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A Purchasing Portfolio approach to Supplier Relationship Management at Volvo Car Group IT

Master of Science Thesis in the Master Degree Programme, Supply Chain Management

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Abstract

Authors and researchers have advocated the increasing role of purchasing due to the impact it has on an organization's profit margin for quite some time. The relative importance of different suppliers is often determined from how much of the company spend that is allocated to a certain supplier. More and more studies nowadays are although focusing on more complex segmentation processes that include variables other than spend. A possible way of segmenting a company's supplier base is to use a purchasing portfolio approach where the supplied commodity is categorized in a matrix based on different variables that often include an internal factor like importance of the purchase and an external market factor. The rationale is to differentiate the supplier relationship management in order to get the most out of the company's resources.

This thesis was carried out as a case study at Volvo Car Group IT and since the Chinese automobile manufacturer Geely acquired the company from Ford in 2010, they have a greater responsibility for managing the relationships with the suppliers. The current focus on cutting costs and leveraging from economies of scale also mean that there is a need to segmenting the supplier base. The purpose of this thesis is therefore to use a purchasing portfolio approach to suggest a method for segmenting Group IT and IDP IT's suppliers and to propose relevant supplier relationship strategies towards each supplier segment. In order to fulfill the purpose, three research questions were proposed:

1. How should Group IT and IDP IT segment their supplier base?
2. What type of relationships should be pursued with the different supplier segments?
3. How could the work with supplier relationships be incorporated in the organization?

To answer these questions, a theoretical framework was developed and 22 semi-structured interviews were held with employees from different departments in the organization. The result suggests that Group IT and IDP IT should segment their suppliers based on how important the purchase is for them and how complex the supplier market is. Suppliers should be segmented into four categories based on if they are delivering strategic, leverage, non-critical or bottleneck commodities and the work with relationship management should be differentiated accordingly through for example appropriate levels of involvement based on where the supplier is located in the matrix.

Keywords: Purchasing portfolio, Supplier Relationship Management, Supplier segmentation

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Gothenburg, June 2013

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List of Abbreviations

AMS - Application Maintenance Services

CBP – Commodity Business Plan

DPS - Development & Professional Services

ESP - Effective and efficient Sourcing of Projects

IDP IT - Indirect Purchasing, IT group

IMS - Infrastructure Management Services

IONG - Infrastructure Outsourcing Next Generation

KPI – Key Performance Indicator

OLA - Operating Level Agreement

QSSM - Quality Sourcing & Skills Management

RFQ – Request for Quotation

SAMS - Standard Application Maintenance Sourcing

SCD - Supplier Choice Department meeting

SLA – Service Level Agreement

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1. Introduction

In most companies, the costs associated with purchasing and procurement often account for more than half of the company's total spend. There is a trend that these costs are increasing due to the fact that companies put more focus on their core competences and choose to outsource the services that others do better (van Weele, 2010). As a result of the purchasing function's large impact on a company's profit, the strategic importance of supplier management and purchasing has increased (Dubois & Pedersen, 2002). Supplier relationship management can be regarded as the practices required to institute the business rules and the understanding needed for the interaction with different suppliers in order to increase the profitability of the organization. (Spencer & Reilly, 2001) One of the important aspects of the purchasing function is strategic sourcing. This is defined as the ongoing analysis to evaluate the mix of products and services and decide adequate suppliers and terms and conditions in order to balance cost, quality and risk.

There has been a trend for manufacturing companies to outsource more of their business operations and according to Cox and Stacey (2003) it is no longer a question about what should be outsourced, but what can be done to improve the value of the company's deals. The same authors state that supplier relationship management is the key to long-term success and that poor supplier management should be identified through the measurement of key performance indicators (KPIs). If a company is prepared to invest in their work with relationship management, there are management costs that can be reduced and improve the value for both parties in the relationship. A supplier can provide much more than just supplying the services and materials needed. They can for example offer information to help with the development and evaluation of new products, identify new business opportunities and share the risks associated with a project (Emberson & Storey, 2006). One important aspect of purchasing is therefore the strategy regarding management of suppliers and the buyer-seller relationships.

Supplier relationships can have different characteristics as well as importance for a company. Depending on for example how much the company purchases, how often they purchase, the characteristics of the acquired components and what type of service that is bought different types of relationships can be preferable (Anderson & Norrman, 2002). If a component with high technical complexity or with great importance for the function of the product is to be purchased, the relationship with these suppliers probably requires more effort from the involved parties. There might be a need for mutual research and development between the company and the supplier to match the desired quality or function. This type of relationship can be costly in terms of both time and money and it is therefore likely that a company only has few strong relationships. Standard services or components on the other hand can most likely be produced by many different suppliers with marginal differences in quality. In these cases the relationships are not of the same importance and instead the focus will be on the lowest unit cost. Many suppliers

can be played out against each other and they can be kept on an arm's length without endangering the quality of the final products or services (Forker & Stannack, 2000).

There are clear motives for a company to differentiate what type of relationship it should pursue with different suppliers. One way of separating supplier relationships is to use a purchasing portfolio approach where suppliers are divided into different segments depending on a variation of variables and objectives. Depending on what category different suppliers are separated into in these portfolios, different supplier relationship management strategies are advocated. The portfolio perspective is based on the widened perception of relationship management where focus has shifted from individual relationships to the management of suppliers as a set in order to develop an optimized supplier base (Wagner & Johnson, 2004).

There are several previous studies concerned with the topic of purchasing portfolios. Kraljic (1983) presented what is viewed as the first comprehensive model when he expanded the set of variables and included supply risk as well as profit impact and separated suppliers into four different categories in a 2x2 matrix. This model has over time been reworked and developed by several authors. Olsen and Ellram (1997) used the strategic importance and the difficulty of managing the purchase as variables for their model and both Bensaou (1999) and Gelderman and van Weele (2000) created supplier segmentation models based on power dependence between the buyer and the supplier.

1.1 Empirical background

Automobiles have been produced under the Volvo brand since 1927 and today they have a vision to be the world's most progressive and desired luxury car brand. In 1999, Ford acquired Volvo's car division and separated them from the Volvo Group and in 2010 Ford sold the division to the Zhejiang Geely Holding Group (Geely).

Volvo Car Group (Volvo Cars) sold almost 450 000 cars during 2011 which was an increase of about 20 per cent compared to 2010. Their global market share is between one and two per cent and their largest market is the US followed by Sweden and China, as shown in *figure 1* below.

Top ten markets for Volvo Cars 2011

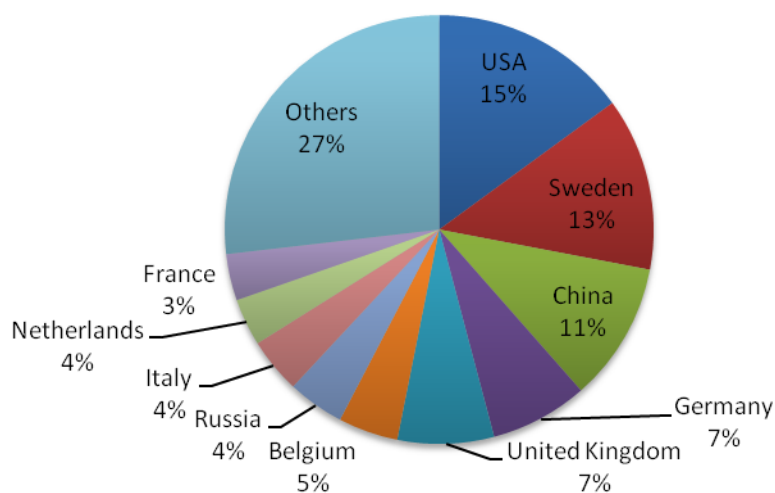


Figure 1: Top markets for Volvo Car Group (volvocars.com)

Volvo Cars has a goal to produce 800 000 cars in 2020 which is almost a 100 percent increase compared to the production rate today. There is also a transformation going on at Volvo Cars since Geely acquired Volvo from Ford in 2010. The Chinese market is also in more focus compared to previous years as a result of the acquisition and it is stated that the development of China as a second home market is part of the company's growth strategy. Since 2006, Volvo Cars is also manufacturing in Chongqing, China. These changes have had effects on the company in the forms of a need to reorganize and change processes concerning purchasing and resulted in a need for new ways of segmenting, monitoring and evaluating suppliers.

The purchasing process for in-direct material at Volvo Cars relies on the cooperation between two separate functions. Volvo Cars' IT function (Group IT) and the Indirect IT Purchasing function (IDP IT).

Today, Group IT and IDP IT procure licenses, software, hardware and services related to indirect IT from more than 250 suppliers. Group IT has the ambition to move from being a supporting function for Volvo Cars to a more independent and value-creating unit. Instead of only supporting Volvo Cars when there is an IT-related problem, Group IT is currently implementing a number of change modules to transform their organization in order to be more value creating. In this transformation work, a new sourcing strategy is to be developed.

A step towards a more effective organization is to evaluate the purchasing organization and sourcing strategy. It is vital for Group IT and IDP IT to be able to differentiate the way that they work with their suppliers in different situations and to continuously evaluate both old and new ones. Group IT and IDP IT has started working with this issue and they have done initial work in developing a new sourcing strategy.

1.2 Problem analysis and Purpose

In 2012, Group IT and IDP IT initiated a sourcing strategy initiative. The sourcing program is intended to improve the sourcing of indirect IT products and services procured by Group IT and IDP IT.

One of the things not fully incorporated into the sourcing strategy is relationship management and how the interaction between suppliers and Volvo is intended to work. An underlying problem has been identified in that no formalized guidelines exist on how relationships between Group IT, IDP IT and their suppliers should be handled and managed. This has led to relationships being formed and defined mainly on the amount purchased from the suppliers.

Kraljic (1983); Olsen and Ellram (1997); Bensaou (1999); Gelderman and van Weele (2000) suggests that segmenting the different suppliers into manageable categories or segments allows the use of standardized work methods to be incorporated for the suppliers. Standardized work can potentially be used to improve costs related to the integration between Volvo Cars and their suppliers. Furthermore, by forming relationship strategies for each of the segments Group IT and IDP IT can potentially improve the value of their relationships. In the long term, revenues could potentially be increased through involving suppliers in the innovation process.

The purpose of this thesis is to use a purchasing portfolio approach to suggest a method for segmenting Group IT and IDP IT's suppliers and to propose relevant supplier relationship strategies towards each supplier segment.

In order to fulfill this purpose, the problem has been broken down into three separate but interdependent research questions (*see figure 2*). Important to take into account is that the research questions will be addressed with Volvo Cars' long- and short term objectives in mind in order to satisfy the overall company goals.

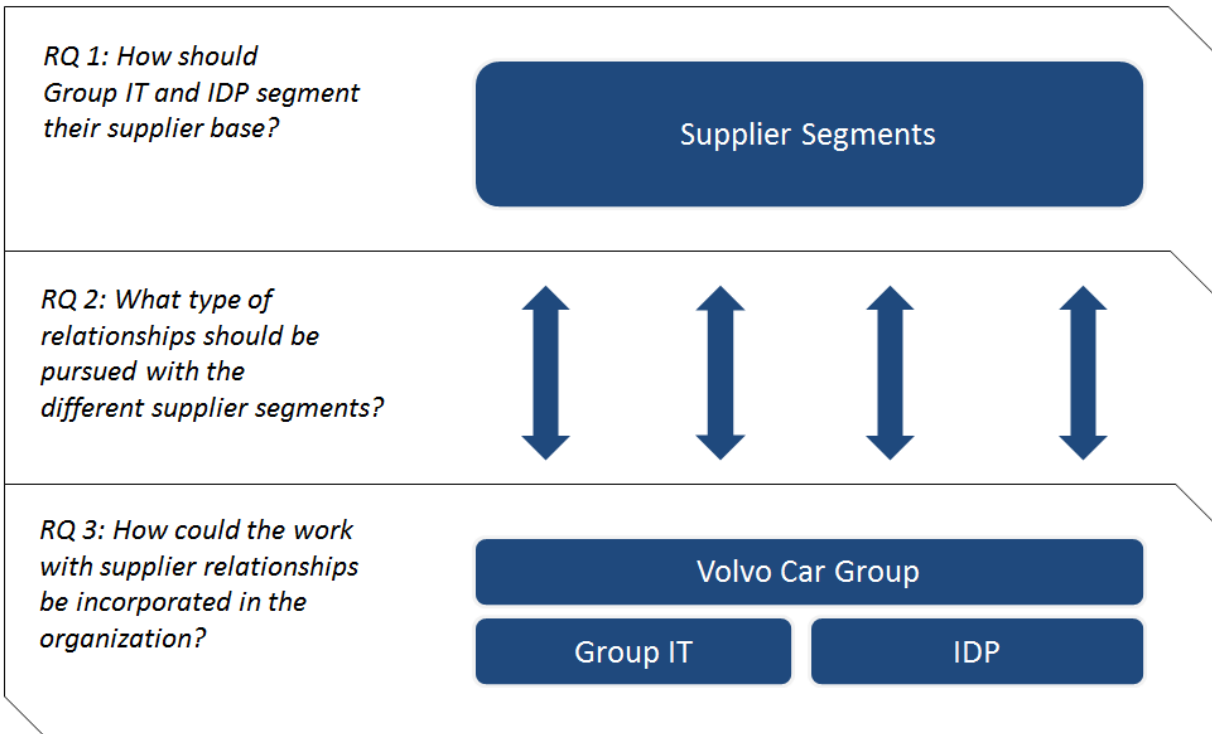


Figure 2: Thesis research questions

To be able to connect supplier relationship strategies to a specific set of suppliers there is a need to investigate how Group IT and IDP IT could segment their suppliers. The first research question (*see fig. 2*) therefore concerns the segmentation of Group IT's and IDP IT's supplier base. Olsen and Ellram (1997) suggest using a three-step portfolio model to assist in managing different kinds of supplier relationships. The first of these steps includes using a purchasing portfolio model to analyze the different kind of purchases. Kraljic (1983); Olsen and Ellram (1997); Bensaou (1999); Gelderman and van Weele (2000) suggest that such a model should contain one internal and one external dimension for the model to be useful. From Group IT and IDP IT's perspective it is important that this model is adapted to fit the type of organization that they have as well as being in line with the IT- and the corporate strategy. There is therefore a need to investigate what type of dimensions and factors that should be included in Group IT and IDP IT's purchasing portfolio model.

After analyzing the purchases and connecting suppliers to specific types of purchases, Olsen and Ellram (1997) suggests that suppliers should be rated on the relative attractiveness and the strength of the relationship so that strategies and action plans can be formed for the different segments. A number of studies have been focusing on the importance of differentiating the work with suppliers and the possible benefits that close collaborations can bring for both the buyer and the supplier (McQuiston, 2001); (Cox, 2004); (Wagner & Johnson, 2004); (Gadde et al., 2010). Wagner and Johnson (2004) highlight the rationale of allocating a company's relationship efforts

to optimize its limited resources. There may be differences regarding the level of interaction needed, the involved parties' objectives and what type of metrics that are used in the evaluation process. Research question two therefore addresses what the relationship should look like between Group IT, IDP IT and the supplier segments in terms of level of interaction and company objectives. Furthermore, From Group IT and IDP IT's perspective it is important to realize that the supplier base is constantly changing as a result of changing demands and maturing markets. In terms of the relationship with suppliers, this means that suppliers needs to be periodically evaluated to make sure that the segmentation is up to date and that the correct amount of resources are allocated to a certain supplier relationship.

When a method for segmenting the purchases and suppliers of the company have been developed and the preferred type of relationships associated with the different segments have been defined, the new ways of working with the suppliers need to be communicated and acted upon in the organization. Olsen and Ellram (1997) discuss action plans on how to get an existing supplier relationship to become more like the relationship suggested in research question two.

Research question one and two raise questions regarding the implementation and how to actually get the suggested method of evaluating, segmenting and working with suppliers to work in Group IT and IDP IT. It is important for Group IT and IDP IT to get a sense of how to implement and formalize the supplier relationship strategy in the organization and to coordinate this implementation with the ongoing sourcing program. The third research question therefore concern how the work with supplier relationships could be incorporated in the organization.

2 Theoretical framework

As seen in *figure 3*, the theoretical framework is anchored in theories related to the research questions. The theoretical framework begins with purchasing theory and extends deeper into the areas of supplier evaluation, purchasing portfolio models and supplier relationship management.

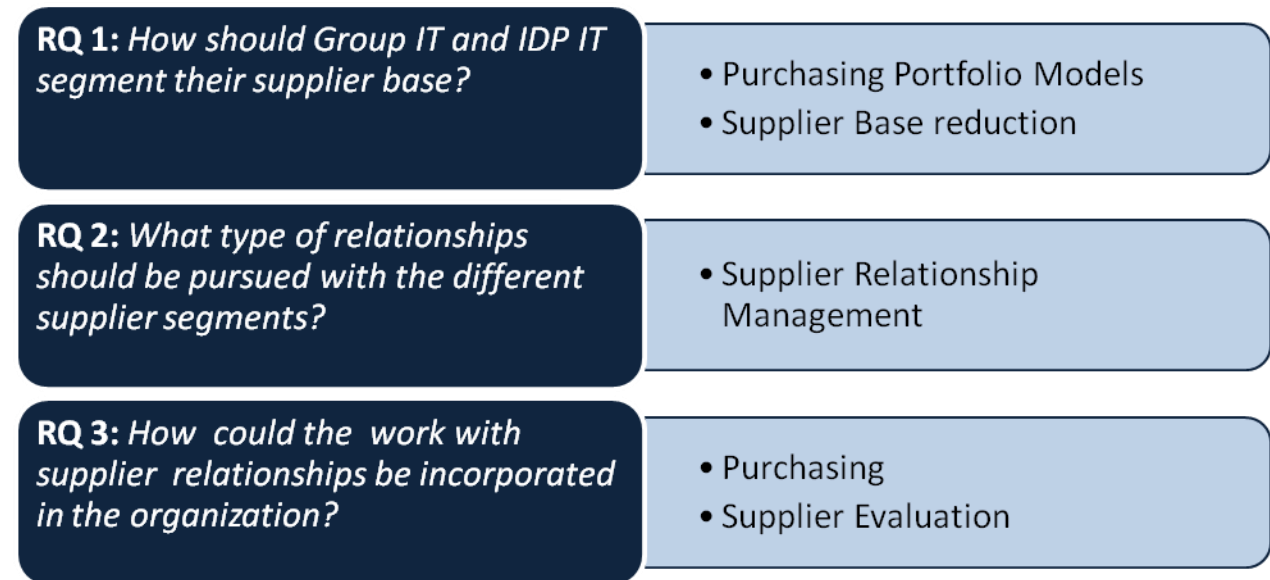


Figure 3: Theoretical framework outline

2.1 Purchasing

Traditionally, the purchasing function has been considered to only cover the operational part of the purchasing process (van Weele, 2010). In practice this meant that purchasers worked on an operational level, treating each order as a single entity that should be optimized in terms of quality, price and delivery. The problem with this approach is that many purchasing decisions are interrelated and the focus should not lie on single decisions but rather on optimizing the overall solution (Gadde et al., 2010).

