internally according to installation organisations with decentralised purchasing departments. Interviews of supplying organisations shows that bundling volume internally in sequence with combining purchasing spend is what makes an organisation interesting for supplying organisations. Consequently, according to interviewees of supplying organisations, larger organisations can make conditions they would not have made whilst being affiliated with a purchasing organisation. Furthermore, interviewees also mention that joining a purchasing organisation depends on organisational motives. Some organisations join a purchasing organisation just to save liquidity on purchases. However, an excellent senior purchaser will probably be more profitable in the long term. Whereas, some organisations join a purchasing organisation for other conditions, for example, legal conditions or sharing knowhow.

“Basically, an alternative for improving purchasing efficiency is hiring purchasing personnel and creating our own purchasing department.” (Interviewee, installation organisation)

“An alternative for a purchasing organisation is simply setting up your own purchasing department. That is what we have seen a lot so far in organisations that have grown too large and have left the purchasing organisation.” (Interviewee, purchasing organisation)

4.2.4 Results; consideration collaboration purchasing organisation

As previously mentioned, there are five different distinguishable categories to explain and conceptualise the key concepts used in this research. Table 4.5 shows the category ‘consideration of collaborating with purchasing organisations’ and displays 16 codes that can describe the consideration of collaborating with purchasing organisations. As stated earlier, purchasing organisations have their advantages and disadvantages, but to what extent do these advantages outweigh the disadvantages. The process of outweighing depends on the focal organisation, the affiliated organisations, the purchasing organisation and on supplying organisations. The codes used in this category and the combined interviewee’s answers will be elaborated in the section under table 4.5.

Table 4.5

Coding scheme based on the category 'consideration of collaborating with purchasing organisations'

Category - groups	Open code	Total amount
Consideration of collaborating with purchasing organisations	Low purchasing volumes of affiliated organisations in purchasing organisation	17
	Independency	17
	Leading organisation (considerably high volume)	15
	Undermining purchasing organisation	14
	Type of purchasing organisation	13
	Effective purchasing; purchasing specifically adapted to the needs of an organisation	12
	Structure of cost-saving advantages	12
	Collaboration with affiliates	10
	Flexibility in and with suppliers	9
	Flexibility in product choices	9
	Justice and feeling toward purchasing organisations	9
	Purchasing policy and strategy of purchasing organisations	8
	Costs associated purchasing organisations	8
	Position regarding competitors	5
	Organisation take-over or termination	3
Familiarity identity of an organisation	2	

One major factor of reconsidering a purchasing organisation is the purchasing spend relative to the purchasing spend of other affiliated organisations. Interviewees of organisations with a relatively high purchasing spend feel that smaller organisations profit from their purchasing spends. Based on the interviews, particularly organisations that have a high amount of purchasing spend in both disciplines feel like they are the ones that establish the prices. And it is not just a feeling. Supplying organisations have to offer the same conditions to all associates. Meaning, affiliated organisations with a small purchasing spend do get the same conditions as larger organisations. Moreover, interviewees of supplying organisations confirm that larger organisations can achieve better conditions without the smaller organisations within the purchasing organisation. As a result, interviewees of installation organisations state that the feeling of being the leading organisation is being reinforced by supplying organisations. Although supplying organisations offer individual bonuses based on secondary conditions, e.g.

market share or selective manufacturers, the purchasing spend of larger organisations mainly determines the primary conditions.

“A large installation organisation can sometimes get a better price advantage from the market than a purchasing organisation can.” (Interviewee, supplying organisation)

On the other hand, from a supplying perspective, interview results show that it is not an option to offer different conditions for larger affiliated organisations because supplying organisations do not want to share this kind of information with purchasing organisations, and the supplying organisations do not have sufficient margins to do so. Besides, supplying organisations mention that they are not interested in collaborating with smaller organisations that divide their purchasing spend among many suppliers and barely have any purchasing spend in some commodities, both resulting in low volume orders. Moreover, based on the interview results of supplying and purchasing organisations, supplying organisations are obligated to offer the same conditions to smaller organisations even if these smaller organisations do a few annual purchases with this particular supplier or in this particular commodity. To summarise, organisations with a high purchasing spend feel like they are leading in a purchasing organisation. Their feeling is reinforced by supplying organisations that can offer better conditions, however not to all affiliates of the purchasing organisation. Accordingly and based on interview results, supplying organisations even ask larger affiliated organisations whether they agree upon the offered conditions. Interview results display that the larger organisations determine the conditions of the whole purchasing organisation and larger organisations are thus being limited in terms of conditions by smaller organisations.

Next to the previously mentioned argument, reconsideration will also take place if organisations undermine the purchasing organisation according to the interview results. The purchasing policy and strategy of a purchasing organisation is not always suitable for the organisation. Therefore, interviewees state that installation and supplying organisations undermine purchasing organisations by Maverick buying and thus by disobeying the collective agreements and creating individual agreements with suppliers. Interviewees stated that organisations undermine purchasing organisations because they want better conditions. And based on the interviews in this research, there are indeed organisations that have individual agreements with suppliers. According to interviewee of an installation and supplying organisation, not all organisations share this kind of information with the purchasing organisation, otherwise, the individual bonuses might be discarded by the supplier. However,

in principle, these organisations are better off by purchasing independently because there should not be any resistance within the collaboration of a purchasing organisation.

“There is an organisation within the purchasing organisation that does not get a bonus from a particular supplier, however, I know that our organisation does get a bonus. Obviously, I have not discussed this with the purchasing organisation, otherwise this might lead to agitation among affiliated organisations and eventually result in us losing our individual bonus.”
(Interviewee, installation organisation)

Interviewees state that undermining a purchasing organisation is usually done to have better conditions. Based on interview results, it can be concluded that organisations want other structures of cost-saving advantages because they want better prices and less costs. In other words, the distribution of cost-saving advantages that these organisations demand cannot be given by purchasing organisations, meaning that purchasing organisations are not able to keep competitively interesting prices for larger affiliated organisations. Again, the structure of cost savings advantages depends on the type of purchasing organisation. In most scenarios, purchasing organisations strive for the same primary conditions for all affiliated organisations. Furthermore, interviewees of purchasing organisations state that purchasing organisations in general divide bonuses relative to the purchasing spend of an organisation. But, some interviewees state that purchasing organisations also offer the possibility to negotiate for individual project bonuses with supplying organisations. However, interviewed supplying organisations mention that they are not fond of these individual agreements because they have to negotiate for every single project. In the end, interview results show that organisations join a purchasing organisation to be more efficient organisationally speaking. And interviewees of installation organisations state that if organisations feel that ‘their’ purchasing spend is ‘used’ for the collective and the purchasing organisation is not competitively able to decrease costs, then reconsideration is evident, also, in regards to undermining a purchasing organisation. Larger organisations have their own purchasing policy and strategy. For this reason, interviewed organisations want to be more flexible with suppliers and product choices. The suppliers and product choices have to fit in the purchasing policy and strategy of an organisation. Consequently, having this exact fit strengthens the purchasing effectiveness of that organisation. Interviewed larger installation organisations with multiple disciplines state that they have a unique purchasing portfolio and need to adapt their purchasing policy and strategy regarding this portfolio effectively. Besides, every organisation has unique operational

processes and requires specific secondary conditions, e.g. logistics or fixed prices. Even interviewed purchasing organisations state that a purchasing organisation cannot fit 100 per cent to the operational needs of an organisation. Interview results display that supplying organisations rather spend time to create this exact fit with and for organisations, than making general agreements with a purchasing organisation.

According to interviewees, another point for reconsideration is that organisations want to become independent and make their own choices. An organisation that has originated from a family and is still privately held by that family has a feeling of familiarity within the organisation. An interviewee mentions that, the employees that work in this type of organisations have an informal bond with each other, 'as if they were from the same family'. Moreover, results show that these organisations are proud of their origin and thus this feeling of familiarity is becoming increasingly valuable as organisations grow. A purchasing organisation is not fitted for one particular organisation, and collaborating organisations therefore sacrifice the feeling of familiarity to a certain extent. Thus according to interviewees, as privately held organisations grow, the feeling of becoming independent and following their gut feeling arises. The freedom of independence combined with the feeling of familiarity makes privately held organisations (re)consider their affiliation with a purchasing organisation.

"My experiences with a purchasing organisation are low, because a purchasing organisation lacks feeling with our organisation. The employees of the purchasing organisation are not 'our' employees and purchasing is not adapted to 'our' organisation." (Interviewee, installation organisation)

Additionally, interviewed organisations mention that they do not always want to provide other affiliates with organisational information, e.g. knowledge, know-how and supplier bases. Based on the interviews, larger organisations do not share that much information with smaller organisations because there is not anything in return. Larger organisations do not want to strengthen their affiliates nor competitors. Besides, larger interviewed organisations state that being discrete in sharing information allows for opportunities to improve the organisational position in the market and thus increases the organisation's position relative to that of affiliates and competitors.

5 Discussion

In this chapter, the results of Chapter 4 will be discussed and combined with the literature of Chapter 2.

5.1 Discussion; strategic purchasing is essential and internal purchasing efficiency needs to increase

Strategic purchasing is becoming more vital for organisations, and so is strategic decision-making and the role of the purchasing department (Behzadifar et al., 2020, p. 120; Carr & Pearson, 2002, p. 1050; Nair et al., 2015, p. 9). According to the interview results, purchasing organisations and affiliated organisations empower the significance of purchasing and making long-term strategic decisions on the product type. Also, affiliated organisations incorporated strategic purchasing decisions in operational processes. Based on the interviewees, affiliated organisations ensure by cross-functional decision-making that the purchased resources, goods and services are aligned with the operational needs. Consequently literature states that by embracing cross-functional decision-making, purchasing departments will not be isolated by other departments within the organisation. Therefore, the purchasing department can work more efficiently and increase organisational performance (Eatough, 2014; Foerstl et al., 2013, p. 709). However, according to the interviewees, project managers lack a feeling of being cost-driven because they are being evaluated based on delivering a project on time, not on internal purchasing performance and efficiency. Moreover, based on the interview results, project managers tend to choose the cheapest products but do not consider total costs. The given answers are in line with literature and to solve this issue, literature suggests that purchasing strategies should be built upon the objectives of project managers, so that project managers perceive purchasing strategies as helpful (Rozemeijer et al., 2003, pp. 11-12). In other words, project managers should also be evaluated on total costs or at least based on their project purchases. Furthermore, interviewees stated that internal purchasing efficiency is also related to communication, making qualitative and quick decisions necessary. Besides, interviewees mentioned that communicating with project managers and other departments within the organisation, increases the internal support base for purchasing decisions. The previous statement aligns with the theory (Schulze et al., 2019, pp. 19-20). However, in the case of ‘Organisation S’, there are many decentralised locations with different purchasing processes.

Additionally, according to interviewees of ‘Organisation S’ the centralised purchasing department is undersized and does not integrate the needs of all locations, resulting in a

violation of internal purchasing decisions. Also, previous mentioned statement is in line with the theory and to counter this, literature suggests that the centralised purchasing department needs to increase its capacity and concentrate on inter-organisational purchasing synergies without sacrificing effectiveness and efficiency (Carr & Smeltzer, 1999, p. 49; Rozemeijer, 2000, pp. 7-8). In other words, 'Organisation S' needs to increase its purchasing capacity in terms of FTEs and concentrate on creating purchasing synergy among the different locations of 'Organisation S'. As previously mentioned, purchasing synergy should also take the objectives of project managers into account by actively communicating with them. Interviewees state that the current role of the centralised purchasing department in 'Organisation S' is reactive instead of proactive, mainly because of a capacity problem. In addition, these interviewees also stated that, due to a capacity issue, purchasing has not been able to develop within the organisation and therefore tends to rely on basic purchasing processes. This statement is in line with literature, literature states that basic purchasing processes are too slow in today's fast-changing environment (Safar et al., 2018, pp. 626-627). Hence, the centralised purchasing department needs to employ more skilled personnel and acquire competences to become more proactive in regards to current market changes, e.g. digitalisation and atomisation (Schulze et al., 2019, p. 10).

5.2 Discussion; advantages and disadvantages of purchasing organisations

Organisations join purchasing organisations for a diverse spectrum of reasons. Based on the interview results, most organisations join a purchasing organisation because of the volumes and volume associated benefits. According to interviewees of purchasing organisations, affiliated organisations are, in most cases, not able to negotiate for reasonable prices and other conditions and are therefore likely to join a purchasing organisation. According to literature, these statements relate with the motives of the transaction cost economics theory. The transaction cost economics theory states that organisations join a purchasing organisation because outsourcing purchasing activities by joining and collaborating is cheaper than operating and purchasing on their own (Burke, 1998, pp. 5-6; McIvor et al., 1997, pp. 169-170; Williamson, 1989, pp. 60-61). To be more precise, based on the interview results, affiliated organisations join(ed) because of the market-based price in combination with bonus structures. The reasoning of the interviewees is confirmed by theory. Purchasing in larger volumes allows for the opportunity to negotiate for the discount, resulting in lower purchasing prices (Polychronakis & Syntetos, 2007, p. 439; Schütz et al., 2020, pp. 4-5).