Trends such as outsourcing and focus on core competence have increased the importance of purchasing as a strategic area for organizations to improve. In the automotive industry, the proportion of purchasing costs in relation to the cost of goods sold is just over 80% (van Weele, 2010). The increased amount of revenue being spent on purchased products and services adds to the potential savings that could be realized within the purchasing function thereby increasing the function's importance. Another thing that adds to the strategic value of the purchasing function is that the organization can contribute to higher revenue in the form of involving suppliers in the innovation process.

2.2 Purchasing Portfolio Models

To get a better understanding of today's purchasing portfolio models one needs to know where these supplier segmentation methods are developed from. This chapter therefore starts with a short presentation of some of the major theories that have been presented in this field of literature. The following subsections within this part of the theoretical framework are separated into *dimensions*, *categories* and *supplier relationships* with regard to the presented portfolio theories. The purpose is to highlight factors and dimensions that affect the relationship type that is sought by the buying company in order to develop a framework for the thesis. The dimensions and the influencing factors of the different portfolio models described are summarized in table 1 in the end of this section

There are several reasons for a company to use a purchasing portfolio model approach. Gelderman and van Weele (2002) state that usage of the tool can result in leverage and synergy benefits for a company through more integration of the purchasing approach as well as the coordination of sourcing patterns. The same authors also stress the benefits that the process of the classification of suppliers can bring through discussions and visualizations of possible developments and differentiating strategies. Similar arguments are emphasized by Lilliecreutz and Ydreskog (1999) who say that a purchasing portfolio analysis results in differentiating purchasing strategies for different supplier segments. Wagner and Johnson (2004) also stress the importance of looking at relationship management from a portfolio perspective. The authors state that strategic supplier portfolios contribute to competitive advantage through an optimization of a company's supplier base.

When Kraljic (1983) wrote his article "Purchasing must become supply management" in Harvard Business Review in 1983 he had recognized some concerns with how companies viewed the role of purchasing. Purchasing was at this time viewed more as a clerical activity where practitioners only were brought to the table in case of emergency last minute purchases if at all. The same author also indicated the absence of strategic tools to deal with different types of purchasing situations.

There existed some repeatable methodologies used by companies to separate their purchasing activities and the most common one was the Pareto analysis. The Pareto analysis is also known as the 80/20-rule where the majority of the suppliers and transactions represent a small portion of the total value and only a small number account for the majority of the total spend portfolio. The idea behind the method is to allocate more of a company's time and effort on higher value spends (Gelderman & van Weele, 2005).

Kraljic (1983) advocated the importance of looking at purchasing from a more strategic point of view. He developed what is viewed as the first comprehensive purchasing portfolio model due to the fact that previously used models like the Pareto analysis was not complex enough to handle the various purchasing situations that could occur. The old models have received critique for being only prioritization tools and not strategic tools and also for being too focused on the monetary aspect of purchasing, ignoring the vital few low value spends that might be costly to ignore. Due to the fact that Kraljic (1983) introduced the thought of purchasing as a more strategic practice in a company, the article he wrote has made a great impression on researchers' views on purchasing (Dubois & Pedersen, 2002).

Kraljic (1983) had five key ideas about the new way of looking at purchasing that he wanted to include in his model. The first idea regarded how purchasing should be a strategy, not just as deals where the most focus lie on the high value spends. The second idea was that there was a need for a more thorough segmentation of suppliers and that there should be different strategies for different categories. The third idea concerned how purchasing managers should include not only spend cost but also the risk when selecting suppliers and the fourth regards how the structure of the supply markets should be considered. The last idea states that purchasing decisions should be made from a holistic point of view, where risks of the total value chain are regarded.

Kraljic showed with his purchasing portfolio that he thought there was a need to change the view on purchasing and it is evident that his purchasing portfolio model is widely recognized and used by a lot of purchasing organizations. A study by Boodie (2002) showed that 50 % of the replying purchasing managers used Kraljic for supporting their purchasing strategies and the percentage was even higher for larger companies. Although, it should be noticed that the recommendations and guidelines in Kraljic's matrix are of general character and should be adapted and designed to fit the company-specific environment (Gelderman & van Weele, 2002). Olsen and Ellram (1997) introduced a model similar to the one made by Kraljic. The authors had some modifications in the categories on the axes but still a strong focus on differentiated purchasing behaviors towards the suppliers based on the importance of single materials or supply situations (Dubois & Pedersen, 2002).

In a model presented by Bensaou (1999) the focus instead lies on the buyer-supplier relationships and includes the power dependence between the involved actors. Here the influence one actor can have on the other and how dependent the actors are of each other set the conditions for what kind of relationship that should be sought. In Bensaou's (1999) approach there are two main issues that he wants include. The first one regards the strategic decision about what governance structure that an organization should prefer depending on different external possibilities. The other issue is an organizational question about how a company should manage their different types of supplier relationships.

Another similar model that focused on the buyer-supplier relationship was presented by Gelderman and van Weele (2000). They believed models like Kraljic's did not put enough emphasis on the natural conflict of interests in a buyer-supplier relationship. The same authors stated that both involved actors in a business relationship seek the dominant position and possibilities of effecting their power position. They claimed that this phenomenon is something that can be added as a variable in order to improve the Kraljic matrix. Lilliecreutz and Ydreskog (1999) also claimed that strategies solely based on Kraljic's model miss out on the dynamics of the power between the involved actors.

The following subsections will further explain the different variables and contents of the purchasing portfolio models. Dimensions refer to the axes that the model is based on and categories refer to the definitions of the different segments in the purchasing matrices.

2.2.1 Portfolio dimensions

Based on these key ideas, Kraljic (1983) used the concept of portfolio analysis and applied it in the purchasing environment. He divided different types of purchases into four categories forming a 2x2 matrix where the y-axis represents the profit impact of the purchase and the x-axis represents the supply risk. The dimensions of the matrix can be seen in *figure 4* below and the four categories (leverage items, strategic items, non-critical items and bottleneck items) are further discussed in the succeeding section.

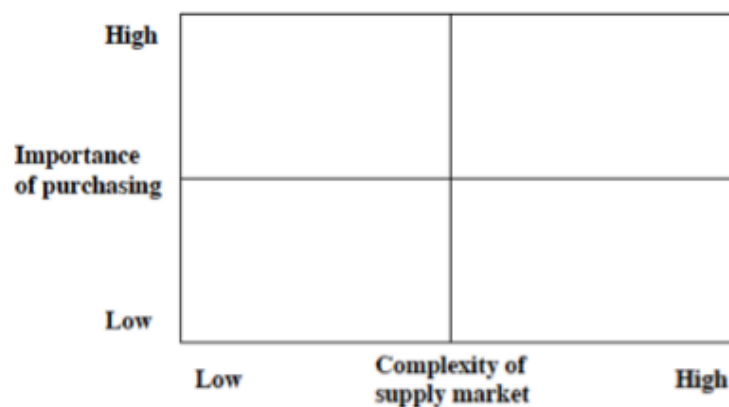


Figure 4: Kraljic's (1983) portfolio model

The structure of the purchasing portfolio clearly showed how Kraljic added new dimensions compared to previous methodologies like the Pareto analysis. Instead of only using spend as a variable, *importance of purchasing* (the y-axis) distinguished between low and high importance of for example costs, total costs, value added profile and profitability contribution (Kraljic, 1983). The matrix also included the *complexity of the supply market* (x-axis). This variable separated between low and high complexity of for example the market structure (monopoly, oligopoly etc.), the rate of market change, barriers to entry, logistic costs and the market complexity.

Olsen and Ellram (1997) used the same names on the four categories in their matrix but based their categorization on the difficulty of managing the purchase situation and the strategic importance of the purchase, as shown in *figure 5* below. If a classification resulted in high results on both factors, the action plan was according to the same authors to strengthen the relationship. Other action plans, depending on the where in the matrix a relationship is put, included improving the supplier attractiveness or to reduce resources allocated to the relationship.

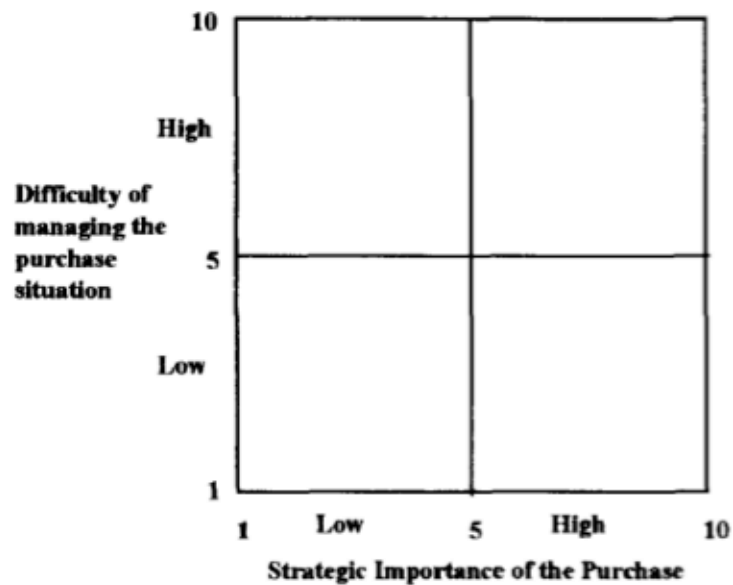


Figure 5: Portfolio Model by Olsen and Ellram (Olsen & Ellram, 1997, pp. 105)

To decide the difficulty of managing a certain purchase it is analyzed from three different perspectives: the product characteristics, the supply market characteristics and the environmental characteristics. The product characteristics that are of most importance regard the novelty and the complexity of the product. The supply market characteristics concern different questions about the market structure like the number of existing suppliers, suppliers' power or the supplier's technical competence. The environmental characteristics consider the overall risks and uncertainties with the purchase. The risks are divided into commercial- and technical risks and the uncertainties are characterized as market- and technical uncertainties.

Bensaou (1999) created a 2x2 matrix where the vertical axis represents the buyer's specific investments and the horizontal axis represents the supplier's specific investments, as shown in *figure 6*. Specific investments are explained in this context as investments that are bound to a specific supplier and that are problematic or costly to transfer to another relationship. The buyer's specific investments are in turn separated into tangible- and intangible investments. Tangible investments could for example be buildings and equipment that are dedicated to a

certain supplier and intangible investments is the time and effort a company devotes in managing and developing a relationship.

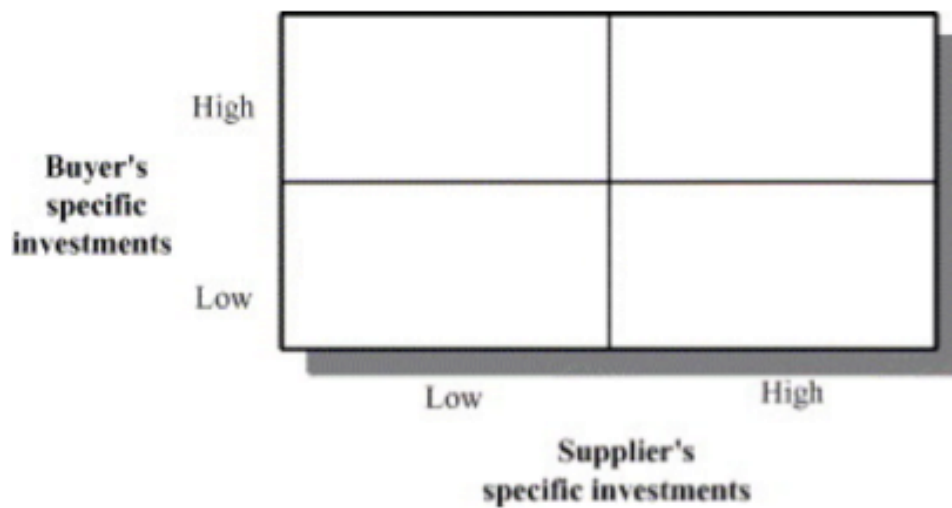


Figure 6: Bensaou's (1999) portfolio model

The supplier's specific investments are also separated into tangible- and intangible investments. Plants, warehouse location or other specialized facilities are examples of tangible investments while intangible resources could be the development of an information system that is compatible with the buyer's.

2.2.2 Portfolio categories

In the matrix by Kraljic (1983) the categories are: *leverage items*, *strategic items*, *non-critical items* and *bottleneck items*, as shown in figure 7. In the top left corner of the matrix is the *leverage items* category. Items in this square are characterized by that the supply exceeds the demand, that they have high impact on profitability, that they are low-risk items and that they are available on a competitive market. *Leverage items* is the category that is most similar to many earlier procurement strategies since it is generally the price that is of greatest concern here.

Importance of purchasing	High	Leverage items: Materials management	Strategic items: Supply management
	Low	Non-critical items: Purchasing management	Bottleneck items: Sourcing management
		Low	High
		Complexity of supply market	

Figure 7: Categories in the Kraljic (1983) matrix

In the next category, the *strategic items*, there are a lot of other factors than price that are of great matter. These items, often scarce components or high-value items, have high impact on a business and they are high-risk items that are hard to source. In these complex markets there might be other factors that decide the order-winners like for example quality or long-term availability.

The *non-critical items* are described as day-to-day purchases of low-risk items that have low impact on a business. These items are typically routine buys that are easy to source. Typical non-critical items are standard equipment like stationeries and Kraljic (1983) claims that the other categories in the matrix deserve a lot more attention.

The last category is *bottleneck items* and these items are often characterized by that they are low spend but have high impact on business. They are often problematic to source due to for example market shortages, poor quality or market distortions and a good example of something that could be classified as bottleneck items are professional services.

The categories in the matrix by Olsen and Ellram (1997) are called the same as in the Kraljic matrix but differ slightly in their description as seen in *figure 8*. The *leverage* category concern easily managed purchases that are strategically important to the organization. Purchases that are easily managed but not considered strategically important for the company are placed in the *non-critical* category. The *strategic* category covers purchases that are problematic to manage as well as strategically essential and purchases that are difficult to manage but with little strategic importance are segmented in the final *bottleneck* category.

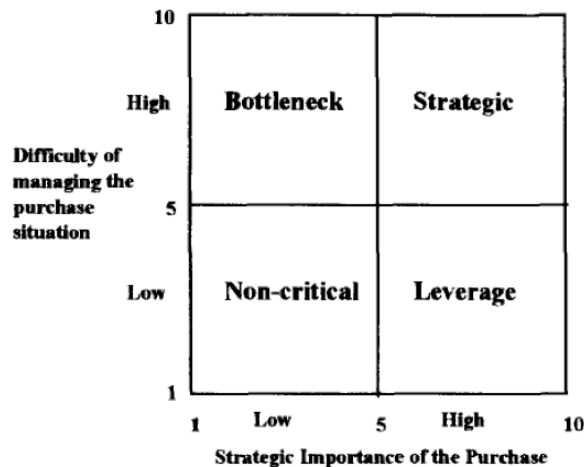


Figure 8: Categories in matrix from Olsen and Ellram (1997)

Both Olsen and Ellram (1997) and Gelderman and van Weele (2002) stress the idea that it is not the classification itself that always is of most use to the companies using these types of methodologies. Instead, the process to get there is what usually brings the most benefits to organizations. The process involves, as previously explained, discussions about the current and ideal situations and it involves a lot of different purchasing managers and other decision-makers. This means that there will be a raised awareness of the company's situation and different conflicts and questions need to be straightened out and they have to agree on which products, suppliers or relationships that are of most importance.

Similar to the previously presented models, both axes in Bensaou's (1999) model separate high values from low and making it a matrix with four different categories: *captive buyer*, *strategic partnership*, *market exchange* and *captive supplier* as seen in figure 9. In the *captive buyer* category the relationships are described as unbalanced since the buyer has invested more than the supplier. Bensaou (1999) resembles this type of relationship to a situation where the buyer is "held hostage" by the supplier who in turn is able to change customer much more easily. In a *strategic partnership* both parties have invested a lot in the relationship. Even though these relations can bring a lot of benefits for the company in terms of for example joint research and development, they are also risky for the company since there is a lot to lose if for example unexpected changes in market conditions change the supplier's business possibilities.

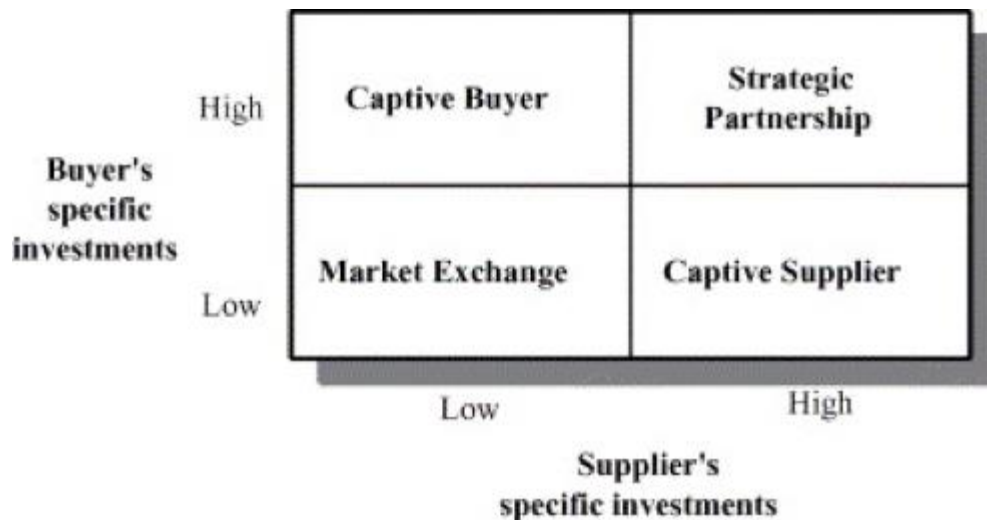


Figure 9: Matrix and categories, Bensaou (1999)

The *market exchange* category is characterized by that neither parties in the buyer-supplier relationship make any efforts or investments to develop it. There are no large costs for changing business partners and there is therefore no value for any of the actors to allocate resources to the relationship. In the *captive supplier* category the buyer-supplier relationship is asymmetric in the sense that the supplier needs to invest to stay in business with the buyer. The buyer on the other hand does not have to put a lot of effort into the relationship since there probably are many other suppliers to choose from for this specific service or component.

Furthermore, Bensaou (1999) also divides all the four squares in the matrix into three separate categories: the characteristics of the product, the level of competition in the upstream market and the supplier characteristics. The idea behind this is to facilitate for decision-makers to choose the right type of relationship with the right suppliers. Both internal and external factors should be considered and help to avoid that too much or too little resources are allocated to a specific supplier i.e. prevent over- or under-designing external relationships.