Additionally, interviewees of installation and purchasing organisations state that the economies of scale is also an advantage of being affiliated. More specifically, these interviewees mentioned that they have negotiation power against the large wholesalers, which translates to making a fist against dysfunctional wholesalers if any problems occur. Besides being able to make a fist, the interviewees also stated that economies of scale opens up possibilities to enhance standardised conditions. Affiliated organisations can purchase products for reasonable prices and conditions even if they hardly purchase any of these products annually. The interview results are in line with the literature. In theoretical terms, negotiation power allows for more cost-saving advantages (more basic conditions) and is indeed an advantage of a purchasing organisation (Nollet & Beaulieu, 2005, pp. 13-14; Schütz et al., 2020, p. 10; Tella & Virolainen, 2005, p. 167).

Within the purchasing organisations, there is the opportunity to share organisational information among associates according to the interviewees. Also, interview results show that directors and CPO's usually do not have a group of like-minded people within their organisation. The interview results are confirmed by theory of organisational information sharing. In the purchasing organisation, organisations share know-how and information to develop and learn from each other (Schotanus, 2007, pp. 98-100). Interviewees mentioned that by sharing information with affiliated organisations and supplying organisations, innovation could happen. Also, interviewees stated that innovation with purchasing organisations and associates allows for sharing costs for innovation. Literature confirms previously mentioned statements and states that by doing so, organisations mutually learn from and grow with each other and increase organisational efficiency (Dyer & Singh, 1998, pp. 675-676; Lawson et al., 2009, p. 22). However, literature also suggests that purchasing organisations incorporate measures to counter trust issues among affiliated organisations (Nollet & Beaulieu, 2003, p. 10). Based on the interviewees of this research, larger organisations have more problems sharing know-how, sharing knowledge and innovation with associates. More specifically, larger organisations feel like they are bringing knowhow and knowledge to associates without anything in return. Moreover, interviewees of larger organisations mention that they have distinctive processes and unique applicability for specific items, which results in exclusive innovation trajectories.

In addition to the literature and thus a finding of this research, interviewees of installation and purchasing organisations state that the legal terms and contractual agreements are also an advantage of purchasing organisations. Interviewees mentioned that they do not have their legal department and are not educated and skilled enough to create their agreements.

Therefore, legal offices have to support and assist installation organisations in making agreements with supplying organisations.

Purchasing organisations do have their disadvantages. Based on the interview results, organisations mention that the costs of being affiliated with a purchasing organisation are a disadvantage, which is in line with the literature (Tella & Virolainen, 2005, p. 164). Still according to interviewees of purchasing organisations, the organisational costs of operating the purchasing organisation depend on the type of purchasing organisation. And they state that, in most scenarios, an increase in total affiliated organisations causes a decrease in the membership fee unless a purchasing organisation is commercially orientated. In addition to literature and thus a finding of this research, smaller organisations benefit more from purchasing organisations with lower organisational costs, meaning fewer investments and less personnel.

Purchasing organisations mention that they have a wide range of affiliated organisations, operating in different markets and working on various disciplines, e.g. mechanical engineering or electrical engineering. For this reason, purchasing organisations have a purchasing policy and strategy, which applies to all affiliated organisations. According to interviewees of larger installation organisations, this global purchasing policy and strategy do not precisely fit their vision and operational needs and experience this as nuisance. Literature confirms the statements of interviewees that organisations cannot meet their intended purchasing strategies when collaborating with a purchasing organisation, which results in a loss of effectiveness (Janda & Seshadri, 2001, pp. 303-304; Pan & Fong, 2010, p. 187). Furthermore, interview results show that the loss of flexibility with suppliers and product choices is a drawback of a purchasing organisation. The interviewees stated that all organisations have preferred suppliers or manufacturers, and therefore concessions have to be made within the purchasing organisation. Literature confirms and states that predetermined suppliers also disable the possibility to choose preferred suppliers (Sieweke et al., 2012, p. 133). Although and according to the interview results of purchasing organisations, some purchasing organisations are flexible in letting organisations choose their suppliers. However, if organisations choose their own supplier, literature declares that an organisation loses the benefit of cost-saving advantages (Walker et al., 2013, p. 9). In the spend analysis of 'Organisation S' it can be seen that there are six suppliers that approximately account for 30 per cent of their purchasing spend. Furthermore, these six suppliers are the preferred suppliers of 'Organisation S' and four of these are also affiliated with the purchasing organisation of 'Organisation S'. 'Organisation S' uses these suppliers to create and sustain competitive advantage. In other words, the six suppliers that account for approximately 30 per cent of the purchasing spend of

'Organisation S' are defined as strategic suppliers (Kraljic, 1983, p. 110). Moreover, these strategic suppliers have a high profit impact on 'Organisation S'. To strategically position 'Organisation S', 'Organisation S' has to create and or sustain competitive advantage by maintaining good relations with strategic suppliers (Caniels & Gelderman, 2005, p. 144; Dyer & Singh, 1998, p. 662; Gelderman & Van Weele, 2005, p. 22). Literature shows how essential it for an organisation is to have preferred suppliers, and according to the interviews, organisations are currently limited.

According to interviewees of installation and supplying organisations, not all organisations want to share information within the purchasing organisation. Interview results show that supplying organisations and manufacturers do not want to share all the details regarding price technical information with the purchasing organisation because of the risk of being squeezed by the power of a purchasing organisation. Literature confirms the previously mentioned statement by stating that organisations (and manufacturers) will therefore never share too much information that could form a threat (Lascelles & Dale, 1989, pp. 14-15). According to interviewees of installation organisations and in addition to literature, larger organisations will also never share too much information with the purchasing organisation and affiliates. These organisations mention that they could perhaps strengthen their 'competitors' (i.e. other associates).

5.3 Discussion; a centralised purchasing department as a purchasing alternative

Purchasing alternatives can be deployed by an organisation that is and is not collaborating with a purchasing organisation. Based on the interview results, it depends on the purchasing organisation whether an organisation can deploy purchasing alternatives. Some purchasing organisations are strict. Others are more flexible. Based on the interview results, the most commonly known purchasing alternative for a purchasing organisation is starting a purchasing department or optimising the current centralised purchasing department. Interviewees state that exploiting a purchasing department allows for flexibility in suppliers, product choices, purchasing policies and strategies. Literature confirms previously mentioned statement and adds that aligning the corporate goals of an organisation with the goals of the purchasing department allows for effective strategic purchasing (Driedonks et al., 2010, pp. 113-114; Rozemeijer et al., 2003, pp. 11-12). Interviewees mention that organisations that want to start a purchasing department should always have multiple sources for items, which is in line with the literature. Literature states that having multiple sources for items enables an organisation to mitigate supply risk and thus increasing supply reliability (Costantino & Pellegrino, 2010, pp.

35-36; Ghodsypour & O'Brien, 2001, p. 17; Wang et al., 2010, p. 29). Furthermore, this is especially vital for supply markets with a high complexity and for items with a high importance of purchasing. In other words, having multiple sources for items and increasing supply reliability is essential for items in the bottleneck and strategic quadrant of the Kraljic's matrix (Kraljic, 1983, p. 112). However, based on literature, having many suppliers for the same items decreases the ability to generate strategic partners (Yu et al., 2009, pp. 790-791). For this reason, organisations should preferably have two sources for particular items to leverage the benefit of dual sourcing and strategic partnership.

Interview results reveal that it is vital for organisations with multiple locations and decentralised purchasing departments to start a centralised purchasing department. Interviewees of supplying organisations mention that agreements and conditions must be made with supplying organisations on a central basis to leverage the most beneficial conditions. According to the literature, centralisation also assures professionalism toward suppliers (Karjalainen, 2011, pp. 94-95; McCue & Pitzer, 2000a, p. 401). Moreover, decisions made on centralised basis are crucial for effective relations within the strategic quadrant of the Kraljic's matrix (Kraljic, 1983, p. 111). Interviewees of installation organisations with multiple locations mention that they want to increase purchasing efficiency by internally hiring personnel, bundling volume, and evaluating suppliers on a centralised basis. To increase purchasing efficiency, literature suggests to deploy tactical sourcing levers and more specifically by deploying the commercial levers (lever 1, 2 & 3). Commercial levers are used to improve purchasing performance by exploring benefits and profits (Schiele, 2007, p. 279; 2019, p. 67; Schiele et al., 2011, pp. 322-323). However, deploying commercial levers in an organisation with decentralised purchasing departments requires a high internal purchasing efficiency and purchasing synergy (Rozemeijer, 2000, p. 7). According to the interviewees, not all organisations have a high internal purchasing efficiency or purchasing synergy.

5.4 Discussion; reconsidering the collaboration with a purchasing organisation to purchase more effectively and efficiently

A purchasing organisation should offer added value to an organisation. Every organisation interprets the concept of 'added value' differently. A purchasing organisation delivers added value if the benefits outweigh the drawbacks of the purchasing organisation. Interviewees of larger affiliated organisations with a high purchasing spend feel that smaller organisations in the purchasing organisation profit from their purchasing spend. Literature states that 87 per cent of purchasing organisations use the equal price method for affiliated organisations. In other

words, purchasing organisations offer the same conditions for all affiliated organisations disregarding their added value to the purchasing organisation (Schotanus et al., 2010, p. 58). Furthermore, literature says that organisations with a significant purchasing spend might feel unsatisfied with smaller organisations and are attracted to an allocation method based on their purchasing spend (Nollet & Beaulieu, 2005, p. 14). On the other hand, interview results reveal that supplying organisations offer individual bonuses based on secondary conditions, but larger organisations primarily determine the primary conditions. Moreover, interview results of supplying organisations show that supplying organisations are willing to provide better conditions for larger installation organisations. However, supplying organisations state that they cannot provide these conditions for the smaller organisations, because of the margins. And according to interviewees of installation and supplying organisations, supplying organisations even ask larger affiliated installation organisations whether the price they are offering to the purchasing organisation is acceptable. Thus by doing so, supplying organisations strengthen the feeling of reconsideration that large affiliated organisations have. Little has been written about this in literature. But to counter the previously described feeling, literature suggests to only use the equal price method when organisations have a similar purchasing spend (Nagarajan et al., 2010, p. 11). However, literature also states that smaller organisations would still profit with allocation methods relative to purchasing spend and would still have the indirect advantage of learning from larger affiliated organisations (Schotanus, 2007, pp. 199-200). In other words, purchasing organisations can use allocation methods relative to purchasing spend of organisations to still be competitive. However, according to interviewees of purchasing organisations, these allocation methods stimulate agitation within the purchasing organisation.

Interview results indicate that large organisations are likely to undermine the purchasing policy and strategy because it does not fit well enough to stimulate internal strategic purchasing. Eventually, installation and supplying organisations state that undermining the purchasing organisation is done to achieve better conditions, conditions that large organisations would have had when operating independently. Although theory does not describe undermining as a motive for reconsidering, the transaction costs theory does. Literature states that if the overall internal transaction costs are lower than the external transaction costs related to purchasing, organisations should integrate these purchasing activities in the organisation (Burke, 1998, pp. 5-6; McIvor et al., 1997, pp. 169-170). Additionally, integrating purchasing activities within the organisation opens up possibilities to grow (Yousuf, 2017, pp. 133-134). In other words, literature explains that organisations can undermine the purchasing organisation if the

purchasing organisation is not able to provide a competitive advantage for the affiliated organisation.

A final point of interest regarding collaboration with the purchasing organisation is interviewees stated that organisations want to become independent. According to interviewees, organisations joined a purchasing organisation because of the disability to purchase efficiently and because of the volume and profit conditions. However according to the interview results, after growth and other purchasing experiences, organisations want to become independent again and be flexible in product and supplier choices. Privately held organisations especially mentioned this characteristic. Literature also indicates that independent organisations are better in effectively purchasing by mutually collaborating and improving performance with suppliers and thus by creating competitive advantage (Autry & Golicic, 2010, pp. 96-97; Krause et al., 2007, p. 529; Rozemeijer et al., 2003, pp. 11-12).

6 Conclusion and limitations

In this chapter, conclusions will be drawn upon the literature in Chapter 2, the results in Chapter 4 and the discussion in Chapter 5. Hereafter, the sub-questions and research questions will be answered, and limitations and further research will be mentioned.

6.1 Conclusion

6.1.1 Conclusion; distribution of purchasing spend of 'Organisation S'

How is the purchasing spend of 'Organisation S' distributed among suppliers and 'PO A'?

The following data has been anonymised because it contains competitively sensitive information. Therefore, conclusions will be drawn upon percentages. The purchasing spend of 'Organisation S' is not distributed evenly. The purchasing spend of 'Organisation S' is not normally distributed, meaning that 'Organisation S' has a few suppliers that account for a large amount of purchasing spend. These suppliers are wholesalers and the purchased items fit in all quadrants of the Kraljic's matrix. Moreover, 'Organisation S' uses the purchasing organisation for approximately 41 per cent of their total purchasing spend. Furthermore, the first 50 per cent of the total purchasing spend of 'Organisation S' is purchased via 16 suppliers. The purchasing organisation is used for 69 per cent of this 50 per cent. And, the first 30 per cent of the total purchasing spend of 'Organisation S' is purchased via six suppliers. Seventy-eight per cent of this 30 per cent is purchased via a purchasing organisation. Lastly, 10 per cent of the total purchasing spend of 'Organisation S' is purchased via two suppliers and is wholly bought via the purchasing organisation.