2.3 Supplier Relationship Management

Supplier relationship management is the process of organizing the way of working with suppliers. It is often viewed as a strategic tool due to the value creating possibilities for both the buyer and the supplier and many authors emphasize the benefits of long-term relationships and close collaborations. Gadde et al. (2010) stress that the supply base of a firm is the most valuable asset and that the purchasing activities have both direct and indirect impact on a company's profitability along with opportunities to access suppliers' knowledge and technology.

Consequently, the way a company interacts and manages the relationships with these other actors will have vital effect on the performance. Cox (2004) clarifies why firms choose to engage in relationships with other actors in a supply network. The authors suggest that a fundamental

rationale is to capture value. Capturing value for an actor can usually be translated into increasing the profits.

Wagner and Johnson (2004, p. 718) state that: “Allocating management capacity, administrative manpower, time, and financial funds selectively across the range of relationships in its supplier portfolio allows the firm to conserve and optimize its inevitably limited resources”. The same authors further state the importance for a company to develop tools for supplier segmentation, evaluation, integration and development in order to reap the benefits from a strategic portfolio approach.

Kraljic (1983) and Olsen and Ellram (1997) have similar explanations regarding the four different categories in their matrix and they also give hints on what an organization’s focus should be within the different segments concerning supplier management. In the *leverage* category the goal is to leverage the volumes of these strategically important purchases and decrease the material cost in order to reduce the high purchasing cost in this category. When managing the purchases in the *non-critical* category, the goal is instead to consolidate and standardize. The number of suppliers should be reduced and the relationships within this segment could favorably be more or less autonomous in order to reduce the administrative costs. In the *strategic* square it is emphasized by the authors that a company should look at these supplier relationships from a long-term perspective and aim at establishing close relationships. These close collaborations should focus on increasing the information sharing between the entities as well as joint development in order to have a high quality on the components or services. The purchases in the final category, *bottleneck*, do not have a high strategic importance but they are problematic to manage due to different market complexities. Standardization of the purchases, find new suppliers or create closer relationships and develop more effective ways of handling the purchasing situation in order to reduce the cost of operations are the main recommendations within this category.

Olsen and Ellram (1997) also developed a three-step model in their portfolio analysis to assist in managing different supplier relationships. The first of these steps is to analyze the purchases of the company and separate them into different types of preferred or ideal relationships. This is done with the help of the portfolio model in *figure 8* where the strategic importance of the purchase and the difficulty of managing the purchasing process are evaluated. In order to decide whether a purchase is of high or low strategic importance, they are evaluated on three different factors: competence factors, economic factors and image factors. The competence factors regard whether the purchase concerns a core competence of the organization or not. How much impact on profitability the purchase has is the base for the economic factors and the image factors regard what impact the purchase has on customers’ and suppliers’ image of the company.

The second step in the model by Olsen and Ellram (1997) is to analyze the current supplier relationships associated with the purchases. This analysis is based on the *strengths* of the

relationships and a number of factors that are vital when a company chooses a specific supplier. The authors call these factors the relative supplier attractiveness and separate them into economic factors, performance factors, technological factors, organizational factors and other factors. The economic factors include for example an analysis on the supplier's margin, their financial stability, their experience and the barriers to entry. The performance factors regard delivery, quality and price and the technological factors evaluate the supplier's ability to cope with technology changes, their speed in development and their intellectual property. The organizational factors concern the strategic fit between buyer and supplier and questions concerning the integration of the involved entities are addressed here. The other factors regard the supplier's ability to cope with changes in the environment and the supplier's safety record.

The strengths of a relationship are being evaluated from economic factors as well as from the character of the exchange relationship, the cooperation between buyer and supplier and the distance between them. The economic factors focus on how much is spent on the purchases, how important the buyer is to the supplier and the costs for ending the relationship. The character of the relationship can depend on what type of exchange that is taking place, the number of personal contacts and the duration of the relationship. The level of cooperation is decided from three different types of cooperation: cooperation in development, cooperation in technology and the integration of management. Finally, the distance between the buyer and the supplier involves the social-, cultural-, technological-, time- as well as the geographic distance.

The third and final step in the model is to develop action plans. These action plans should describe how the company should get a current supplier relationship to become more like what is thought of as an ideal relationship based on the comparison of the previous two steps in the process. It might be necessary for example to allocate more volumes to a specific supplier or increase the information transparency in order to strengthen the relationship. Olsen and Ellram (1997) also highlight the importance of looking at the interdependencies between an organization's different relationships and the allocation of resources among them, instead of only looking at separate relationships.

Once the choice of a certain supplier is made, there are different ways to manage the relation. Two fundamental approaches regarding relationships between two actors in a business network are arm's length adversarial relationships and long-term collaboration relationships (Parker & Hartley, 1997). Arm's length relationships are generally focused on more short-term interactions and competitive negotiations whereas long-term collaborations are often characterized by commitment and trust between the partners. In an arm's length relationship, the goal is commonly to lower costs immediately and increase profit margins while companies usually benefit from other dimensions like information transparency and joint research and development in long-term relationships.

It is the management's responsibility to identify who are the key suppliers and supplier groups that have the potential of becoming long-term suppliers and who are the suppliers that should be kept on an arm's length. How the selection process is being performed depends on the company's mission and what performance indicators that are prioritized but it often includes an evaluation of the potential profitability and future development possibilities (Turnbull et al., 1996).

In an arm's length relationship there is often a focus to cut the costs on an operational level. There are ways to make the operational activities between the buyer and the supplier more efficient and one example of this is e-procurement. The use of e-procurement technology is for described by (Johnson & Klassen, 2005) as a way to automate both internal and external business processes. The same authors state that examples of these processes include electronic purchase-order systems, online catalogues and other online connections to suppliers that can facilitate the information flow. Some of the benefits with the technology include improved productivity, faster response times, greater visibility of orders and that it is considered a low-risk implementation. Boyer and Olsen (2002) also found that e-procurement tools lead to cost reductions and inventory accuracy improvements.

There are also implications regarding an implementation of e-procurement that are worth mentioning. The process demands involvement and support from the supplier as well as internal support from the organization. Some of the major implications within an organization are stated as the existing business model, current business practices, a lack of technical skills and inadequately demonstrated costs and benefits of the implementation (Johnson & Klassen, 2005). One of the success factors for overcoming the implications is to design the implementation to support the corporate goals and strategy. If the goal is to cut costs there are e-procurement tools that can help but there is also the risk of moving a working supplier relationship towards a transactional relationship and away from a more relational. It is therefore important to investigate in what environments the implementation of e-procurement may create more value than it brings relational risks (Johnson & Klassen, 2005).

Purchasers have regular contact with suppliers in their day-to-day business and it is common that the purchasing function is expected to be responsible for maintaining supplier relationships. It is however stated from many different authors that this is not enough in order to coordinate and ensure a complex relationship. Ryals and Knox (2001) say that all corporate functions should be involved in order to allocate the company's resources according to the profit potential of the relationship. This is also important regarding the connections between the two involved parties. If the relationship only is based on interactions between purchasers and supplier representatives, the bonds and links between the actors are not very strong and there is a risk that the relationship becomes too dependent on a few interpersonal connections. Lambert (2010) further claims that it takes time and effort through active involvement between all business functions to manage a relationship between two organizations in order to coordinate complex operations.

McQuiston (2001) developed a model for building relationships between manufacturers' representatives and their principals, shown in *Figure 10* below. Shared goals and objectives, mutual dependence, concern for the other's profitability, open lines of communication, mutual commitment to customer satisfaction and trust are labeled as six core values. The model also includes four factors that support these six core values: investment of effort by the top management, to have professional respect, continuous improvement and to develop personal relationships. The six core values are described as more inter-organizational compared to the more interpersonal supporting factors. This model is also in accordance with a previous study made by Kanter (1994), who claims that successful relationships are created from a combination of interpersonal and inter-organizational factors.

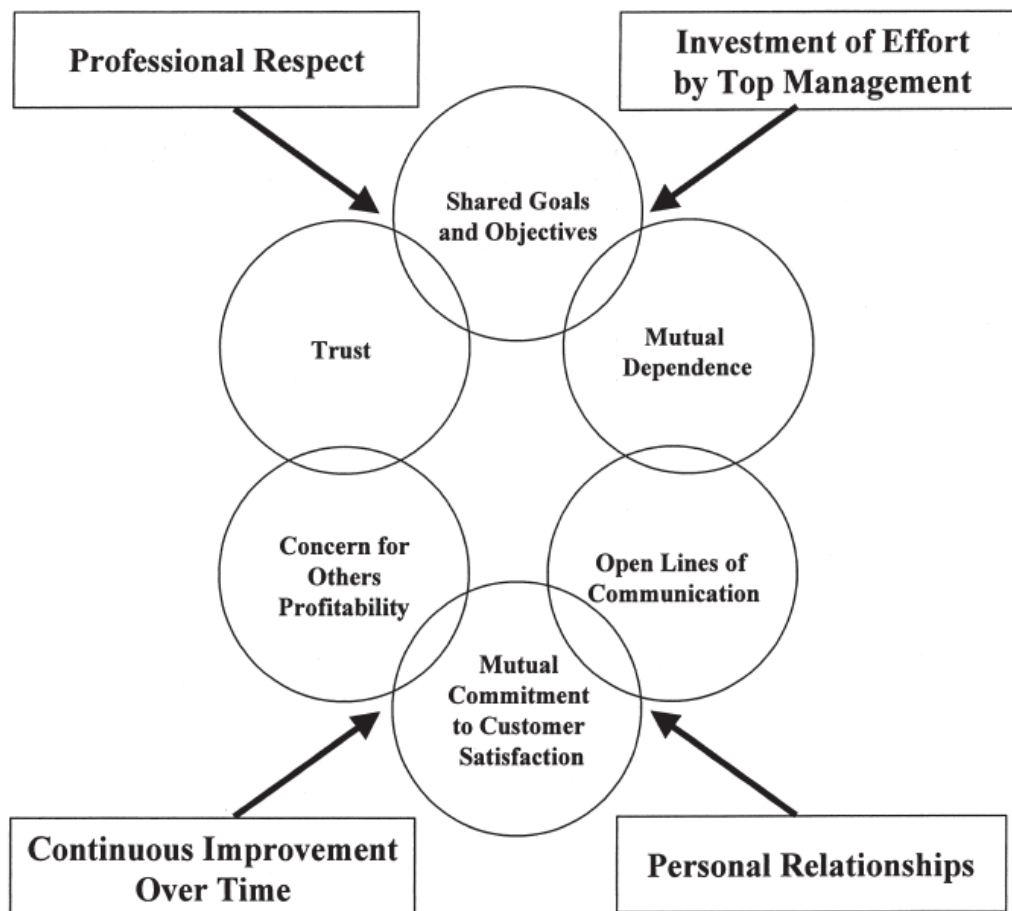


Figure 10: Relationship model (McQuiston, 2001)

Mutual dependence is one of the core values in the model by McQuiston (2001) and means that both involved parties should achieve benefits from the other through the nature of the relationship. Although, this dependence variable can be perceived differently depending on what

side of the relationship you are on. Böhme et al. (2008) state that there are five main variables that determine the level of dependency in a buyer-supplier relationship: supplier skills/capabilities, switching cost, supplier resources, branding and the number of alternative suppliers. If the supplier has unique skills or capabilities it will mean that the buyer's dependency on the supplier will be high. If the buying company has invested heavily in the relationship, the cost of switching supplier will be high and therefore the dependency on this supplier will be high as well. The third variable concerns the dependency that could be created if a supplier possesses scarce resources that are hard to obtain otherwise for the buying company. Branding means that a buyer prefers, or has to have, a specific brand that makes them dependent on a certain supplier. Finally, the supplier dependence can increase if the number of alternative suppliers on the market is low and therefore hard for the buying company to find another supplier.

The importance of not just looking at the finished structure of a relationship but also at the process of building and sustaining the bond is acknowledged by Hallen et al. (1991). The authors state that to achieve mutual goals there is a need to keep an exchange relationship through continuous work in order to build trust between the parties.

A common concept used when managing business relationships is relationship marketing. This is defined by Morgan and Hunt (1994, p.22) as “all marketing activities directed toward establishing, developing and maintaining successful relational exchanges”. The same authors say that relationship marketing is necessary due to the changing environment in the global marketplace and that a close collaboration's potential for competitive success is based on commitment and trust. These two factors have the best possibilities to develop based on four different conditions according to Morgan and Hunt (1994): providing superior resources and opportunities, high and similar standards and corporate values between the parties, clear information visibility and communication and finally to avoid taking advantage of your partner through opportunistic actions.

Table 1: Summary of purchasing portfolio factors and dimensions

Portfolio Model	Dimensions	Influencing factors
Kraljic (1983)	Importance of purchasing	- Cost - Total Costs - Value added profile - Profitability contribution
	Complexity of supplier market	- Market structure - Rate of market change - Entry barriers - Logistic costs - Market complexity
Olsen & Ellram (1997)	Strategic importance of purchase	- The extent to which the purchase is part of the firm's core competencies - Purchase improves knowledge of buying organization - Purchase improved technological strength of buying organization - Volume or dollar value of purchases -The extent to which the purchase is part of a final product with a great value added - The extent to which the purchase is part of a final product with a good profitability - Criticality of the purchase to get leverage with the supplier for other buys - Supplier critical image/brand name - Potential environmental/safety concerns
	Difficulty of managing the purchasing situation	- Novelty - Complexity -Suppliers' power - Suppliers' technical and commercial competence - Risk - Uncertainty
Bensaou (1999)	Buyer's specific investment	- Buildings and equipment dedicated to a certain supplier - Time and effort devoted in managing and developing a relationship
	Supplier's specific investment	- Plants, warehouses, locations dedicated to buyer - Information system alignment

2.4 Supplier evaluation

The final step in a purchasing process is the evaluation of the suppliers. Once the service or product has been provided the evaluation process takes over. Supplier evaluation is defined as the process of quantifying the efficiency and effectiveness of supplier actions (Neely et al., 1995). Effectiveness refers to the extent to which the buying company's requirements are met and efficiency is a measure of how the firm's resources are utilized economically when providing a product or service at an agreed level of quality.

The evaluation mainly concerns information updates about the supplier and spotting possible contract violations. What is important in this process is to evaluate and carefully document suppliers' performance to make it possible for better decisions to be made in the future. If a supplier is not behaving as stated in a contract and it is not documented, an organization risks doing the same mistake several times (van Weele, 2010). According to Kakouris et al. (2006) the evaluation of suppliers can also be beneficial since it can facilitate a more open and transparent relationship.

Supplier evaluation can be viewed from the three different levels of control in a company: strategic, tactical and operational. These three levels differ in what management level the activities are taken care of and the time horizon for the activities. According to Sarkis and Talluri (2002) it is important to separate the factors in a hierarchical and network relationship since it can facilitate for managers to understand the links between factors such as strategic and operational metrics. The same authors stress for example the importance to consider both long- and short-term views since short-term risks may hinder the possibilities to reach the long-term goals.

The overall and long term goals of a supplier relationship should be discussed at the strategic level. From this point of view the KPIs are company-specific although organizations usually base the result on the four major KPIs: *cost*, *quality*, *lead-time* and *flexibility*. Furthermore, there are several tangible and intangible factors within these strategic KPIs that can be used in a supplier evaluation. Sub-factors within *cost* can for example be low initial price or cost reduction activities while consistent delivery and quality philosophy are examples within *quality* (Barbarosoglu & Yazgac, 1997). *Lead-time* can be segmented into categories like delivery speed and product development time and finally a supplier's *flexibility* can be measured through for example product volume changes and service capability (Choi & Hartley, 1996).

The recent focus on supplier relationship management and close collaborations make it relevant to include a set of organizational factors in the evaluation process. Harland (1996) say for example that the four "standard" quantitative KPIs are difficult to use when measuring a relationship and that a more qualitative approach is necessary. Sarkis and Tulluri (2002) propose

three groups of organizational factors: culture, technology and relationship. These factors are focusing more on evaluating the suppliers from a strategic aspect and they are less concerned with the operational measures. Trust, transparency, communication and commitment are examples of KPIs included and these qualitative measures can in turn lead to better results for the quantitative KPIs. Donaldson and O'Toole (2002) also stress the importance to communicate the goals and to have a mutual perspective at the top level in the companies involved in the relationship. Examples of different performance- and organizational metrics are shown in *table 2* below.

Table 2 - Major KPIs and Organizational Factors

Major KPIs		Organizational Factors	
Cost	Low initial price	Culture	Feeling of trust
	Cost reduction activities		Strategic fit
	Volume discounts		Top Management compatibility
Quality	Prompt response	Technology	Technological compatibility
	Quality philosophy		Speed in development
	Consistent delivery		Technical capability
Time	Delivery speed	Relationship	Long-term relationship
	Product development time		Communication openness
			Relationship closeness
Flexibility			
	Product volume changes		
	Service capability		
	Conflict resolution		

At a tactical level of the buyer-supplier relationship performance the focus usually lies on improving efficiency and flexibility through for example better resource allocation (Gunasekaran et al., 2004). The flexibility aspect concerns the ability to cope with demand fluctuations and it is important on the tactical level as well although the time horizon for performance measurements is shorter than for the strategic metrics. On this level, as well as on the operational level, the metrics are more concerned with measuring the results of specific orders and follow how the interactions are developing although the operational level is even more focused on the day-to-

day activities. Information sharing and communication are stated as important success factors for improving the performance on these lower levels of control.

Different companies use different KPIs for the evaluation process and different views on how a supplier is evaluated. One way to evaluate is to look at only the supplier side and measure relevant quantified outputs of efficiency and effectiveness. Based on these numbers, the supplier is expected to improve their capabilities to better suit the buyer's request (Hald & Ellegaard, 2011). The same authors propose a three-step model for this kind of supplier evaluation:

- 1 Design: Define relevant KPIs and how they should be measured.
- 2 Implementation: Implement the supplier performance evaluation system in order to collect and process data from the supplier.
- 3 Use: Collect, review and act upon the collected data.

The information needed from the supplier can be collected either through direct- or indirect data acquisition and there are two types of information that can be gathered: process- or product information. Direct data acquisition is based on observations made by the buying company compared to indirect data, which is provided by the supplier as a request from the buyer.

This type of supplier evaluation view has been criticized for not evaluating the certain capabilities of the supplier but instead focusing on how well a supplier is performing according to the buying company's standards. This measurement can therefore be said to measure how well a supplier is compatible with the buying company and maybe not how well they are actually performing their activities (Purdy & Safayen, 2000).

There could also be differences concerning how to deal with supplier performance depending on what type of relationship that is sought. Recently there has been more focus on the collaborative relational aspect between businesses and it is often stated that the buyer and supplier jointly can improve their performance. In a collaboration where the supplier is underperforming for example, there might be actions that the buyer can do in order to improve the overall performance. Another way to measure a supplier is therefore to look at the supplier performance from a more mutual, relationship view where the buying company takes the perceived needs for both parties into account. This view includes both an internal and an external aspect of the relationship and can therefore be said to overcome the criticism that the previous more internally focused supplier evaluation has received. According to Lamming et al. (1996), this mutual view also improves how the involved actors allocate their resources to different relationships.

2.5 Supplier base reduction

During the last decade, a clear trend has been recognized that companies move from contracting a large number of suppliers to operating with a more limited supplier base with deeper relationships (Chen & Paulraj, 2004). Managing the supply base is an important strategic

decision for the purchasing and supply department and there are several different reasons for a company to reduce the number of suppliers that they are utilizing. Cousins et al. (2008) say that companies have a limited amount of resources and reducing the number of suppliers means that the company can focus on those resources. The main reason for supplier base reduction is according to Monczka et al. (2010) to support and develop relationships with the most valuable suppliers.

As many companies choose to reduce their supplier base, the individual buyer-supplier relationships are affected in different ways. First of all, a supplier base reduction results in volume consolidation from the buyer's perspective since larger volumes will be purchased from fewer suppliers (Stamatis, 2012). This leads to an increased dependency between the involved parties and therefore also a greater need for supplier integration and inter-firm coordination. This is because frequent high-volume business transactions create mutual dependence between the actors and motivates firms to integrate activities with their partners for more effective processes (Cai et al., 2010). Jasper and Ende (2006) further state that volume consolidation can lead to inter-organizational benefits for the buyer and that there are four types of inter-organizational integration to consider: ownership integration, task integration, coordination integration and knowledge integration. Ownership integration refers to the degree of vertical integration between the buyer and the supplier. Task integration concerns to what extent the buying firm performs upstream tasks at the supplier in order to produce the correct component. Coordination integration regards the level of information exchange between the parties and finally knowledge information refers to what degree the buying company has the knowledge to develop and produce what they are buying from the supplier.

According to empirical findings, the integration can enhance a company's ability to learn both from their environment and from the supplier (Cai et al., 2010). The authors state that volume consolidation can provide strategic advantages in terms of organizational learning as well as supplier performance. They also resemble the benefits of volume consolidation to those of vertical integration through ownership where reducing transaction costs in terms of finding, negotiating, contracting and monitoring suppliers are some of the main pro-arguments. Volume consolidation can lead to cost reductions since there will not be the same need to look for new suppliers and the increased dependence between the involved parties can lead to cooperative norms that can reduce complications during negotiations and contracting. The monitoring of the supplier is also seen as something that is facilitated in such relationship due to the more frequent communication between the buyer and the supplier that usually follows a volume consolidation. According to both Cai et al. (2010) and Zaheer and Venkatraman (1995), the level of volume consolidation is related to the level of integration between two parties and can therefore have a lot of impact on a buyer-supplier relationship.

There are three different approaches to supplier base reduction described in the literature: *systematic elimination*, *standardization* and *tiring* (Ogden & Carter, 2008). *Systematic*

elimination means that fewer suppliers will have the possibility to provide an offer for the buying company through a selection process. The suppliers that are chosen can either be decided by an analysis of the suppliers' historical performance or from just removing suppliers that, for example, have not been used for a given time period. Reducing the supplier base through *standardization* regards the number of components in the product or service. This can be done by simplifying the design or through a standardization of the processes. The final approach *tiring* is a version of standardization. This means that the buying company assigns subassemblies processes to first-tier suppliers. In this way the buying company would still have the same number of suppliers but they would not have to manage as many relationships.

Several authors have reached similar results regarding the success factors for conducting a supplier base reduction. Good information system, creation of cross-functional teams, thorough supplier selection process, support from the top management and a well-reasoned strategy that is clearly communicated are stated as some of the most important factors (Ogden & Carter, 2008); (Goffin et al., 1997). If these factors are realized, a company would have better possibilities of reaping the benefits of supplier base reduction: increased access to suppliers' technologies, improved quality, decreased supplier management costs, increased leverage through volume consolidation, better buyer-supplier relationships, reduced inventory costs and unit price, reduced long-term uncertainty and increased supplier responsiveness (Ogden, 2003).

If one looks at the counter-arguments for supplier base reduction they usually refer to the increase in supply chain risk that the strategy brings due to the high dependency on a few suppliers (Cai et al., 2010; Stamatis, 2012; van Weele, 2010). There are ways to reduce this risk and Monczka et al. (2010) for example state that the risk can be mitigated through a comprehensive process when choosing suppliers and that the close collaborations that are developed between the parties also reduce the risk. Stamatis (2012) further state that a successful supplier base reduction is based on a long-term relationship development, aligning internal systems and developing and adjusting the supplier evaluation system towards a relationship perspective. Porter (1997) also stated that a supplier base reduction could reduce the competition among suppliers. The same author further says that the possible benefits of supplier base reduction are hard to achieve unless the buying company has a well-defined evaluation system and are willing to offer long-term contracts to the preferred suppliers.

3 Method

This thesis is characterized as a case study making use of a systematic combining approach derived from the abductive logic. One definition of a case study is stated by Gillham (2010, pp. 1) as “a unit of human activity embedded in the real world; which can only be studied or understood in context; which exist here and now; that merges in with its context so that precise boundaries are difficult to draw”. According to Bryman and Bell (2003), a case study is distinguished from other research methods through the focus on a bounded system or situation. This system can for example a specific organization, department or person. In this thesis, the case is the IT- and purchasing departments at Volvo Car Group.

The thesis takes a qualitative research approach in that only a limited amount of hard data such as spend sheets and lists of suppliers were used. A Majority of the research was collected through 22 semi structured interviews with key persons at Group IT and IDP IT. A qualitative approach is flexible and aims to generate new theory. It is also suitable to use when there is little known about a certain question and a deeper understanding is required. Furthermore, it seems suitable to use a qualitative approach since either Group IT or IDP IT has worked with this specific subject before and there is limited quantifiable data available.

According to Dubois & Gadde (2002) the main characteristics of a systematic combining approach is that the researchers continuously move between an empirical world and a model world. This is according to the same authors a process where the research issues and analysis is reoriented as researchers are confronted with empirical phenomenon that was not known initially. In order for this thesis to achieve its purpose the systematic combining seems to be the best approach.

Even though there are several benefits with using a case study as a research method, there are also some drawbacks. The case studies are often time consuming and the focus on a bounded system makes it hard to relate the results to a general scientific discussion. Often there are also a lot of unreadable data, documents and other information that can be hard to structure and get relevant information from within the time frame of the case study. Therefore it is a vital aspect for a case study to have clear delimitations in relation to the set time plan (Wallén, 2008). Another aspect important to consider when designing a case study is the transparency of the research procedures.

In research approaches such as the deductive approach it is a common trait to talk about quality characteristics such as validity and reliability. These quality characteristics do however follow the sequential process of the deductive method making them less applicable in case studies making use of an abductive approach (Dubois & Gibbert, 2010). In the abductive approach on

the other hand, Dubois & Gibbert (2010) suggests that transparency is the relevant quality characteristic to make use of in showing validity and reliability. Transparency means that the research process is thoroughly described so as to visualize the complex interplay occurring between theory, empirical phenomenon and method. Since this case study has an abductive approach the next section presents how the research process looked like, what problems that were encountered and how the concepts changed during the course of the study.

3.1 Research Process

The research process (see figure 11) started with the creation of a planning report. The planning report was conducted based on initial meetings with the IT Sourcing Specialist and the IT Purchasing Manager at Volvo Car Group as well the thesis supervisor at Chalmers University of technology. The plan included the initial purpose of the study, problem analysis, method and other preparatory work.

The meetings with Volvo Car supervisors revealed that Group IT and IDP IT had a need for a standardized way of working with supplier relationships. The current set-up did not allow them to work in a standardized way with their supplier relationships and the sourcing strategy in development did not cover this area. It was expressed by Group IT and IDP IT that a segmentation of their suppliers would help standardize their work with supplier relationships and was thus included in the scope of this thesis. The initial purpose was to only develop a method for segmenting Group IT and IDP IT's supplier base. After investigating methods to do this, the purchasing portfolio approach was discovered to be the most frequently mentioned in literature. The relative simplicity of the purchasing portfolio approach, using a 2x2 matrix to map purchased commodities or services as a starting point for the segmentation, seemed suitable for the type of organization found in Group IT and IDP IT.

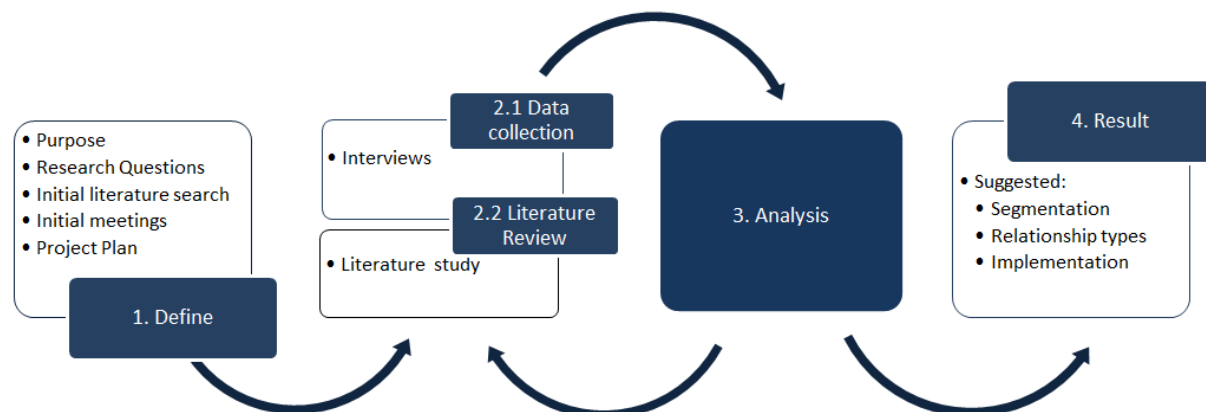


Figure 11 - Research process

After researching a variety of portfolio models it was discovered that creating the segment was closely related to creating relationship strategies and objectives for each segment. After a

discussion with the supervisors the purpose was extended to include relationship strategies for each of the supplier segments. The supervisors at Group IT and IDP IT were concerned that the thesis would be too theoretical in its nature to actually be implemented in the organization which resulted in that research question three was added to the scope. Research question three was supposed to propose how an implementation of the suggested segmentation method could be conducted.

In order to create an understanding of the organization and to narrow down the scope of the research, key persons involved in the purchasing process and the sourcing program was identified and interviewed. Interviewees were asked questions in regards to the purchasing portfolio approach, supplier relationships and current organization. The interviewees were also free to elaborate on problems that they had identified within the current organization.

After the first round of interviews, the purchasing portfolio model was developed as a starting point for the segmentation. This portfolio model was then later used as a departing point for the second round of interviews where interviewees were asked more in-depth questions about the portfolio model, the dimensions and factors influencing the portfolio model as well as concerns in regards to the implementation of this method.

During the second round of literature research and after an interview with a doctoral student on the subject of organizing for purchasing, theories surrounding organizational implementation of a supplier segmentation method were investigated. When researching possible implementation strategies it was discovered that that in order to fully suggest an implementation, researchers would have to extend the scope to the point where it would affect the depth of research question one and two. Since the core of the thesis was research question one and two, it was decided together with the supervisors that research question three should be limited to highlighting key issues and concerns in implementing the segmentation method and not to suggest a specific implementation plan.

3.2 Data collection

To fulfill the purpose of this study, a large amount of empirical information was gathered. Contextual information regarding the organization and how Group IT works with purchasing and supplier relationships was collected in order to get an overview of the most important factors regarding supplier selection according to Group IT and IDP IT. These factors could then be combined with the factors stated as important in the literature to create the purchasing portfolio. Furthermore, since Group IT and IDP IT are in a situation where a new sourcing strategy is being formed and the subject of supplier relationships is regarded as part of this strategy; it was also important to gather information on what is currently going on in this development.

In order to address the research questions correctly, information about the ongoing sourcing program was collected. Further information that was needed regarded what type of purchases

that was made as well as information on what the supplier base looks like. This information was needed in order for the suggested segmentation and relationship strategies to be formed in line with the concurrently developed sourcing strategy and Volvo Cars' long term objectives. The information was gathered through interviews with key persons at Group IT, Volvo Car Group Direct Purchasing and IDP IT as well as through the extraction of data and information from Volvo Cars' information system. Titles of the interviewed persons with dates, duration and topics discussed during the interviews are disclosed in *table 3* below.

The semi-structured interview approach was chosen since according to Bryman & Bell (2003) this allows the asking of general questions and might entice interviewee to elaborate upon subjects that would otherwise be excluded. This is preferable since the interviewers will have less knowledge in the subject area than the interviewee. The semi-structure was also chosen to allow the interviewee to answer outside of the suggested interview guide and the interview structure allowed the interview to be more flexible in terms of excluding irrelevant questions.

An understanding of Volvo Cars' objectives and goals was also important to gather in order to form a strategy that was in line with what Volvo Cars wanted. This data was also needed in order for the analysis to stand on a firm ground and to allow a useful result in the end. The study also contains an internal perspective regarding how the direct-material purchasing department works with supplier relationship strategies.

Table 3: List of interviewees

Title of interviewee	Dates	Approximate length (h)	Topics discussed
IT Purchasing Manager, IDP IT	2013-01-28 2013-02-21 2013-05-14 2013-05-29	5	Purchasing process, sourcing, importance of purchase, complexity in purchase and organization
IT Program Manager for Sourcing Alignment, Group IT	2013-01-28 2013-02-11 2013-03-26 2013-04-24 2013-05-14 2013-05-24 2013-05-31	8	General discussions regarding sourcing, the sourcing programme, portfolio dimensions, scope of work and supplier relationships.
Sourcing specialist, Group IT	2013-04-09 2013-04-24	2	Supplier relationships, purchasing portfolio, spend-sheet.
Global IT Purchaser (Hardware), IDP IT	2013-03-06	2	Hardware specific purchasing, importance of purchase, strategic suppliers, complexity of supplier market, purchasing process, supplier relationships

Global IT Purchaser (Projects & Services), IDP IT	2013-03-05	2	Service and project specific purchasing, importance of purchase, strategic suppliers, complexity of supplier market, purchasing process, supplier relationships
Global IT Purchaser (Software & Licenses), IDP IT	2013-03-14	2	License specific purchasing, importance of purchase, strategic suppliers, complexity of supplier market, purchasing process, supplier relationships
Senior IT Manager (AMS), Group IT	2013-04-08	1	Purchasing of services related to maintenance, importance of purchase, strategic suppliers, complexity of supplier market, purchasing process, supplier relationships
Manager End User Services (IMS), Group IT	2013-04-25	2	Hardware purchases, Non-critical commodities, importance of hardware purchases, strategic suppliers, complexity of supplier market, purchasing process, supplier relationships
Vice President, Purchasing Strategy & Business Office, Purchasing	2013-04-24	2	Purchasing portfolio dimensions and factors at Volvo Car Group Purchasing. Direct purchasing organization.
Sourcing Manager (DPS), Group IT	2013-03-15	2	Procurement in project development, Purchasing Turn-key solutions, purchasing competences.
Service Owner, PC Workplace (IMS), Group IT	2013-03-13	2	Procurement of computers, workplace services, hardware procurement, supplier base reduction
Project Leader (DPS), Group IT	2013-03-12	2	Connected car, project portfolio, Strategic suppliers, Core competence.

3.3 Literature

Literature was collected throughout the entire research process and consists of scientific journal articles, academic literature and relevant books. The literature was gathered through the use of e-databases such as Sciencedirect.com, Gartner.com and other databases accessed through Chalmers library.

4 Indirect purchasing at Group IT and IDP IT

As the previous chapter described the research process, this chapter summarizes the material collected through interviews with key persons at Volvo Cars and information extracted from Volvo Cars' business management system. The chapter starts with presenting contextual information regarding corporate- and business objectives, the purchasing organization and information related to the ongoing sourcing programme. After this, information related to the supplier base and the purchasing portfolio is presented as a basis for the analysis of the research questions.

4.1 Corporate and business objectives

Starting on a corporate level, Volvo Cars' vision is to be the world's most progressive and desired premium car brand. In order for Volvo Cars to realize its vision, a number of objectives have been set for year 2020. The long term objectives have been broken down into six strategic change themes as seen in *figure 12*

Volvo Cars Objectives	Volvo Cars Strategic Change Themes
• <i>Provide cars people want</i> • <i>Be a lean and nimble company</i> • <i>Have a top tier premium auto brand perception</i> • <i>Be the employer of choice</i>	• <i>Emphasize profitability and efficiency</i> • <i>Revitalize the Volvo brand with customer centricity throughout the value chain</i> • <i>Reinforce product strengths based on focused innovation, smart architecture and win-win collaboration</i> • <i>Capture global growth and sourcing potential, leveraging the presence in China</i> • <i>Secure profitable growth in core segments in Europe and North America</i> • <i>Build a global organization with performance and health, able to act in a fast, smart and nimble way</i>

Figure 12: Volvo Cars Objectives

What these objectives have led to is the forming of an IT strategy more specific for the IT organization. The IT strategy presented in 2012 states that IT should be a competitive advantage for Volvo Cars through the increasing of consumer loyalty, strengthening dealers, improving operational efficiency and improving time to market. The changes in progress should also have an emphasis on profitability and efficiency. In order for the IT organization to realize this, 19 different change-modules (project groups) has been created with the purpose of changing Group IT's organization and processes so as to achieve the objectives above.

Due to the financial situation around the world, indirect purchasing and Group IT at Volvo Cars has to start focusing more on cost efficiency in their processes. Indirect purchasing is aiming towards a reduction of their supplier base in order to allocate more volumes to fewer suppliers and achieve economies of scale. So far this objective is mostly concerned with the suppliers of standard services and not the unique services that differentiate Volvo Cars from competitors.

4.2 Purchasing organization

The purchasing process for in-direct material at Volvo Cars span a number of different stakeholders and functions that collaborates in the effort of procuring indirect IT for Volvo Cars. The process starts with a demand from anywhere in Volvo Cars related to IT. This demand could for example be the need for a supporting IT system or a more basic need such as laptops etc. Depending upon the character of the need, it is dealt with in different functions of Group IT (*see figure 13*). If for example there is a need to develop a software or system support, this is done within the Development & Professional Services (DPS) function. Maintenance of existing and new software is dealt with within the Application Maintenance Services (AMS) function and infrastructural demands are handled by Infrastructure Management Services (IMS). When these functions procure they do so in collaboration with a sub function of the purchasing department called Indirect Purchasing Global IT (IDP IT). This function has operational responsibility for the procurement and order-execution.