Concluding, 'Organisation S' has 16 supplying organisations that account for the first 50 per cent of the total spend. For the second 50 per cent 'Organisation S' has 1536 suppliers. Based on Figures 6 and 8, the conclusion is that 'Organisation S' hardly uses or does not use the purchasing organisation for approximately 1400 suppliers. Mostly this has to do with the fact that these suppliers are not affiliated with the purchasing organisation. Besides, these suppliers are used for infrequent and sometimes local or urgent purchases. Furthermore, 'Organisation S' mainly uses the purchasing organisation to purchase at supplying organisations that account for over 50 per cent of the total spend of 'Organisation S'. In other words, 'Organisation S' uses the purchasing organisation to do business with a relatively small number of suppliers with a high amount of purchasing spend. This illustrates that 'Organisation S' uses the purchasing organisation and its affiliated suppliers for the 'right' side of the Kraljic's matrix. More specifically, 'Organisation S' strategically collaborates with a few affiliated

wholesalers (suppliers) to generate competitive advantage and relationships in the bottleneck and strategic quadrants of the Kraljic's matrix.

6.1.2 Conclusion; drivers and barriers of a purchasing organisation and the motives of 'Organisation S' regarding their purchasing organisation

What are the drivers and barriers for SMEs to affiliate with a purchasing organisation?

And in the case of 'Organisation S' regarding its purchasing organisation?

It is shown that SMEs affiliate with purchasing organisations for several motives. In most cases, organisations join a purchasing organisation for three different reasons. Firstly, internal purchasing efficiency, organisations join purchasing organisations because of a lack of purchasing experience. Purchasing organisations do have much experience regarding purchasing. Purchasing organisations repeat purchasing processes and eventually become more efficient. Besides, they are more likely to gain new experiences. Moreover, smaller organisations do not have experienced purchasing staff. Often, the one responsible for purchasing has a different function within these organisations, e.g. project manager. On the other hand, larger organisations have experienced purchasing personnel but do not have enough capability to purchase staff to exploit purchasing fully. Therefore, purchasing organisations can make tactical and strategic decisions so that affiliated organisations can focus on their operational processes. Additionally, organisations lack efficiency and effectiveness regarding legal and contractual agreements. It is essential to have proper legal and contractual agreements regarding, e.g. liabilities or warranty terms in today's market. However, purchasing organisations collaborate with law firms to come up with good agreements with supplying organisations. The lack of internal purchasing efficiency drives organisations to collaborate with a purchasing organisation. Secondly, volume and volume associated advantages, organisations enter purchasing organisations to leverage the benefit of purchasing. Often, organisations that operate in solitude do not have enough volume to negotiate for good conditions. To enjoy the benefit of good conditions, organisations combine volume by affiliating with purchasing organisations. Every organisation within the purchasing organisation benefits from having good conditions for all products regarding prices, individual bonuses and project bonuses. Due to the diversity in the purchasing organisation, organisations even profit if they hardly purchase any of these products annually. Besides good conditions, purchasing organisations can make a fist against supplying organisations if they encounter any problems. Third and final driver for organisations is the ability to share organisational information and innovate mutually. Affiliated organisations mention that sharing organisational

information is the critical driver for innovating within a purchasing organisation. Organisations that jointly learn from and grow with each other tend to become more efficient over time. In other words, by combining information regarding operational processes or know-how, organisations can develop new ways of working. Furthermore, innovation with supplying organisations is more likely to happen with organisations that share organisational information.

In short, organisations join purchasing organisations because of a lack of internal (purchasing) efficiency. Moreover, organisations affiliate because of the volume and volume associated advantages. And, another drive is that organisations can and want to share information with associates.

SMEs do not want to affiliate with purchasing organisations for several reasons. The most obvious one is the costs associated with a purchasing organisation. Although the cost savings associated with a purchasing organisation usually outweigh the costs, it is a disadvantage. Another drawback of purchasing organisations is their purchasing policy and strategy. The purchasing policy and strategy are based on all affiliated organisations' vision and needs, and thus, concessions have to be made. Therefore, affiliated organisations lose the ability to purchase based on their internal purchasing needs effectively. However, depending on the purchasing organisation, organisations are free to purchase at their preferred suppliers. But, organisations lose the benefit of cost-saving advantages by doing so. Also, not all organisations within the purchasing organisation want to share information with others. Some organisations have individual agreements with competitive suppliers and do not want to share this supplier with others. Besides, organisations mention that they do not want to strengthen their associates too much.

Concluding, organisations dislike purchasing organisations because it limits their ability to purchase based on their operational activities effectively. In addition, organisations do not want to share too much information with other associates. It should be mentioned that large organisations seem to have the most issues with sharing organisational information.

However, the drivers and barriers for affiliating with a purchasing organisation differ per organisation. In Organisation S' case, a larger organisation with decentralised purchasing departments, there is a lack of internal purchasing efficiency. Their current purchasing department is reactive rather than proactive, mainly because of a capacity problem. Additionally, 'Organisation S' has multiple decentralised locations with different processes, making it harder to align centralised purchasing decisions. More specifically, there are

decentralised locations that do not follow the centralised purchasing decisions. Currently, there is not enough capacity to develop a better hierarchical structure within the organisation. Also, 'Organisation S' mentions that the legal and contractual terms are a significant driver for affiliating with a purchasing organisation. For the reasons mentioned earlier, 'Organisation S' joined a purchasing organisation. A considerable drawback for 'Organisation S' is the purchasing policy and strategy of the purchasing organisation. As mentioned earlier, 'PO A' offers market-based prices and offers bonuses for organisations that make up for most of the cost-saving advantages. However, this does not fit well in the calculation structure of 'Organisation S'. In other words, 'Organisation S' sometimes price themselves out of the market during tender procedures by having too high calculation prices. The calculation prices have been determined without bonuses, because these are paid out at a later stage and are unpredictable.

6.1.3 Conclusion; reconsidering is evident if organisations start to undermine a purchasing organisation

At which point should the individual SME (and in particular 'Organisation S') reconsider the affiliation with a purchasing organisation?

A purchasing organisation adds value to an organisation or is supposed to add value to an organisation. However, every organisation interprets the concept 'added value' differently because every organisation has individual needs. In principle, the benefits of the purchasing organisation should outweigh the obstacles of the purchasing organisation, but in some cases, there are clear signs that an organisation should reconsider affiliation.

Larger organisations, like 'Organisation S', have a significant share in the total volume spend of the purchasing organisation. However, purchasing organisations usually do not allocate cost-saving advantages relative to the purchasing spend of an organisation. On the other hand, purchasing organisations offer secondary conditions like market share bonuses based on purchasing spend. However, larger organisations feel like they are determining the primary and secondary conditions. Additionally, supplying organisations confirm that they can provide better conditions to larger organisations, but not for all organisations affiliated with the purchasing organisation. Also, supplying organisations ask larger organisations within the purchasing organisations to agree upon the overall conditions or whether they want to undermine the purchasing organisation. Therefore, if larger organisations gain too much control or power within the purchasing organisation, they will likely reconsider their affiliation. Moreover, undermining a purchasing organisation is done to gain better conditions. Conditions

that larger organisations would be able to make independently. Besides better conditions, undermining is also done to purchase more effectively based on the organisation's operational needs. In other words, by purchasing via a purchasing policy and strategy fitted for that particular organisation.