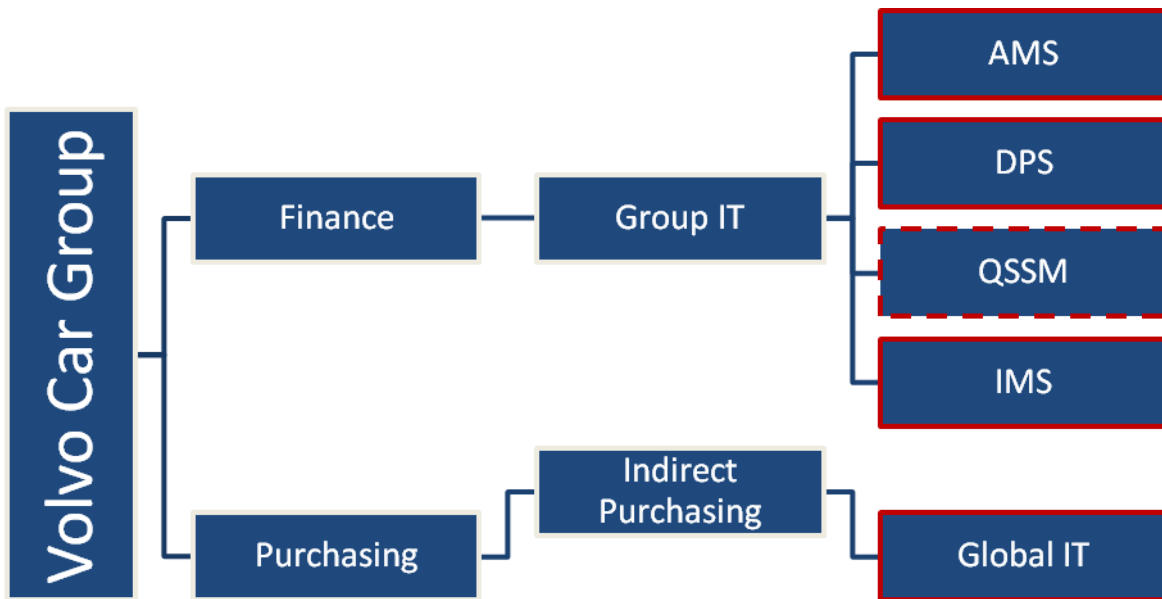


Figure 13: Purchasing process stakeholders

Quality Sourcing & Skills Management (QSSM) is a function within the IT organization that is not as related to the procurement process as other functions in the sense that QSSM do not procure any considerable amount. QSSM is responsible for developing the sourcing strategy in collaboration with the other functions. The different functions are described more in-depth in the following sections.

4.2.1 Group IT

Volvo Car Group IT is located beneath the finance function in the Volvo Car Group organization (Figure 13). Group IT is responsible for all IT deliveries within Volvo Cars including contributing to the company strategy by providing leadership and direction to the global IT organization so as to support Volvo Cars business targets.

The main tasks performed by Group IT are understanding and satisfying business demand for suitable and affordable IT solutions. Furthermore, Group IT manages and operates IT systems, infrastructure and other IT solutions that are provided to Volvo Cars. As Group IT is responsible for corporate IT, this part of the organization is also responsible for managing all IT investment and spend.

As can be seen in the chart showing parts of Group IT's organization (figure 13), the IT function at Volvo Cars is divided into sub functions: AMS, DPS, QSSM and IMS. The functions concerned with sourcing and relevant to this thesis are described in more detail below.

4.2.2 Quality, Sourcing and Skills Management

The QSSM function at Group IT fills the purpose of providing services for Group IT in, amongst other things, the strategic sourcing of IT services, hardware, software and consultants. QSSM

also has the purpose of improving the efficiency, effectiveness and quality in regards to the way of working.

Main tasks that are carried out within this department are to manage and drive activities such as developing strategies, processes, methods and tools in collaboration with purchasing to enable the possibility of strategic sourcing. This is done in order to free up IT spend and to support the IT strategy set by Group IT. In other words, QSSM is responsible for the strategic part to the purchasing process including the implementation of a sourcing strategy.

One of the tools available to QSSM in communicating sourcing strategies are the commodity business plans (CBPs). These documents should be available to the purchasers as guidelines in the initial phases of the purchasing process. QSSM has the responsibility to participate in the development of CBPs this work has not been carried out recently. Work on creating and updating the existing CBPs are in progress but at the moment only one CBP for hardware commodities exist. This means that documents or guidelines for the other two purchasing categories (Software & Licenses and Projects & Services) do not exist at the moment.

The CBP in the form it exists today is outdated with limited or no usefulness in the current state. Problems areas identified are that the existing CBP contain little or no information regarding vision and too much data on too many items. Up to date CBPs and more focused CBPs could potentially contribute to a better decision-making process.

Another part of QSSM that affects the purchasing process is the contract assignment function. This function manages and controls the development of IT contract assignment specification. The main task performed by this function is to develop templates, standardize the contract specification and terms and conditions etc. The function guides and supports the stakeholder in drafting and developing contract assignment. This is done so as to secure Group IT interests and ensure quality of the sourced product/service.

4.2.3 Application Management Services

AMS is the primary contact for operational IT matters and the purpose of AMS is to manage, maintain, support and preserve the value of Volvo Cars' entire application portfolio. Tasks performed at AMS are for example managing and maintaining Operating Level Agreements (OLA) towards other functions to secure alignment with the SLAs. This is done through providing the 2nd and 3rd level of support where the first level is outsourced to an external provider and controlled by Infrastructure Management Service. AMS is also involved in development of IT solutions in that they are responsible for developing lifecycle plans and is the function that has to maintain the finished IT solution when it has been developed.

The relationship between AMS and IDP IT is working well since the purchasers are engaged early in the projects and AMS has set up functional teams for projects where key persons from IDP IT are included.

Within the area of maintaining OLAs and managing the application portfolio, supplier evaluation is also included as one of AMS' tasks. Group IT has classified a few of their suppliers as strategic and meetings are held on a regular basis with these specific suppliers in order to discuss infrastructure, projects and other high level concerns. Tactical meetings are also held three times a year where both tactical and strategic suppliers are included. Meetings on an operational level also exist and these are performed on a monthly basis to discuss recent deliverables and other operational matters.

4.2.4 Development & Professional Services

DPS is essentially the manufacturing function within Group IT. DPS purpose and aim is to deliver all planned projects (IT solutions) at Group IT and to deliver professional input to pre-studies and early stages of projects. IT solutions are developed through mainly two methods. The first option is in-house development where DPS plan the projects and then hire consultants as project leaders to further develop, drive and deliver the projects. The second option that has been utilized to a wider extent recently is the procurement of turnkey solutions where whole projects are outsourced to suppliers and a finished solution is delivered.

IDP IT is engaged in the projects through the project sourcing forum which takes place in the beginning of a launched project. Stressed by the purchasers is that a lot of time is invested in making the supplier understand the need the specific project has. This makes it important to have a good working relationship between the supplier and the purchasers since needs sometimes are hard to specify. The project sourcing forum consists of key persons from Group IT involved in the project and purchasers from IDP IT. In this stage of the project there is a lot of interaction between the purchaser and the project manager especially before the RFQs have been sent out.

A lot of the problems and challenges with purchasing projects are that all of them are unique in their own way. When projects are not bought as turnkey solutions the projects use a wide variety of different development techniques and sometimes require that unique knowledge is procured. There can be lots of discussions regarding what consultants to hire and the stakeholder very often has a perception of which consultants they want and who can do the job best. This is a problem area as it is extremely hard to measure the relative value added by consultants with different cost.

The uniqueness of the projects makes it hard to compare them with one another in benchmarking purposes. Furthermore, as IDP IT is pushing towards buying turnkey solutions some of the project managers resist this claiming that the result will be better if they do it themselves.

During the course of a project it is normal to engage other units at Group IT for a variety of solutions surrounding the project. If maintenance is needed for example AMS is engaged in order to find a suitable sourcing option. Infrastructure management services (IMS) is also engaged if the project is in need of supporting infrastructure for example. As every project is somewhat unique, this translates into a lot of work needed in the initial specification phase of the

purchasing process. If this work is not done correctly then a lot of problems arise in the end of the project.

4.2.5 Infrastructure Management Services

The purpose of IMS is to provide governance for all IT infrastructures. The function is responsible for the infrastructure that supports IT services provided by Group IT. Such infrastructure can for example be Internet access, phone, computers, servers and storage etc. The function is naturally the primary contact for AMS on operational infrastructure matters and is responsible for the service desk (1st level support). Just as with AMS, one of the main tasks handled by IMS is the managing of OLAs in order to secure that SLAs are followed.

The collaboration between IMS and IDP IT works well in the sense that the purchasers have daily contact with stakeholders at IMS and it was also stressed that this interaction is a key activity in making the purchasing process work efficiently.

4.2.6 Volvo Cars IDP IT

IDP IT is part of Volvo Cars' purchasing organization and handles all purchases not directly related to the car itself. IDP IT is divided between the functions seen in *figure 14* and the focal point for this thesis is the whole Global IT but interviewees from the purchasing organization has been exclusively from IT Europe. Within IT Europe a purchaser belongs to one of the three categories below. The purchaser is then specialized in that area and responsible for the purchases within that segment. The different categories are:

- Hardware
- Projects & Services
- Licenses

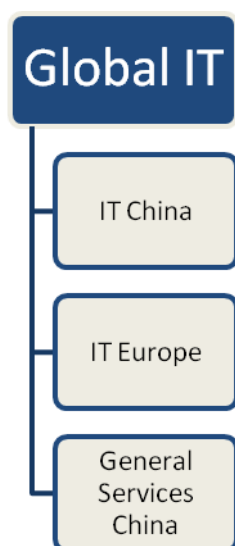


Figure 14: IDP IT Organization

There are some specific characteristics with purchasing indirect IT as opposed to buying direct production material. First of all, IT purchases in general differ a lot from standard purchasing since it is mostly indirect services that are bought. Compared to buying nuts or a bolts where the costs of the included materials can be fairly estimated in order to know what price to accept from the supplier, the value of an IT service is a lot harder to appreciate. This means that it can be difficult to know if the price that the supplier wants is reasonable or not.

In terms of the purchasing process and responsibilities, IDP IT is the authorized company representative for placement of contracts, purchase orders and formal communication with the

external supplier base. This leads to Group IT having to engage IDP IT in every purchase and every supplier selection.

The main tasks performed by IDP IT are the execution of purchasing orders, market research, market analysis, supplier selection, managing the supplier base, negotiation agreements and sending out RFQs. The area of supplier base management has recently been discussed and IDP IT has started working on reducing their supplier base in order to allocate more volumes to a few suppliers trying to achieve economies of scale. Although, currently this work only concerns the suppliers of standard services and not the unique services that is considered core for Volvo Cars.

The responsibility for maintaining and creating supplier relationships can be considered to fall on IDP IT as this is where the day-to-day purchasing interactions occur. As of now, this work has not been formalized in terms of what relationship to pursue with what supplier but is left to the individual purchaser to choose as he/she seems reasonable. As mentioned in the problem analysis, relationships are normally formed and shaped based on solely the amount of spend and the number of interactions that exist between the individual purchaser and the supplier.

Another responsibility held by IDP IT is to cooperate closely with stakeholders in the concerned department or function. This is because almost all of the technical competences surrounding the bought service or product most often are held by the stakeholder and not the purchaser at IDP IT.

One issue recently addressed is that IDP IT does not have a functioning contract database at the moment. They have trouble finding current contracts when suppliers or customers ask for them and contracts can expire without their knowledge.

4.2.7 Purchasing process

The purchasing process for in-direct material at Volvo Car consists of five consecutive steps that should be followed in all procurements in excess of 4 MSEK. Purchases below this figure are handled by the purchaser and the stakeholder without the need to follow the process strictly.

The procurement process is clearly specified in Volvo Cars business management system and is followed strictly in most cases. Due to the economic situation, the purchasing department has to start focusing more on cost savings in their processes. They need to do this relatively fast and this can lead to some steps in the purchasing process being neglected. One of the things that make it possible to speed up the purchasing process move faster is a good working relationship between the purchaser and the stakeholder. When there is trust in this relationship, the process moves a lot faster. The shortcuts are most often that you do things before preparatory work has been done such as talking with supplier before sending out an RFQ.

As seen in *Figure 15*, the process starts with a sourcing planning consistent of the stakeholder filling out a standardized pre request form, which is discussed and reviewed by a commodity

buyer. If the stakeholder and the buyer agree on the sourcing plan, the process continues to the next step.

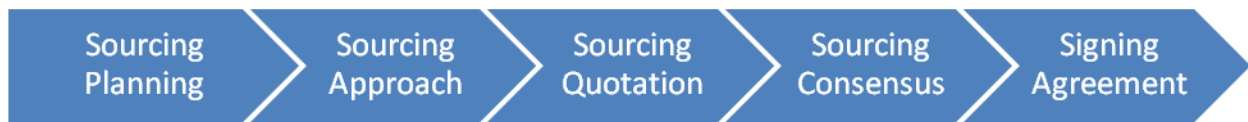


Figure 15: IDP IT Purchasing process

In the second step the sourcing plan is reviewed and analysed in regards to the commodity business plan (CBP) that should contain overall guidelines specific for the category of the item that is bought as well as a current situation analysis. CBPs however, do not exist in most cases. CBPs exist for hardware but not for IT services and licenses. The lack of CBPs causes the buyer to operate without clear guidelines when deciding on a sourcing approach. The CBP used in hardware purchases today is too long with too much fact that very few people are interested in and no vision as to how IDP IT want to structure the purchases in the future. Furthermore, the presentation that is made from the CBP contains a lot of information that is not considered. A suggestion brought up was to shorten the information in the presentation while having supporting documents with more comprehensive information. After reviewing the sourcing approach's alignment with the CBP, a decision regarding the sourcing approach is made during a weekly Supplier Choice Department meeting (SCD).

In the sourcing quotation phase suppliers have to agree on a confidentiality agreement before receiving a RFQ-package. The RFQ is then reviewed internally and updated if necessary. After this, the quotation is considered complete and suppliers on the shortlist are allowed to present their offers and the process continues to the step called sourcing consensus. In this process the first step is an analysis to conclude whether or not the quotation matches the CBP and a requisition to allocate the cost to the correct entity. If the quotation is considered okay, the commodity buyer prepares an agreement package while the decision to source is made in a SCD meeting. If SCD consent to the sourcing the next step is the agreement signing.

In this stage the supplier and the commodity buyer review the agreement package and if there are any concerns raised, an escalation to group manager is made. If the deviations from the original agreement are approved the process moves on and an agreement is signed. When the agreement is signed the process moves on to the ordering stage.

The work with supplier risk is included in the work of the purchaser but it has not been formalized enough and leaves the purchaser to judge relatively free.

4.3 Supplier Base and Purchasing Portfolio

Currently IDP IT and Group IT are working on reducing the total amount of suppliers by focusing efforts on consolidating volumes to a fewer number of suppliers. In 2012 the number of

suppliers was over 250 and for DPS who mainly purchases project development related commodities and competences, the biggest suppliers are not surprisingly large consultancy firms and global IT development suppliers. IDP IT claim that when it comes to standard projects within standard development areas, the larger consultancy firms usually have all the competence needed. When it comes to projects such as business intelligence or customer relationship management however, purchasers might need to do a wider market scan since competences might be limited to a fewer number of suppliers.

The same logic follows for the AMS suppliers. Since AMS is involved in the day-to-day operational work and maintenance, the largest suppliers are consultancy firms that provide maintenance as a service or technical consultants that perform the in-house maintenance. A larger number of AMS suppliers are located in India because AMS's efforts to source globally. Some of the services provided by AMS are niched and thus will be hard to consolidate to larger suppliers. The current estimation is that around 25% of the maintenance services in AMS are unique and the other 75% are less unique and thus have potential for consolidation.

For IMS the spending is allocated to a number of suppliers mostly concerned with hardware and infrastructure related services.

The purchasing portfolio of Group IT can be seen (organized into high level categories) in *table 4*. A majority of the spend is currently invested in technical and non-technical consultants. Consultants and competences are utilized by all departments within Group IT and are involved in maintenance, project development and infrastructural projects. The categorization of the purchasing portfolio into high-level categories such as this one limits the amount of detailed information that can be extracted from the spend-sheets. The exact content of each category remains unknown and this was expressed as a problem.

Table 4: Group IT purchasing categories

Group IT Purchasing portfolio
Non-technical Consultants/competences
Technical Consultants/competences
Database/Licenses
Application Operation
Support – Application & Technical
Op. Lease Computers
Application change
Mobile telephones
Telephone
New Development
Maintenance
Other IT costs
Other hired service group consultants

Other consult fees
Administrative consultants
Education (external supply)
Office material

4.4 Sourcing program

The sourcing program initiated by Group IT is driven by the sourcing specialists at QSSM and seeks to align all current sourcing activities performed by Group IT. The sourcing strategy address four main challenges identified in today's sourcing, namely; scalability, quality, cost and risk. The sourcing programmes governance model can be seen in *figure 16*. The model consists of a strategic steering committee consistent of senior IT management in the top. The sourcing program is then divided into four sub sections each representing a departments involved in the purchasing process. The project is coordinated through Group IT sourcing program at the department QSSM.



Figure 16: Sourcing program governance model

Purchasing is responsible for the legal part of the sourcing initiative and the “effective and efficient sourcing of projects” (ESP) is run by the DPS department. AMS at Group IT runs the project “Standard application maintenance sourcing” (SAMS) and the project, “Infrastructure outsourcing next generation” (IONG) project is run by IMS at Group IT:

As a guide for sourcing decisions the sourcing programme has provided eight sourcing principles:

- Sourcing decisions shall always support Volvo Car Group’s global business plan.
- Sourcing agreements shall support the industry cycle by being flexible and scalable.
- Ensure competitive situations between service suppliers when making sourcing decisions.
- A contract’s length shall not exceed 3 years.
- Use a few large strategic suppliers supported by a limited number of niche suppliers where justified.

- All externally sourced services will be KPI/SLA based or with clear objectives/deliverables.
- Strategic suppliers should be able to demonstrate a long-term track record of stability, profitability, quality, innovation and continuous improvement.
- Suppliers will be selected and evaluated based on their skills and capabilities that contribute to the development of Volvo Car Group's business globally.

5 Analysis

This section starts with an analysis regarding the choice of portfolio model and the related supplier segments. The analysis then continues by analyzing the relationship types related to the identified segments. Concerns raised in regards to the implementation in the analysis are then discussed in the last section.

5.1 Designing the portfolio model

The purpose of this purchasing portfolio (*figure 17*) is to identify what type of procurements that are purchased from which supplier, and to use that information to segment the suppliers based on the relationship type that Group IT and IDP IT should pursue with them. The purchasing portfolio approach was discussed with the stakeholders and it was decided that the suggested model has to fit the type of decentralized purchasing organization that exist in today's organization and that the dimensions used would be adapted and customized to fit the IT strategy, Volvo Cars objectives, stakeholder concerns as well as the organizational structure.