Another point of reconsideration is that organisations want to become independent. There are many family businesses and privately held businesses in this type of market segment (installation). These organisations joined purchasing organisations because of the incapacity to create proper conditions. However, many of these organisations experienced revolutionary growth and grew more prominent over the years. Because of this, some of the organisations want to become independent again and start focussing on jointly collaborating with supplying organisations to improve organisational performance and thus purchasing performance.

To summarise, organisations reconsider their affiliation with purchasing organisations if they gain too much control and power within the purchasing organisation regarding supplying organisations. Also, if organisations start to undermine the purchasing organisation to achieve better conditions and if organisations want to become independent again.

6.1.4 Conclusion; exploiting an own (centralised) purchasing department

What are purchasing alternatives, other than a purchasing organisation, that effectively increase purchasing performance?

An alternative to purchasing organisations is starting a purchasing department or exploiting the current purchasing department by hiring more personnel. In the case of organisations with multiple locations, it is vital to start a centralised purchasing department. Organisations with their purchasing departments can effectively purchase by aligning corporate strategies and goals with purchasing. In addition, a purchasing department allows for flexibility in and with suppliers and product choices. Therefore, a centralised purchasing department can collaborate with fewer suppliers and start working on strategic relationships with preferred suppliers. However, it is essential for centralised purchasing departments to always have a dual source regarding suppliers. Dual sourcing allows an organisation to mitigate supply risk and leverage beneficial conditions without sacrificing the ability to generate strategic relationships. Additionally, when starting a purchasing department, it is essential always to have real-time purchasing data available, which is necessary for, e.g. making quick centralised decisions and deploying tactics. The centralised purchasing department can deploy tactical sourcing levers to enhance purchasing performance, as described in Chapter 2.

In short, an alternative to a purchasing organisation is starting or exploiting an own (centralised) purchasing department. It is crucial to focus on dual sourcing, strategic relationships, centralisation and purchasing synergy, digitalisation and strategies to increase purchasing performance.

6.1.5 Conclusion; the ‘added value’ of a purchasing organisation in regards of the operational needs of an organisation

To what extent should SMEs (and particularly the focal firm: ‘Organisation S’) collaborate with purchasing organisations and affiliated organisations or deploy other purchasing alternatives to increase purchasing performance?

SMEs should collaborate with purchasing organisations and affiliated organisations as long as the purchasing organisation and affiliated organisations offer ‘added value’. Added value is expressed in savings or costs and sharing information, innovation, legal and contractual agreements, economies of scale, et cetera. In other words, ‘added value’ differs among organisations and depends on the interpretation of the concept. Every organisation is unique and therefore has different needs. Overall, organisations tend to reconsider their affiliation if the disadvantages start to outweigh the advantages of a purchasing organisation. Smaller SMEs are more flexible in their operational processes, purchasing policies and strategies, and competitors' positions. For this reason, smaller SMEs are having less trouble in adapting to a purchasing organisation than larger organisations. Besides, smaller SMEs mostly join purchasing organisations out of cost consideration and are better off collaborating with a purchasing organisation and associates. In larger SMEs, which is the case of the focal firm ‘Organisation S’, the affiliation with their purchasing organisation are reconsidered with other motives. These organisations have a significant purchasing spend and have high volumes for all different kinds of items. Supplying organisations, wholesalers, in particular, imply that they rather work with larger organisations than with smaller organisations within a purchasing organisation. Supplying organisations can and are willing to provide better conditions for larger organisations like ‘Organisation S’. Moreover, the diversity within these organisations is immense, which makes wholesalers a perfect strategic partner. However, due to the diversity, conditions should be made on commodity level instead of article level.

Additionally, in the case of ‘Organisation S’, their internal purchasing efficiency is low. They mainly lack purchasing capacity in FTEs and do not have an excellent hierarchical structure concerning purchasing. Currently, ‘Organisation S’ is improving on previously mentioned points which are necessary for purchasing efficiency. If ‘Organisation S’ wants to

become independent and start effectively purchasing, a centralised purchasing department is evident. As mentioned earlier, a centralised purchasing department allows for professionalism toward suppliers, and it is crucial for increasing purchasing performance by dual sourcing, strategic relationships, purchasing synergy, digitalisation and strategies to increase purchasing performance, e.g. tactical sourcing levers. Finally, 'Organisation S' mentioned that the legal and contractual terms are a significant driver for affiliating with a purchasing organisation. Therefore, if 'Organisation S' decides to leave the purchasing organisation, they should bear in mind that law offices often have to check the legal and contractual terms. According to organisations that left a purchasing organisation, having a centralised purchasing department is not beneficial for the first few years.

To conclude, SMEs should collaborate with purchasing organisations and affiliated organisations as long as their interpretation of a purchasing organisation's 'added value' is higher or equals 0. 'Added value' can be defined via multiple concepts and depends on organisational interpretation regarding purchasing efficiency, independence, flexibility, effective purchasing, cost-saving advantages, innovation, information sharing, economies of scale and others as described in Chapters 2, 4 and 5.

7 Limitations & future research

This research contains two limitations. Firstly, the perspective of the manufacturer was not taken into account in this research. Innovation happens most of the time with manufacturers and not with supplying organisations and wholesalers. Therefore, some results regarding innovation may vary from the literature. Additionally, the perspectives of affiliated organisations within the purchasing organisation were limited. Four interviews were taken from an affiliated perspective. However, these four interviews were interviews based upon one large affiliated organisation. All participating organisations in this research, except the purchasing organisations, were based on privately held organisations (family organisations). Secondly, this research was based on results given by participants, business documents provided by 'Organisation S' and theory from the literature in Chapter 2. However, the conclusions of this research were not based on numbers or calculations to prove whether large affiliated organisations should purchase on their own. Pooling of demand and volume bundling in a purchasing organisation is more beneficial than organisations purchasing themselves. However, this research states that supplying organisations are willing to offer better conditions to larger organisations if it were not because they are collaborating with a purchasing organisation and smaller organisations. But, this claim cannot be justified without a numerical formula regarding the benefits and costs of independent purchasing using a central purchasing department. A purchasing organisation entails competitive prices, bonuses, but also membership costs. A central purchasing department ostensibly brings better prices and bonuses and conditions specifically adapted to the needs of the organisation, but it does entail additional personnel costs, investments in digitalisation, costs related to legal and contractual agreements. Numerical research regarding the above mentioned points is a limitation of this research and can therefore be researched for further research regarding purchasing organisations. Furthermore, it should be taken into account that supplying organisations benefit from larger organisations leaving a purchasing organisation. If large organisations with a large amount of purchasing spend leave, the purchasing organisation becomes substantially weaker against supplying organisations. Therefore, supplying organisations might 'drive a wedge' between large organisations and purchasing organisations. In other words, supplying organisations try to widen the gap between large organisations and their purchasing organisation to weaken a purchasing organisation for their benefit.

Regarding future research, organisations that would like to start their centralised purchasing department need some guidance. Currently, literature does not describe to what

extent larger organisations with decentralised purchasing departments can create a centralised purchasing department. Moreover, what do these organisations need to efficiently and effectively create a well structured centralised purchasing department? Additionally, the current purchasing organisation of ‘Organisation S’ mentioned that they are willing to help ‘Organisation S’ by starting and creating a centralised purchasing department. It is stated that ‘Organisation S’ needs professional advisors that have the time and space to create and operationalise a centralised purchasing department. Again, the purchasing organisation is willing to help by efficiently and effectively ‘building’ a centralised purchasing department from scratch.

8 Reference list

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9 Appendices

Appendix 1:

Nr.	Questions or explanations	Follow-up questions	Participant's comments
	Opening and opening questions		
0.1	Short introduction of the researcher and the goal of the research and interview.		
0.2	Inform the participant about the confidentiality of given answers and the options to withdraw at any given time.	Ask for confirmation. Ask for permission to record the interview.	
0.3	Ask for the participant's age, gender, work experience (total and purchasing related), organisation, function and level of education (also for purchasing).		
0.4	Can you explain your function in the organisation?	Can you explain in what way your function relates to purchasing?	
0.5	Can you explain the role of the purchasing department in the organisation?	To what extent is the PD developed in terms of strategic purchasing?	
	Topic related questions		
	<i>Part I; drivers and barriers</i>		
1.1	Can you describe to what extent purchasing and the purchasing function is embedded in your organisation?	How does purchasing communicate with suppliers and other departments? Does purchasing work efficiently and cost-effective and work with highly skilled/superior purchasing staff?	
1.2	What drives an organisation to join a purchasing organisation, according to you?	Do you think this relates to the type of organisation, and if so, why?	
1.3	What could be the motives for an organisation not to join a purchasing organisation?	And why?	
1.4	Do you think organisations join purchasing organisations because they lack purchasing efficiency?	If so, can you mention to what extent your organisation lacks purchasing efficiency? In terms of processes? Knowledge? Outsourcing?	
1.5	Do you think organisations within the purchasing organisation share organisational information and strategic or competitively sensitive knowledge with each other?	Why do you think this is?	
1.6	Do you think organisations create opportunities to work with suppliers by collaborating with a purchasing organisation?	Why do you think this is? Enabling or disabling buyer-supplier relationships?	

	<i>Part 2; to affiliate or not</i>		
2.1	Purchasing organisations use their purchasing power to demand cost savings from suppliers. How should these cost savings be allocated to affiliated organisations? e.g. affiliated organisations with a larger purchasing spend also deserve a larger amount of cost savings.	How are cost savings allocated in your purchasing organisation, and do you agree with this type of allocation?	
2.2	For instance, if you are responsible for a large percentage of the purchasing spend of the purchasing organisation; Would you want to collaborate with organisations with less purchasing spend or collaborate with organisations with an equal amount of spend and why?	And to what extent should organisations be equal or different, and how can these variables be determined?	
2.3	Based on what variables you would collaborate with a purchasing organisation, why would you choose this purchasing organisation in particular?		
	Only organisations with (ex-)PO		
2.4	What drove your organisation, or what could drive your / an organisation to end the collaboration with the purchasing organisation?	Any other specific motives?	
	<i>Part 3; purchasing alternatives</i>		
3.1	What do you believe are alternatives for collaborating with purchasing organisations?	Can you elaborate on why you think of these alternatives in specific?	
3.2	What are purchasing alternatives that can be used even when collaborating simultaneously with a purchasing organisation?	And can these alternatives be used toward all item categories (= routine, leverage, bottleneck and strategic)?	
3.3	At what specific moment do you think purchasing alternatives outweigh the benefit of a purchasing organisation and why?		
	Ending and ending questions		
4.1	Ask whether the participant would like to elaborate even further on a specific topic.		
4.2	Ask whether the participant felt like something was missing in the interview.		
4.3	Thank the participants for his or hers time and participation.		