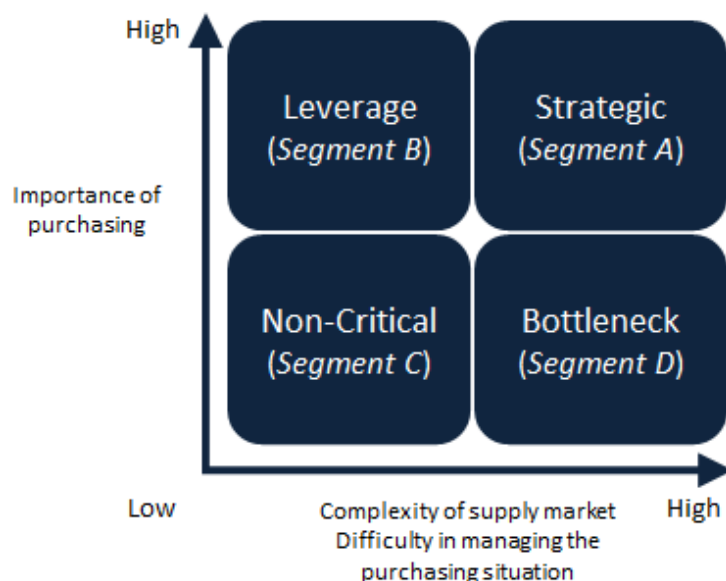


Figure 17: Group IT & IDP IT Purchasing portfolio model

Considering that the sourcing objectives contains several key points related to supplier relationships, a portfolio approach such as suggested in theory is found to be a suitable approach to segmenting Group IT's suppliers. The model suggested for Group IT and IDP IT is a model that incorporates a lot from the theoretical model suggested by for example Kraljic (1983) and Olsen & Ellram (1997). Kraljic's model from 1983 is however developed with the traditional view of purchasing in mind, which raises concerns as to how applicable it is in the context of a

purchasing organization procuring indirect IT material in 2013. To raise the applicability of the model, for the model to work and be used in this type of organization it will be customized and complemented with company specific factors.

A rationale for using a portfolio model approach to segment Group IT's suppliers is that the model is relatively easy to grasp for the users and can be an effective tool in visualizing what parts of the purchasing portfolio that are more or less important. By visualizing the difference in importance one can trace the mapped commodities back to the suppliers. The suppliers of important commodities is where most of the focused supplier efforts should be and this should be reflected in the type of relationship that Group IT and IDP IT has with those suppliers.

The model also allows the organization to create a much more precise relationship strategy to implement this throughout the decentralized organization. The model suggested in *figure 17* fills the need that Group IT has expressed in finding a method for segmenting and differentiating how they work with their suppliers in order to increase the value delivered. Also, tracing back to Volvo Cars objectives, this model facilitates forming strategies towards suppliers so as to improve scalability, quality, cost and risk.

For Group IT, one of the benefits from working with segmentation, besides the model itself, is the effort of reviewing and analyzing the existing supplier base and how the interaction with suppliers is managed. The suggested model makes a distinction between suppliers who provide strategically important products/services (Kraljic, 1983; Olsen & Ellram 1997), how difficult the purchasing situation is to manage (Olsen & Ellram, 1997) and the complexity of the supply market (Kraljic, 1983).

All the presented portfolio models in the theoretical framework have an external dimension (complexity of the supplier market & difficulty in managing the relationship) as well as an internal dimension (importance of the purchase). These dimensions consist of a number of factors that can be weighted in order to map the different commodities into the matrix. The theoretical framework provides several examples of factors to use but Olsen and Ellram (1997) stress that these factors need to be complemented with company specific factors for the model to be fully useful. The following sections will discuss the external and internal dimensions from the perspective of Group IT and IDP IT. The first round of interviews revealed a number of factors that was believed to influence the importance of the purchase as well as the complexity of sourcing the commodity. The influencing factors gathered from the interviews were combined with those in literature so as to provide a basis for discussion in the second round of interviews where they were discussed in more detail.

5.1.1 Internal dimension factors (Importance of purchase)

From an internal perspective it is important to answer the question: what makes a purchase more or less important for Group IT and Volvo Cars. The organizational structure with Volvo Cars being the corporation and Group IT being the business unit within the large corporation makes

this question somewhat troublesome to answer. Group IT has clear objectives stating that they would like to transform their organization to be more value-adding for the corporation. One of the questions that arise is what perspective to take in for example the first factor suggested by Olsen & Ellram (1997); what is core competence? This is highly dependent upon what perspective it is viewed from. For Volvo Cars as a corporation it is without a doubt the development of cars (i.e. R&D) and for Group IT as a value adding organization one can argue

Internal Factors (importance of purchase) Very relevant: • The extent to which the purchase is part of Group IT's and/or Volvo Cars core competence • The extent to which the purchase affects the final customer of Volvo cars • Criticality of the purchase to get leverage with the supplier for other purchases • Volume as percent of total spend Relevant • Level of which the purchase improves the knowledge of the organization • Level of which the purchase improves the technological strength of the organization • The extent to which the purchase is part of a final product with a great value added Less relevant • Brand importance

that the core competence of IT lies first and foremost in development of IT solutions (Project development services). But from a corporative perspective these project developments does not have to be related to the car or the car development, which would not make them core competences from a corporate perspective.

Seen in *figure 18* are all factors collected through interview and literature that were thought relevant for Group IT and that influence the internal dimension (importance of purchase) of the model. After the factors was identified a second round of interviews with the sourcing specialist and the purchasing manager were conducted where the factors was discussed and rated on a scale from very relevant to less relevant.

The first factor considered very relevant is the extent to which the purchase is part of group IT and Volvo Car competences. Since the model is going to be used by Group IT and IDP IT as entities in the

Volvo Car Group it is important that both aspects are included which is why the first suggested internal factor can be related to both Group IT and Volvo Cars core competence. The next factor considers the aspect that purchases directly affecting the final customer of Volvo Cars are more important than purchases. During the discussion this was revealed as one of the most important aspects since purchases that directly affect the customer are usually of high importance.

Another important factor discussed during the interviews and further brought up by Olsen and Ellram (1997) is the criticality of the purchase to get leverage with the supplier for other purchases. Since several different purchases are conducted from the same supplier it seems

natural to include this factor. Furthermore, as the newly developed sourcing strategy includes consolidating larger parts of the purchasing portfolio, a commodity rated highly on this factor can be considered more important than commodities rated low.

The last very relevant factor is volume as a per cent of total spend. Naturally the more spend that is put into a type of commodity; the more it affects the financial result thus increasing its importance. The economic factor is also important since Group IT and IDP IT has expressed an increased cost focus in the most recent IT strategy.

Since a lot of competences are acquired by Group IT and IDP IT, the level of which the purchase improves the knowledge of the organization was thought of as relevant. When it comes to hardware, infrastructure and software the level of which the purchase improves the technological strength of the organization also seemed to be relevant and was thus included in the factors. A factor that takes in the aspect of purchases being more important the more value it adds to the organization also seems like a factor that would influence the important of the purchase.

The final and less relevant factor includes the aspect of brand importance. Some of the products and services purchased were considered to be more valuable because of the brand association and would thereby in theory be of higher importance than other more replaceable purchases. The

External Factors: Very relevant - Novelty - Specification complexity - Product/service complexity - Market complexity - Switching cost - Buyer Specific investment - Degree of supplier involvement needed Relevant - Global delivery capability - Rate of market change Less relevant - Integration complexity - Logistic costs
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factor was discussed and this was not a factor considered very relevant with this type of supplier base and since the purchases mostly concern in-direct material.

5.1.2 External dimension factors (complexity of supplier market & Difficulty in managing the relationship)

The external dimension i.e. the complexity of supplier market and the difficulty in managing the relationship bases itself on the theory that it would be beneficial to differentiate how one deals with difficult purchases from how one deal with relatively easy purchases. Seen in *figure 19* are the factors collected from literature and interviews together with the classification made during the

second round of interviews where the factors were rated as very relevant, relevant or less relevant for Group IT and IDP IT.

Figure 19: External factors with rating

The first factor found very relevant was the novelty of the purchased item. A novel product is generally harder to procure since the markets have yet to mature and might be rapidly changing as a result. This is especially true in the market for IT related products. The specification complexity is something discussed during the interviews and that were thought of as to have a great impact on how problematic the relationship would be with the supplier -especially in cases where large amounts of different managed services are bought from one supplier.

The product/service and market complexity naturally affects how hard the item is to procure and the switching cost was also found very relevant since there are a lot of IT-systems that requires investments in a certain technology that would lock in other purchases to the same technology. This lock-in effect limits the possibility of switching suppliers freely which is why it should be included. Affecting the switching cost is also the buyer specific investment that was suggested as a factor by Bensaou (1999) and is closely related to the switching cost. Using both factors to rate suppliers might be redundant and Group IT should most likely settle for one. The degree of supplier involvement needed was found to be very relevant as Group IT has a lot of IT-systems that are tied to specific technical competences. This translates to limited possibilities of switching suppliers and should therefore be included as a factor influencing the external dimension. The degree of supplier involvement needed is also a factor important to consider as this can result in lock-in effects caused by the supplier holding all the competence surrounding a purchased commodity.

One factor considered relevant and important by Group IT and IDP IT were the suppliers' global delivery capability. There were however some differences in how relevant both functions thought the factor was. IDP IT considered it very relevant while interviewees from Group IT considered it relevant. As Group IT and IDP IT are global organizations focus on global sourcing it seems reasonable to include this aspect. Purchases that cannot be delivered globally present a higher supply market complexity than those who can. It is possible that the importance of this factor can increase in the next few years as Volvo Cars are expanding into new markets and at the same time, reducing their supplier base. The rate of market change is a factor that can be considered to influence how complex the supplier market but was considered to be somewhat redundant since the novelty of the product was considered to already cover this.

The less relevant factors include integration complexity and logistics cost. Since mainly services and IT-solutions are procured logistics cost can be considered to have a low effect on the complexity of supplier market and the integration complexity is already considered before the purchasing decision is made.

5.2 Commodity categories and supplier segments

By mapping the commodities procured by Group IT and IDP IT into the purchasing portfolio matrix, the organization can segment their suppliers based on the supplied commodity - thereby forming four categories of suppliers seen in *figure 20*.

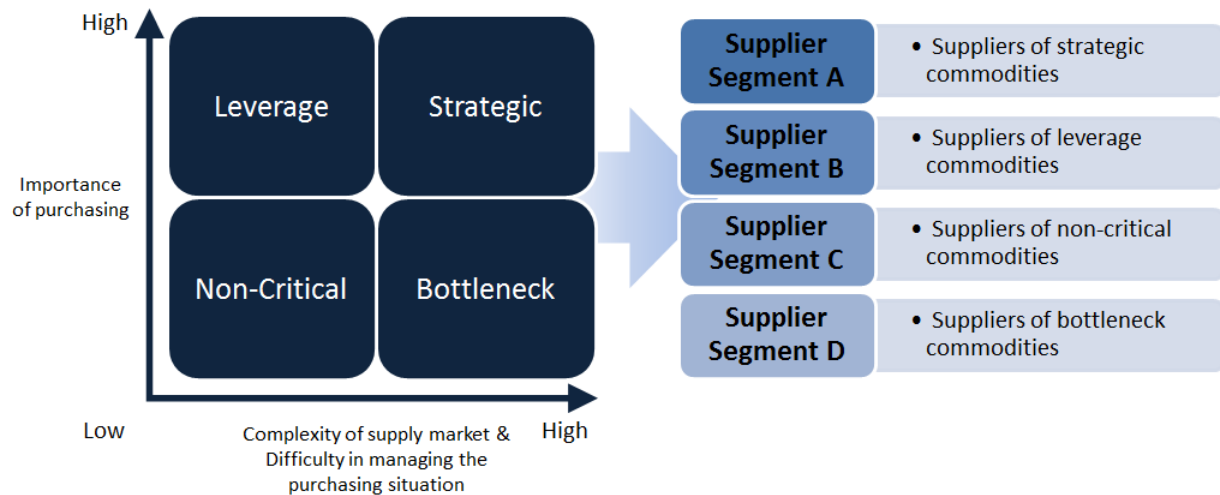


Figure 20: Suggested Supplier Segments

This method of segmenting the supplier base answers research question one. Because the basis for segmenting the suppliers are the commodities procured from a certain supplier, the following sections analyze and discuss the different types of commodities most likely found within each category in the purchasing portfolio.

5.2.1 Strategic commodity category and Segment A

Examples of strategic commodities:

- Some but not all unique competences
- Some but not all unique maintenance
- Some Turn-Key development projects
- Some hardware that affects the final customer to core development projects

This commodity category is characterized by the fact that commodities categorized here have a high impact on business; either in terms of cost, profit impact and/or value added. Furthermore the commodities are hard to source as a result of a complex supplier market with limited possibilities for competitive bidding.

Commodities within each purchasing category that could be viewed as strategic are discussed below.

Considering Group IT's supplier base and purchasing portfolio it is easily identified that a large part of Group IT's resources are spent on technical and non-technical consultant services to projects and maintenance. The commodity area as a whole (Technical and non-technical consultants) would likely be classified as a leverage commodity as the supplier markets are relatively mature with possibilities for competitive bidding in many cases. An area

within this category that has strategic potential is consultants involved in project development. Considering that Group IT's objective is to be a value adding organization for Volvo Cars project development can be considered as a core process for Group IT.

Two different types of project developments can be identified, the in-house development making use of hired consultants and the outsourcing of entire projects. In the in-house development, consultants with unique competences would be rated high in both the importance of the purchase, difficulty in managing the purchase and complexity of the supplier market. In this kind of development there is also a need to involve the supplier early on in projects so as to ensure a successful project. The latter fact adds to the complexity of the purchase and thereby creating the need for a good working relationship with intense communication.

The other commodity area similar to the previous is the purchasing of turn-key solutions instead of developing the solution in-house. These projects can be large in size, affect the profitability, and require special competences which makes some of them strategically important with a high complexity in the supplier market. The complexity of the supplier market in these type of procurements is highly dependent upon which type of solution that is procured. Special competence might be required and considering the variety of competences needed only a small number of suppliers might be able to deliver such a solution. The difficulty in managing these type of relationships was discussed during several interviews. The difficulty is mainly a result of the complexity in making the supplier understand the exact need (specification) that Group IT has.

Besides from the project development there are also areas within maintenance that could be considered strategic. It was expressed during interviews that around 25 per cent of the maintenance suppliers can be classified as unique, meaning that these suppliers have competences that are hard to substitute for another alternative. Since maintenance traditionally is not classified as a core competence but is very critical for the developed solutions they would either be classified as bottleneck or strategic depending on the judged importance of the purchase.

One type of hardware commodity that in theory would be of high strategic importance and exhibit a high complexity in the supplier market are hardware directly impacting the core competence of Volvo Cars, namely car development. As more and more IT solutions are incorporated into the vehicle the need for supporting infrastructure and technical solutions are increasing, thus involving Group IT. Such commodities could for example be the wireless solutions for the connected car project recently finished. Even though the material that goes into the car are handled by the direct purchasing organization the supporting infrastructure falls on Group IT and IDP IT. The suppliers of this type of commodity are suppliers with which Group IT & Volvo Cars would benefit from especially joint R&D efforts etc. This type of supplier generally has a technological lead within an area of expertise and might not exhibit a high cost

relative to other commodities but do instead directly affect the end customer in the sense that they can provide a service or product that contributes to differentiating Volvo Cars from its competitors.

5.2.2 Leverage commodity category and Segment B

The commodities in this segment hold most of the same characteristics as in the strategic segment but with a couple of key differences; the supply exceeds the demand; competitive bidding is possible and the supply risk is lower than in the strategic counterpart. The commodities usually have a high impact on profitability and a lot of the volumes are normally allocated to this segment. Commodities within each purchasing category that could be viewed as strategic are discussed below.

A majority of the maintenance services are one example of something that would end up in this segment. Approximately 75 per cent of the maintenance are non-unique maintenance services that could be leveraged and consolidated. Maintenance is either bought as a service or by acquiring consultants to do the work and the difference here, in comparison to the 25 percent that are unique, is that Group IT and IDP IT can use competitive bidding in these procurements.

Examples of leverage commodities:

- Majority of maintenance
- Hosting (non-legacy)
- Most hardware
- Non-unique project services

Hosting is bought either as a service or by Group IT purchasing the hardware and hosting it themselves. The strategy/objective stated in the sourcing programme is to move more towards buying cloud services as the market is maturing. As this market matures, the complexity of the supplier market in terms of amount of alternatives would increase and thus creating a situation where hosting can be subjected to competitive bidding in a larger extent than before. It would therefore be useful to utilize the power that Group IT

has in its volumes thus placing this commodity in the leverage segment.

Other infrastructural commodities that most likely would end up here are the personal computers. This is a typical type of commodity that can be subject to competitive bidding and the spend is relatively high which makes the increasingly purchase important.

5.2.3 Non-critical commodity category and Segment C

The Non-Critical segment contains commodities that are of no particular criticality or importance to Group IT and Volvo Cars. The commodities here can also be procured with relative ease from a mature marketplace that shows low complexity. What differs a non-critical from a leverage commodity is usually that the amount of spend is lower in each single commodity.

Examples of commodities located in the non-critical segment in the case of Group IT are some

Examples of non-critical commodities:

- Some hardware (Low spend)
- PC Accessories
- Some software licenses

hardware that shows a relatively low spend and scores low in the other influencing internal factors as well.

Hardware that shows these kinds of characteristics could for example be computer accessories (USB sticks and keyboards). These are commodities that have a low criticality rating and are of no greater importance to either Volvo Cars or Group IT. They are furthermore provided from a mature market with several options

when it comes to supplier selection. These types of commodities can on the other hand be procured as managed services along with the personal computers for example, in which the managed service probably would not end up in this category. It is also possible that some software licenses would end up in this category since the general licenses used in a majority of the computers would be considered of low importance and of ease to procure. Examples of such licenses could be the office licenses etc.

5.2.4 Bottleneck commodity category and Segment D

This segment represents the most troublesome commodities and the supplier relationship that are hardest to deal with. In this category there are some commodities that are of lower to medium importance to Group IT and IDP IT. The real problem is that they are procured from a very narrow market with limited possibilities for using competitive bidding and other price reduction strategies.

Examples of bottleneck commodities:

- Majority of IT-licenses
- Legacy Hosting
- Some unique competences
- Some maintenance services

For Group IT and IDP IT, commodities placed here would most likely be the majority of the IT-licenses since these are licenses that simply cannot be replaced by another similar programs which makes the power balance shift from the buyer to the supplier side. The suppliers in this category know that they have a unique

product and that they are the only ones delivering it. Legacy is an example of a technical area where the power balance is skewed towards the supplier side. The technical competences surrounding these areas can be viewed as bottleneck items. The same goes for most of the 25% unique maintenance services that present no real long-term promise but are needed because there are no other competences on the market.

5.3 Relationship types for supplier segments

After segmenting Group IT's purchased items into different categories, the second part of the analysis addresses research question number two regarding the management of the supplier relationships. The relationship management activities in an organization vary from planned strategic meetings with the top managers to frequent operational interaction between buyers and sellers of the two parties.

It is clear from the theory that it is beneficial to differentiate the types of relationship in order to optimize the gain of a company's limited amount of resources. An organization should look for closer collaborations with a supplier if there are possibilities to gain value from the relationship in terms of for example opportunities to access a supplier's knowledge or technology. In other supplier relationships, the goal can be to minimize the interaction between the organizations and standardize processes in order to reduce the administrative costs. The reasoning is based on not putting too much effort or money into a relationship that has low impact on business or where the products or services provided are not strategically important for the organization.

It is evident that the work with supplier relationship management has not come very far at Group IT. This is a result from the fact that managing supplier relationships has only been their responsibility since 2010. Before Volvo Cars were acquired by Geely, Ford owned most of the relationships and Group IT's field of responsibility included mostly the procurement process. Today the organization are dealing with a couple of hundreds suppliers, although there are clear objectives in the organization of reducing this supplier base. The management has stated that they want to work closer with few suppliers but it is unclear what this actually will mean for Group IT. The reduction of the supplier base seems to be based mostly on the market conditions and the increase of focus on cost efficiency measures.

When deciding what type of relationship to pursue regarding the different segments in the proposed purchasing portfolio it can be broken down to the level of integration needed between the counterparts. It is interesting to relate different types of relationships to the types of inter-organizational integrations discussed by Jasper and van den Ende (2006): ownership integration, task integration, coordination integration and knowledge integration. These types of integrations are, on a varying degree, present in different relationships depending on the overall goals and objectives that the involved parties want to accomplish with the business affiliation.

Although Jasper and van den Ende (2006) base their article on vertically integrated organizational structures, the reasoning behind the different types of integration can be related to the work with supplier relationship management and Volvo Cars' different types of preferred relationships. The most relevant integration types in this case are coordination integration and knowledge integration due to the fact that these are most applicable in the IT-environment where Group IT and IDP IT are operating in and the fact that do not own any of their suppliers. The other two, ownership- and task integration, are referring more to a case where the buyer is to some extent owning the supplier or in some other way can have a lot of power and influence over the supplier's processes.

Ownership integration refers to the degree of vertical integration between the buyer and the supplier but it is not entirely relevant at Group IT since they do not own any of their suppliers. Although, the benefits that are stated for a high level of ownership integration: reducing

transaction costs regarding finding, negotiating, contracting and monitoring suppliers are being reached through their work with what can be resembled to tiring.

Group IT is using a third party solution where they can assign the work with activities like procurement, contracting and administration of consultants and other temporary resources. Instead of handling these processes with every different consultancy firms, the third party is the only relationship that Group IT is responsible for when dealing with these matters. This is similar to tiering since one can say that the third party is assigned to do the subassemblies for Group IT while Group IT still has the same supplier base. This means that the administrative work for the department is reduced but they have to make sure that they get what they ask for. Group IT still has to clearly specify the competences that are needed for the task and this is something that is often easier said than done.

It happens that the specifications that come from Group IT to the third party are vague. In some cases the responsible purchaser at Group IT has already “decided” whom or what firm to choose for the task through writing a specific name in the service specification instead of only the competences needed. This means that the function and competences of the third party is neglected and leads to the discussion about personal- versus organizational relationships. If purchasers at Group IT influence the third party due to their previous experiences with a certain supplier, it may hinder the company objectives in different ways. Even though the supplier (or specific consultant) that is preferred has performed well in the past, the choice of supplier has to be based on the specific task and the competences needed and not on personal views. Otherwise, the procurement process may lead to a choice of supplier that is overqualified (or under-qualified) for the service required, leading to unnecessary costs for Group IT. Since Group IT is not directly responsible for the relationships that the third party is in charge of, these purchases should not include purchase areas that are categorized as strategic.

A relationship with a high level of integration between two companies demands more time- and effort consuming activities that needs to be motivated by the benefits it can bring. If there are no benefits in working closely with a supplier, a more cost-focused, arm’s length approach might be more suitable. In either way, there seems to be several reasons to differentiate the management of supplier relationships. For Group IT and IDP IT, this can be related to what type of relationships that should be pursued with the different segments presented in the purchasing portfolio. The following discussion will therefore concern the characteristics of the relationships regarding *strategic*, *leverage*, *non-critical* and *bottleneck* purchases.

5.3.1 Segment A - Strategic

The relationships regarding the purchases that are segmented as strategic in the purchasing portfolio demands the most attention from both organizations. The suppliers providing products or services in this category are important to Group IT due to the high purchasing volumes and/or specific skills that the suppliers possess. It is therefore important to treat these relationships with

care in order to make sure that these competences are secured and developed to suit the company objectives.

One of the main reasons that a purchase is classified as strategic is that it concerns a core competence of the buying company. Since Group IT and IDP IT has been viewed as supporting functions, it can be hard to directly relate the effects that the department's purchases have on Volvo Car's end users. When asked to define a strategic relationship, people in the organization gave different answers but it is evident that the majority relates how a supplier is strategic or not mostly depending on how big the yearly spend is to these suppliers. Although, as stated in the first part of the analysis, there are some purchasing areas that have been found to be strategic due to various reasons. The relationships concerning these types of value-adding services need to be managed properly. This involves a higher level of integration and understanding between the organizations and it is therefore important that these relationships are provided with adequate resources and expertise.

One of the main issues that needs to be considered when differentiating how to work with your suppliers is to have the right level of managerial involvement in different situations. It has been stated by several people at Volvo Cars that there often are meetings where a wide range of purchases are discussed, leading to top managers sitting and discussing problems that could be handled on a tactical- or even operational level. The top managers should focus on the strategic questions with the most important strategic suppliers. The right things have to be discussed at the right level in order to optimize the company resources.

The importance of close collaborations and the benefits they can bring are evident. As mentioned by Gadde et al. (2010) there seems to be benefits to reap in terms of joint collaborations and the possibilities to capture the value of a supplier's knowledge and technology. Group IT and IDP IT could use suppliers' competences that are categorized as strategic through for example involving them early in the process to take advantage of their knowledge when developing projects. It could therefore be interesting to investigate joint efforts that could benefit both parties.

Since this category concerns purchase areas that are strategically important to Volvo Cars, it can be sensitive company information that needs to be shared between the parties in the knowledge integration in order for the supplier to be involved in the development phase. It is therefore important that these relationships are treated with care and that they are built on a high level of trust. The level of trust is based on the supplier's ability to support the buyer with value and their continuity in increasing the competitiveness of Volvo Cars. This implies that trust is something that is built up over time through supplying the buyer with goods and services that are equal to or higher than the buyer's set level of quality expectations. Even though achieving high level of trust is an ongoing and long-term process, the possibilities to achieve high level of trust can increase through a comprehensive work with choosing suppliers that are compatible with Volvo

Cars' strategies. It is also important to clearly communicate the strategy early on, as well as keeping open lines of communication during the relationship.

Two key factors of a strategic relationship are mutuality and the level of openness between the organizations. Both the literature (Morgan & Hunt, 1994; McQuiston, 2001) and people from the purchasing organization have emphasized these as critical factors. If both actors in a relationship “play with open books” and are clear with their intentions, it would be easier for them to have a mutual approach towards the relationships and more concern for the other party's profitability. If the information sharing is based on open lines of communication, the risk of opportunistic seeking behavior would be reduced and it could also be a good foundation for building trust between the parties.

One interesting characteristic of a strategic relationship is the planning horizon. Since these types of relationships involve the core competences of the business, discussions should be held on a strategic level with a long-term focus. This demands the involvement of the top managers from Group IT and IDP IT as well as from the supplier in order to decide on strategic issues and leverage IT for business value creation. Although the sourcing program is promoting competitive situations between service suppliers there can be benefits, especially regarding suppliers in this segment, to lock-in the competence in the organization through long-term contracts. This secures that Volvo Cars will have the access to the important competences that the supplier possess and the supplier will at the same time feel the security of having a customer for a long period of time. Instead of bidding against other competitors on the basis of price and availability, the parties in a strategic relationship can address the customer needs together and jointly reach a solution. If this insecurity of each other's intentions with the relationship can be reduced, more focus and time can be put on building common goals and develop the competences and services.

IT- and consultant services are often hard to specify and predict the outcome of regarding for example costs and quality. This is especially true when dealing with suppliers in this strategic category since they often possess competences that require high technical skills that are unfamiliar to Group IT and IDP IT and they are involved in unique projects where it can be hard to predict and provide evaluation metrics for the processes in advance. This can result in difficulties regarding writing comprehensive contracts including specifying targets and budgets. In these situations it becomes evident to have a high level of information sharing and top management involvement to monitor that the process is moving in the right direction. These types of relationships should therefore benefit from relying more on trust and communication between the parties instead of referring to specific detailed information in the contract. This can especially be evident when it comes to solving disputes and dissimilarities in the relationship. The parties need to be able to look above the contracts and instead have a more holistic approach to the relationship where both organizations' profitability is taken into account.

When looking at the different types of relationships to pursue with different suppliers it is important to look at both the internal perspective as well as the external. Group IT's perspective on the specific relationship sought with a certain supplier has to be weighed against the supplier's position on the market and the possibilities to accomplish this type of relationship. If a supplier is a major actor on the market and Group IT only stands for a small percentage of their total sales for example, it might not be realistic to believe that this company will be interested in time- and effort consuming activities that follows with a closer relationship. If a strategic relationship is not built on the previously stated success factors and the involved parties do not work together to increase the total value of both companies, the parties will start to look out for their own interests instead of achieving possible benefits that this type of relationship can bring.

5.3.2 Segment B - Leverage

As relationships in the strategic category concerns core competences with a long-term focus and high complexity in the supplier market, relationships in the leverage category are more focused on purchasing costs. Suppliers in this category are placed here due to the large values and volumes that Group IT and IDP IT purchase and they are operating on a market with lower complexity than suppliers in the strategic category. This means that these suppliers can be put out for competition in a different way and therefore compete more on price and thereby save a lot of money for the organization. The goal is to leverage the volumes and decrease the purchasing costs.

The time horizon regarding these relationships is also somewhat different from the strategic category. The discussions and interactions do not concern the core competences of the organization and the relationships should be treated with this in mind and should therefore be managed on a tactical level. There is no need for the top managers to get involved and discuss issues regarding areas on this level and the organization should instead focus these resources on purchases in the strategic category. A long-term focus could be beneficial in terms of cost reduction plans and other benefits that can be achieved through contracting for a longer period of time and the integration and standardization of processes between the buyer and seller. Although, since the market of these purchases is characterized by the existence of many suppliers providing the same type of services it should be a more medium-term focus on the relationship. This is in order to reduce lock-in effects that follow when signing long-term contracts. It is also a strategy to ensure competitive situations between service suppliers, which is stated as one of the principles of the sourcing program initiated by Group IT and IDP IT. One could argue that in this *leverage* corner of the portfolio model, Group IT and IDP IT can often be seen as the dominant part in the relationship due to the power that a buyer can have on a market with many suppliers providing similar products and services.

It is in this category where the company objective to reduce the supplier base gets most interesting due to the possibility to consolidate purchases in this area and the potential savings that can come from such consolidation. An interesting aspect here is to relate to the dynamics in

both bargaining power and relationship commitment that follows when changing the volumes purchased from a specific supplier. An increase of volume purchased from a supplier has effect on the purchase price and directly influences the profit margin. This means that Group IT and IDP IT need to investigate how much that can be saved through an increase of purchase volumes from a supplier and weigh this against the risk of using fewer suppliers.

There is an interesting discussion regarding if organizational integration is directly related to the level of volume consolidation as stated by several authors in the literature (Cai et al. 2010; Zaheer & Venkatraman, 1995). Although there is an increase of the sales volume between a buyer and a supplier it is not certain that a high level of integration is needed. If there is a large number of purchases and high monetary values involved in the relationship, there may be possibilities to reduce the administrative costs through process integration or standardization efforts. It might increase the incentives for the involved parties to devote time and resources to the relationship but not necessarily. When for example purchasing most of the hardware at Group IT and IDP IT, the products does not demand a high level of integration between the parties. The level of specification often does not have to be very high and it might be enough with a tactical level involvement from their side in order to manage the relationship. This is some of the thoughts behind the rationale of the presented two-dimensional segmentation model where the strategic importance of the purchase also is included as a factor

5.3.3 Segment C - Non-critical

The relationship strategy regarding purchases in the non-critical segment is mostly concerned with standardization and minimizing the efforts needed from the organization. Due to the fact that this purchase area regards products and services that are of low importance for the company and the low impact these purchases have on business, the focus should be to facilitate the procurement process as far as possible and ensure a competition between suppliers since price is usually the order-winner in this category. Standardization of processes and autonomous relationships are being stated as examples of supplier relationship management strategies and the goal is to reduce the purchasing- and administrative costs.

Since there are no real incentives for Group IT and IDP IT to work closely with suppliers that are providing non-critical items, the time horizon of these relationship are of short- or medium-term character. It should be easy for the organization to choose between a large number of suppliers and apply competitive bidding between them to lower the price. The same reasoning regarding lock-in effects can be made here as in the leverage category regarding signing long-term contracts. In this category though, the incentives for Group IT and IDP IT to sign long-term contracts is even lower due to the lower spend that is associated to the non-critical category.

When looking at the level of involvement of the organization, there is often only a need to manage these relationships on an operational level. The purchasers should be able to buy for example computer accessories without having to involve people higher up in the organization.

One way of facilitating the purchases that are classified as non-critical is to use some kind of e-procurement in order to reduce the administrative costs. E-procurement is a tool that can help the standardization process and assist Group IT and IDP IT to choose to purchase from many different suppliers in order to lower the purchase price. It can also give the company a better interface to their internal customers and the tool could for example expose contracts and other agreements to the whole organization.

E-procurement can be a helpful tool in the process of change regarding the sourcing strategy at Volvo Cars since the long-term goals of an implementation are stated to be the reduction of the supplier base and to drive the spend towards preferred suppliers. The standardization and consolidation that e-procurement can provide for Volvo Cars can off-load the work for purchasing staff regarding tactical and operational purchases in order to allocate these resources to more high-value strategic purchases and spot-buying of non-contracted products and services. A punch-out catalogue for items purchased from one of the organization's supplier of IT-infrastructure could example of a way to improve the managing of the purchases in this commodity area.

5.3.4 Segment D – Bottleneck

Relationships with suppliers that provide products or services that are categorized as bottleneck are often problematic due to various reasons. The purchases are not of high strategic importance but the complexity in the market conditions make them hard to avoid or choose between different suppliers.

The relationship strategy regarding suppliers in this segment is somewhat two-sided. On one side there is a need to secure the supply of the bottleneck product or service. This is because the purchase is necessary for the company and the risks associated with not being able to provide it for Volvo Cars are high. If there are few suppliers on the market and many buyers, demand exceeds the supply and the supplier can often have the dominant part in the relationship. In that case it can be a good idea to sign long-term contracts and find other ways to become a preferred customer for the bottleneck supplier.

On the other side of the supplier strategy regarding the bottleneck category is the fact that Group IT and IDP IT should instead continuously look for alternatives for the supplier since they do not always want to buy the products or services from these suppliers if they do not have to. It can for example regard a supplier that provides a necessary expensive technical skill for Group IT, which they have to pay a lot for due to different market conditions. The involvement with a certain supplier is in this case often based on the technology cycle term and exists as long as there are no other alternatives on the market. IT is a fast changing environment and this means that these technology cycles are usually rapid since new technologies and competing suppliers frequently appear on the market. There are although suppliers in this category that deliver for

example old systems that are already integrated so deep in the organization that it is too complex or expensive to change supplier, even though other technologies may exist.

Common for both these supplier strategies is, as well as in the leverage and bottleneck category, to standardize the processes and develop more effective ways of handling the purchase situation in order to reduce the cost of operations. Standardization can although to some extent be hard to accomplish in many of the relationships in this category due to the fact that many of the purchases regard specific technical skills from niche suppliers. The risk of lock-in effects is also evident in this category as well since it is important to be able to switch suppliers at a low cost.

5.4 Evaluation

As the first part of the analysis addressed the segmentation process of Group IT's purchases, the next step is to analyze the current supplier relationships. This analysis is suggested by Olsen and Ellram (1997) to be based on the relationship strengths and several different factors in order to decide the relative supplier attractiveness. Mapping the existing levels of involvement, practices, and the value delivered from supplier management is important for evaluating the relationships and provides a basis for improvement activities. Quantifying the expected benefits from working with certain suppliers also ensures that the improvement activities are in line with the company's expectations.

The factors that are presented by Olsen and Ellram (1997): economic factors, performance factors, technological factors, organizational factors and other factors set a solid basis for this type of analysis. Although the authors give examples of different metrics within these factors, they have to be adapted to fit the specific company objectives. This implies that there is a lot of work to be done before this type of analysis can be performed since the company will have to decide what metrics to use. This is also an important part of Group IT's current progress regarding the supplier base reduction since suppliers have to be measured against each other in order to determine which relationships that should be strengthened and which relationships that should be terminated. The sourcing program that has been initiated at Group IT is for example putting a lot of focus on scalability, quality, cost and risk.

The process of mapping the company's supplier relationships is complex and it demands a lot of time and effort from the organization. For Group IT this means that hundreds of suppliers need be evaluated to a different extent, which requires a lot of man-hours and the involvement of top management. In order to reduce the complexity of the process, one can differentiate what type of factors to include in the analysis of purchases within the different segments. The factors presented by Olsen and Ellram (1997) are probably not of the same importance among the portfolio segments since the categories will be evaluated based on different rationalities due to the different characteristics of the purchases.

There is a difference on how much that is required from both parties depending on how extensive the evaluation process is. The relationships with suppliers providing purchases that are categorized as strategic are more important for the company and should therefore be handled with a more comprehensive evaluation process. Even though the economic- and the performance factors always are of great importance, the evaluation process should focus more on the technological- and organizational factors regarding this segment. Other aspects worth mentioning is that both the buying company and the supplier must have the willingness to continuously improve the relationship and get an understanding of the long- and short-term gains that the relationship will bring. The parties must also dedicate time and effort to the continuous evaluation and share information with each other in order to create a successful collaboration with a useful evaluating outcome.