Nr.	Source	Paragraph
0.1	(Rabionet, 2011, p. 564)	3.2.3
0.2	(Rabionet, 2011, p. 564)	3.2.3
0.3		
0.4	(Rabionet, 2011, p. 564)	3.2.2 3.2.3
0.5	(Rabionet, 2011, p. 564).	3.2.2 3.2.3
1.1	(Bals et al., 2019, p. 10; Behzadifar et al., 2020, p. 120; Fearne & Fowler, 2006, p. 286; Foerstl et al., 2013, p. 709; Nair et al., 2015, p. 9; Schulze et al., 2019, pp. 19-20)	2.3.1
1.2	(Arnold, 1996, p. 13; Arya & Lin, 2007, p. 719; Day & Montgomery, 1983, pp. 56-57; McIvor et al., 1997, pp. 169-170; Popli et al., 2017, p. 27; Tella & Virolainen, 2005, pp. 162-164; Wicks & Hall, 2000, pp. 512-513; Williamson, 1989, pp. 60-61) (Lawson et al., 2009, p. 22; Nollet & Beaulieu, 2003, p. 10; 2005, pp. 12-13; Polychronakis & Syntetos, 2007, p. 439; Schotanus, 2007, pp. 98-100; Schütz et al., 2020, pp. 4-5, 10; Tella & Virolainen, 2005, p. 167)	2.3.2 2.3.3
1.3	(Arnold, 1996, p. 13; Arya & Lin, 2007, p. 719; Day & Montgomery, 1983, pp. 56-57; McIvor et al., 1997, pp. 169-170; Popli et al., 2017, p. 27; Tella & Virolainen, 2005, pp. 162-164; Wicks & Hall, 2000, pp. 512-513; Williamson, 1989, pp. 60-61) (Autry & Golicic, 2010, pp. 96-97; Janda & Seshadri, 2001, pp. 303-304; Lascelles & Dale, 1989, pp. 14-15; Pan & Fong, 2010, p. 187; Sieweke et al., 2012, p. 133; Tella & Virolainen, 2005, p. 164; Walker et al., 2013, p. 9)	2.3.2 2.3.3
1.4	(Bals et al., 2019, p. 10; Behzadifar et al., 2020, p. 120; Driedonks et al., 2010, pp. 113-114; Eatough, 2014; Foerstl et al., 2013, p. 709; Nair et al., 2015, p. 9; Nijssen et al., 2002, p. 287; Rozemeijer et al., 2003, pp. 11-12; Safar et al., 2018, pp. 626-627; Schulze et al., 2019, pp. 19-20)	2.3.3
1.5	(Dyer & Singh, 1998, pp. 675-676; Lindgreen et al., 2009, p. 170; Paulraj et al., 2006, p. 118; Paulraj et al., 2008, p. 59)	2.3.1 2.3.3
1.6	(Dyer & Singh, 1998, pp. 675-676; Lindgreen et al., 2009, p. 170; Paulraj et al., 2006, p. 118) (Lawson et al., 2009, p. 22; Nollet & Beaulieu, 2003, p. 10; Schotanus, 2007, pp. 98-100; Sieweke et al., 2012, p. 133)	2.3.1 2.3.3
2.1	(Nagarajan et al., 2010, p. 11; Nollet & Beaulieu, 2005, p. 14; Schotanus, 2005, p. 2; 2007, pp. 158, 199-200; Schotanus et al., 2010, p. 58)	2.3.4
2.2	(Nagarajan et al., 2010, p. 11; Nollet & Beaulieu, 2005, p. 14; Schotanus, 2005, p. 2; 2007, pp. 158, 199-200; Schotanus et al., 2010, p. 58)	2.3.4
2.3	(Nagarajan et al., 2010, p. 11; Nollet & Beaulieu, 2005, p. 14; Schotanus, 2005, p. 2; 2007, pp. 158, 199-200; Schotanus et al., 2010, p. 58) (Wang et al., 2010, p. 29; Yu et al., 2009, pp. 790-791) (Gelderman & Semeijn, 2006, p. 210; Rozemeijer, 2000, pp. 7-8) (Karjalainen, 2011, p. 96; McCue & Pitzer, 2000b, p. 401)	2.3.4 2.3.5 2.3.9 2.3.10
2.4	(Nagarajan et al., 2010, p. 11; Nollet & Beaulieu, 2005, p. 14; Schotanus, 2005, p. 2; 2007, pp. 158, 199-200; Schotanus et al., 2010, p. 58) (Wang et al., 2010, p. 29; Yu et al., 2009, pp. 790-791)	2.3.4 2.3.5
3.1	(Kraljic, 1983, p. 110; Rendon, 2005, pp. 8-9) (Caniels & Gelderman, 2005, pp. 151-152; Gelderman & Van Weele, 2005, p. 25; Kraljic, 1983, p. 116; Monczka et al., 2015, p. 212)	2.3.6 2.3.7

	(Hesping & Schiele, 2015, pp. 147-148; Schiele, 2007, p. 279; Schiele et al., 2011, pp. 325-327)	2.3.8
3.2	(Caniels & Gelderman, 2005, pp. 144-146; Kraljic, 1983, p. 110; Rendon, 2005, pp. 8-9)	2.3.6
	(Caniels & Gelderman, 2005, pp. 151-152; Gelderman & Van Weele, 2005, p. 25; Kraljic, 1983, p. 116; Monczka et al., 2015, p. 212)	2.3.7
	(Hesping & Schiele, 2015, pp. 147-148; Schiele, 2007, p. 279; Schiele et al., 2011, pp. 325-327)	2.3.8
3.3	(Carr & Smeltzer, 1999, p. 49; Rodríguez-Escobar & González-Benito, 2017, p. 1196; Rozemeijer, 2000, pp. 7-8)	2.3.9
	(Karjalainen, 2011, p. 96; McCue & Pitzer, 2000b, p. 401)	2.3.10
4.1	(Rabionet, 2011, p. 564)	3.2.3
4.2	(de Groot, 1961, pp. 33-34)	3.1
4.3		

Appendix 2

Kraljic's classifying items based on p112.

Exhibit II Classifying Purchasing Materials Requirements			
Procurement focus	Main tasks	Required information	Decision level
Strategic items	Accurate demand forecasting. Detailed market research. Development of long-term supply relationships. Make-or-buy decisions. Contract staggering. Risk analysis. Contingency planning. Logistics, inventory, and vendor control.	Highly detailed market data. Long-term supply and demand trend information. Good competitive intelligence. Industry cost curves.	Top level (e.g., vice president, purchasing).
Bottleneck items	Volume insurance (at cost premium if necessary). Control of vendors. Security of inventories. Backup plans.	Medium-term supply/demand forecasts. Very good market data. Inventory costs. Maintenance plans.	Higher level (e.g., department heads).
Leverage items	Exploitation of full purchasing power. Vendor selection. Product substitution. Targeted pricing strategies/negotiations. Contract/spot purchasing mix. Order volume optimization.	Good market data. Short- to medium-term demand planning. Accurate vendor data. Price/transport rate forecasts.	Medium level (e.g., chief buyer).
Noncritical items	Product standardization. Order volume monitoring/optimization. Efficient processing. Inventory optimization.	Good market overview. Short-term demand forecast. Economic order quantity inventory levels.	Lower levels (e.g., buyers).

Appendix 3

Kraljic's classifying items based on p114.

Exhibit III Purchasing Portfolio Evaluation Criteria		
	Supplier strength	Company strength
1	Market size versus supplier capacity	Purchasing volume versus capacity of main units
2	Market growth versus capacity growth	Demand growth versus capacity growth
3	Capacity utilization or bottleneck risk	Capacity utilization of main units
4	Competitive structure	Market share vis-à-vis main competition
5	ROI and/or ROC	Profitability of main end products
6	Cost and price structure	Cost and price structure
7	Break-even stability	Cost of nondelivery
8	Uniqueness of product and technological stability	Own production capability or intergration depth
9	Entry barrier (capital and know-how requirements)	Entry cost for new sources versus cost for own production
10	Logistics situation	Logistic

Appendix 4

Kraljic's strategic implications of purchasing portfolio positioning based on p115.

Exhibit V Strategic Implications of Purchasing Portfolio Positioning			
Strategic thrust			
	Exploit	Balance	Diversify
Company strength			
	Supplier strength	Supplier strength	Supplier strength
Policy issues			
Volume	Spread	Keep or shift carefully	Centralize
Price	Press for reductions	Negotiate opportunistically	Keep low profile
Contractual coverage	Buy spot	Balance contracts and spot	Ensure supply through contracts
New suppliers	Stay in touch	Selected vendors	Search vigorously
Inventories	Keep low	Use stocks as "buffer"	Bolster stocks
Own production	Reduce or don't enter	Decide selectively	Build up or enter
Substitution	Stay in touch	Pursue good opportunities	Search actively
Value engineering	Enforce supplier	Perform selectively	Start own program
Logistics	Minimize cost	Optimize selectively	Secure sufficient stocks