A well-developed measurement system can help the organizations to capture more value in the relationships and steer the relationship towards desired behaviors. Sharing this type of information can over time lead to knowledge about each other's business that can reduce the maintenance of the relationship. It is important to acknowledge that regarding the purchases in the strategic category, the outcomes of the relationship management is much more than just cost savings.

The evaluation process itself does not ensure that the performance of the supplier is going to improve. The supplier needs to be committed to the buying organization in order for the relationship to develop through follow-ups on the evaluation. If the buying firm sees great value in a supplier or if the purchaser is highly dependent on a certain supplier, they can also try to increase the supplier's commitment through different relationship marketing activities. This would probably be the case for the suppliers providing products and services in the *strategic* or *bottleneck* category in the purchasing portfolio.

In the other types of more arm's length relationships in the *non-critical* and *bottleneck* category, a more traditional one-sided perception of how to measure the supplier can be more suitable. In this case the buyer does not have to put any effort into influencing or adapting to the supplier and can instead focus on the economic and performance factors. This type of evaluation is more suited for suppliers that are providing goods or services that are not strategically important for the buying company or in a strong competitive supplier market where the buyer easily can switch between different suppliers. This implies that there is no need to look at the organizational factors due to the low importance of the purchase and the technological factors are not as vital since many suppliers possess the same knowledge on the market.

The process of measuring and evaluating the suppliers is also an important part regarding the dynamics of the purchasing portfolio model. As previously discussed, evaluation sets the basis for placing different purchases in different segments in the matrix. Since purchasing portfolios have been criticized for being static regarding the categorization of suppliers, evaluation can

somewhat overcome this critique through the possibility of moving a type of purchase from one segment to another in the purchasing portfolio based on the results and the development in the market.

5.5 Implementation of the segmentation process

During the course of designing the segmentation method, portfolio model and relationship strategy, issues and concerns related to an implementation were discussed. A lot of information

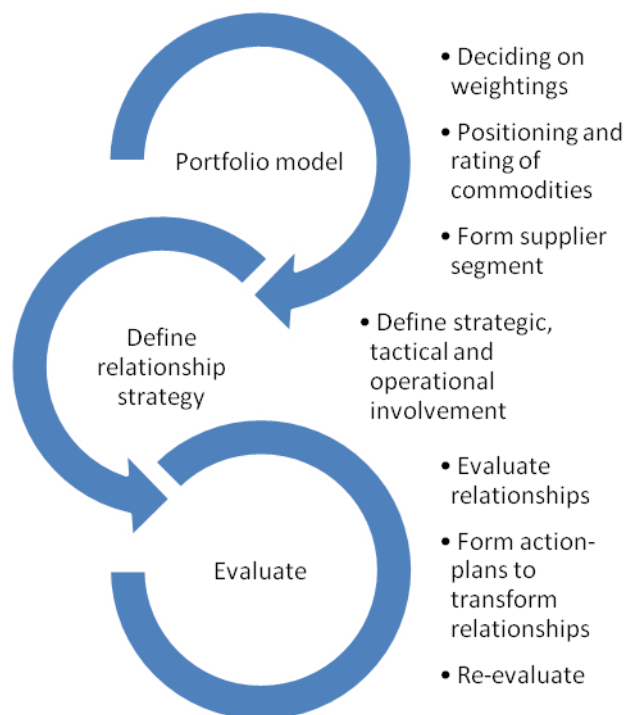


Figure 21: Implementation Highlights

was collected and acquired related to an implementation and this section aims to analyze and answer how group IT and IDP IT can implement the work with supplier relationships into the organization. Seen in *figure 21* are the suggested process and the dotted list to the right of the figure represent actions suggested for Group IT and IDP IT within each of the steps.

If an implementation is to be made possible at Group IT and IDP IT there are some key questions that needs to be addressed. Such questions are for example which activities that needs to surround the process of segmenting and working with suppliers and which decision forums that are most suitable for the decisions that the organization will have to take.

5.5.1 Portfolio model

Starting with what the process of segmenting the suppliers would look like, the first step would be to decide on the weighting in the portfolio model. The portfolio model is the key tool in the segmentation process. When it comes to the usage of a portfolio model approach in segmenting suppliers it is natural that decisions based on the portfolio model are highly affected by the choice of dimensions and factors. Olsen and Ellram (1997) emphasized that the weighting of each factor is one of the most important parts of the implementation since the weighting of the factors are a subjective matter and the decision-makers must come to an agreement on the relative importance of each factor. The first part of the analysis, discussing the company specific factors, can work as support in this decision.

For Group IT and IDP IT the required knowledge and authority is likely found within the sourcing committee or similar forums. The sourcing committee seems suitable because it includes a majority of the affected stakeholders. The next step for group IT and IDP IT to take is to position the entire purchasing portfolio into the matrix. A suggestion of how to do this could be the formation of a cross-functional project group that could focus on getting all the commodities rated within a relatively short timeframe. Once this is done, there will be no further need to conduct such a large project again. The commodities already mapped in the matrix can be re-evaluated regularly and new commodities added to the purchasing portfolio after this point can be mapped into the matrix by the stakeholder during the sourcing planning step in the purchasing process. The sourcing plan is reviewed together with the purchaser, which helps mitigate facts such as the stakeholder being biased in rating the commodity. Another thing that mitigates the stakeholder bias is to define the scale of which the factors are rated on. It is imperative that Group IT and IDP IT clearly define this scale so that personal opinions are not allowed to influence the rating of the commodity since this could contribute to misleading information.

Because the input to the purchasing portfolio is the purchased commodity and not a specific supplier, a supplier providing Group IT with a set of different products or services can be segmented into several categories. This can seem to have implications regarding the objectives to strive for a unified approach towards a supplier. There is most certainly benefits in uniting the departments' supplier relationship management in order to make the supplier feel like they are dealing with one company. This is based on the supplier base reduction strategy and the increase of negotiation power that volume consolidation could bring due to the company's current cost focus. Differentiating the supplier relationships based on characteristics of the purchases does not however imply that there will be completely different relationship processes with a supplier that is delivering services or commodities within several segments. The only things that differ are the level of involvement and the timeframe of the relationship.

The key idea is to involve the top management in questions regarding the strategic areas and not for discussions concerning topics that should be taken care of on a tactical, or even on an operational level. There is still the question regarding how the relationship with a supplier is affected by the fact that Group IT is putting some of the suppliers products or services out for competition in the leverage category while promoting long-term collaboration in the strategic category. There is a risk that this may send the wrong message to the supplier regarding the long-term objectives. To prevent this it is vital to communicate the strategy and be clear with the supplier about what the objectives with the relationship are.

5.5.2 Defining relationship strategy

Once the purchased commodities have been mapped into the matrix, Group IT and IDP IT can form lists of their suppliers of strategic, leverage, bottleneck and non-critical commodities. Using

these lists, the next step would be to define the relationship strategy by deciding on what activities and interactions that would be included on a strategic, tactical and operational level. Section two in the analysis can serve as guidelines for defining the activities related to the different levels. The level of involvement and the activities decided should also be stated clearly in a written form such as in for example the supplier contract. Once again the sourcing committee, consisting of a majority of the stakeholders and the right level of authority, seems to be the most suitable forum for deciding on activities and interaction on the different levels of involvement. Using a cross functional forum for these types of decision will be preferable since the level of involvement between Group IT, IDP IT and the suppliers would have implications on both organization as well as what the contracts between Group IT, IDP IT and the suppliers look like.

5.5.3 Evaluate

The last part in the process (*figure 21*) is for Group IT and IDP IT to take a close look at what the relationships looks like currently. Using data from the portfolio model on what the supplier delivers and where the commodities are positioned within the portfolio matrix, Group IT and IDP IT can identify what the preferable relationship should look like based on the previously defined relationship strategy. In the next step Group IT and IDP IT can identify the differences that exists between what the relationship looks like now and what the strategy states that it should look like. Once the differences have been identified the next step would be to form action plans in order to change the current relationship into the preferred one. The action plans should contain what Group IT and IDP IT wants the relationship to look like and what actions that will get the relationship to look like that. A decision that group IT and IDP IT is faced with is who actually designs the action plan. Which person or group that creates these action plans is a difficult question. Arguments can be made for the individual purchaser designing these action plans but based on the information gathered from interviews, purchasers are too busy in the operational work to find the time to design these action plans. It was expressed by the purchasers that they are conducting a too wide variety of tasks and that more specific roles within IDP IT would benefit the organization. In such a case, a person more involved in the strategic issues of purchasing would be a suitable candidate for designing these action plans. Since developing action plans for a large amount of suppliers takes a lot of time, a suggestion would be to start developing action plans for those supplier relationships that show the largest difference between preferred relationship and current relationship. These relationships are most likely to bring the most benefits to the organization and will help to visualize the benefits of working with supplier relationships more thereby creating further support for this process. After this has been done one can extend the development of the action plans to include other segments as well.

Since the supplier base changes constantly and the set of commodities procured from a supplier might change over time, one important aspect is to constantly re-evaluate the segmentation and

the preferred relationship. This could either be done on a yearly basis or whenever the contract lapses.

6 Discussion

During the course of designing the segmentation method, relationship strategy and implementation guidelines, issues and concerns related to different aspects of the organization have been frequently discussed. This is a result of the qualitative approach of the thesis and the semi-structured interviews that left the interviewees elaborating on subjects that were perhaps not considered to be part of the scope. During the time spent at Volvo Cars there have also been numerous unstructured discussions with the employees at the office throughout the process. The wide areas of discussion topics lead to that some of these aspects could not fit the main part of the thesis. Instead the most interesting of these topics are brought up in this discussion due to the value they bring to Group IT in terms of insight and to make use of the extensive collection of information that would otherwise be lost.

The first part of the discussion regards some identified problems that concern Group IT and IDP IT's possibilities to reach the company objective of being perceived as one company by the supplier. These problems involve the importance of clear roles in the purchasing process and the cooperation between the departments.

Literature regarding purchasing portfolio models suggests that mapping purchased commodities into this kind of model can have further uses besides acting as support for forming supplier relationship strategies. Other uses include for example using the model as a tool in forming specific strategies for groups of commodities. This possibility, as well as the two factors: service packaging and globalization in the context of supplier selection are discussed in the second section of the discussion.

Due to a stated interest from the managers at Group IT and the frequent use of the term both in the literature as well as within the organization, *partnership* is discussed in the last part of this discussion.

6.1 Identified problems

This thesis has primarily been focusing on Group IT's external relationships with their suppliers and it provides guidelines on how the organization can benefit from differentiating how they work with certain suppliers. An interesting aspect to this is that their possibilities to be successful in such work with supplier relationship management are affected by the functionality within their own organization and the internal relationships.

Aligning the purchasing department in order to make a purchasing organization more efficient demands that everyone uses a common process. It is important that this shared practice is not only documented and put away in a folder but also communicated and promoted in order to establish the process in the organization and to make the purchasers actually use it in their daily

work. It is also of great importance that the new process does not only provide information about what and when something should be done. The roles in the process also have to be decided in order to know the division of responsibilities within the organization.

This can be related to the ongoing plans of the supplier base reduction where a unified approach towards the supplier has been discussed as an important aspect. A decentralized purchasing organization demands collaboration and communication between the different units in order to facilitate the sharing of suppliers. This will affect the ability of Volvo Cars to have uniform demands towards the suppliers and the company objective to be perceived as one company in order to be able to leverage from the supplier base reduction.

At Volvo Cars, several people in the purchasing organization have stated this as a problem. There occur problems when the roles are not set or they are unclear due to too low level of specification. This unclear division of responsibilities is evident in both the roles between different departments as well as between different hierarchies in the organization. There is a need to decide the different roles in order to know where the responsibility for the supplier relationships should be. Today the roles are vague between Group IT and IDP IT and this highlights the underlying problem that the departments today are two separated entities.

This issue regarding Group IT and IDP IT as two separate functions has been found to be one of the root causes to many of the problems discussed with the employees during the process of this thesis. It requires that efforts are dedicated to bridge the gaps between the departments and increase the cooperation. One way is to combine the different people and competences required for a specific purchase through the formation of cross-functional teams. The idea of using cross-functional teams is not new to the organization but it can be used to a greater extent than what it is today. This is based on the answers from the employees who state that a lot of problems that arise in the purchasing process could be reduced through a better cooperation between Group IT and IDP IT.

6.2 Possibilities with the portfolio model

The following discussion concerns three different areas that have been found to be of interest regarding their importance in the segmentation process and the improvement possibilities they can bring for Group IT and IDP IT. The three areas are the *commodity business plans* (CBPs), *service packages* and *globalization*.

6.2.1 Commodity Business Plans

The documents intended to provide a basis for the purchasing strategy (CBPs) do not really exist in the current purchasing organization and the one that do is used less frequently. As can be seen in *figure 22* the current structure connects a commodity business plans to each purchasing category but has failed to create them for two of them. A problem identified is that the categories

used are on a too high level, making the CBPs contain too much information about too many commodities to be able to understand all the information.

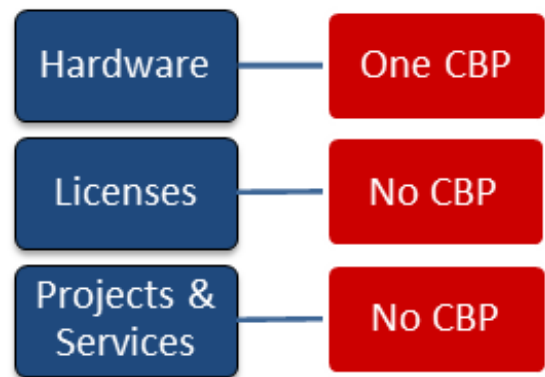


Figure 22: Current CBP structure

Our suggestion would be to break down the purchasing categories into so called sourcing groups. These sourcing groups consist of grouped commodities that could be sourced from the same set of suppliers using the same sourcing approach.

As illustrated in *figure 23* this breakdown would allow the organization to form more specific strategies for each sourcing group that would reduce

the complexity of the CBPs. These specific strategies can be more precise since they are sourced in the same way. The commodities within each segment could be mapped into the suggested portfolio model in order to visualize opportunities. Using the data from the portfolio model could also help the organization find further opportunities in consolidating their supplier base.

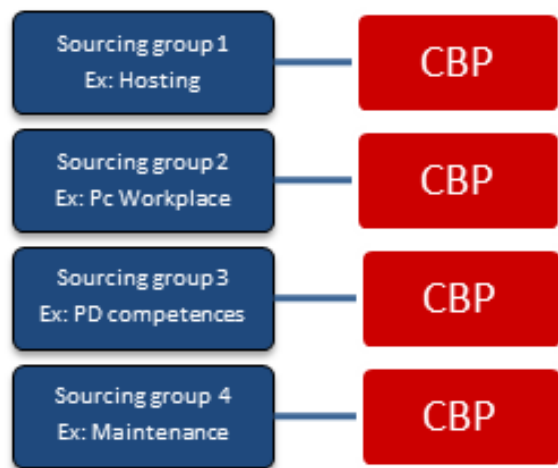


Figure 23: Suggested CBP structure

It should be noticed that it is important to find the appropriate level for the sourcing groups. If they are created on a too low level (compared to the high level CBPs today) the administrative complexity for example might reduce the benefits. It should therefore be emphasized that efforts should be allocated to find fitting sourcing groups for Group IT and IDP IT. Hosting, PC workplace, product development competences and maintenance are examples of purchasing areas that could form sourcing groups.

6.2.2 Service packages

It seems to be a shared opinion between many of the people at Group IT and IDP IT that it can be beneficial to strive for contracting suppliers based on service deals rather than using time and material-contracts for some areas. In the fast changing IT-business, purchasing based on time and material-contracts increase the risk of having to update the products or services to a high cost when for example new technology specifications are required. Instead the aim could be to rely on

service providers that follow the market and assure that the systems are up to date. This highlights the importance for Group IT and IDP IT to select suppliers that have the ability to deliver this type of service deal, something that is not very common today since many suppliers do not provide that type of long-term

There have been examples where the organization has made large investments in IT infrastructure just to realize a while later that the equipment did not have the qualifications to support new features of the system. This led to new high expenses for the organization since the old equipment had to be replaced. If a supplier instead were contracted based on the function of a provided service package where Volvo Cars could pay periodically for a certain function within their organization. This would reduce the risk of the unexpected changes in technology and save the company from unnecessary “upgrading” costs. There can also be benefits regarding the cost structure of such contract since the costs are evened out instead of following uncertain technology cycles. It can still be discussed which of the alternatives that is most cost efficient in the long-run. Even if a periodical payment for a service would be beneficial in terms of financial planning it is not certain that it would be the cheapest alternative. It can also be hard to predict the amount of such payment since it is uncertain how much effort that will be required by the supplier. It comes down to what the value of the function is for Volvo Cars and how much that the organization is willing to pay for the service.

6.2.3 Globalization

The globalization aspect is of growing importance for Volvo Cars since they are putting a lot of effort in expanding into new markets. During the process of this thesis a new factory is being built in China and since Geely acquired Volvo Cars in 2010 there has been a lot of focus on the Chinese market. This increases the importance of the globalization factor in the segmentation process and it makes it interesting to discuss if the portfolio approach can have a global applicability.

One of the company objectives is to have a unified approach towards both the suppliers as well as to the end customers but globalization makes it more complex. In combination with plans to reduce the supplier base, Group IT and IDP IT will rely more on a fewer number of suppliers that should be able to provide the same quality all over the world. Not all suppliers can deliver their products and services globally and decentralizing the supplier selection in the organization also leads to that local incentives may overrule company objectives. A high degree of purchasing decentralization makes the supplier base reduction implementation more complex and can have a negative effect on the leverage possibilities. This would also require the business units to have good collaboration in order to take advantage of using the same suppliers.

A common and centralized segmentation process and guidelines for the portfolio approach could be communicated in the organization. This could in turn help to reduce the differences in the purchasing organizations’ views on supplier selection and ensure that different purchasing units

act on the same principles. In this way, a portfolio approach is a clear and visual way to communicate and standardize a segmentation process in the organization.

6.3 Partnerships

It is common these days that managers talk about partnerships with suppliers. This is something that has been an ongoing discussion by employees at Group IT and it has been brought up on most of the interviews. In another department in the organization, direct material, the term partnership is widely used when referring to different supplier categories. All of the supplier segments in their model except the one where the least integration with the supplier is needed include partnership in the definition.

The reason for developing a buyer-supplier partnership is usually to create mutual value from for example joint development of core competences where a high level of trust is required. This brings an interesting discussion regarding how well a partnership is appropriate for an IT-purchasing environment compared to a department that purchases products and services that are easier to relate to the core competences of the company. IT is however becoming increasingly value adding in terms of more IT being included in the cars and because it directly affect the final customer.

In our opinion, one should be careful how to use the word partnership when referring to a buyer-supplier relationship. It often feels like the word is used to aestheticize a relationship and it is evident that people in the organization find it hard to define what it actually means to be in a partnership with a supplier. When looking at theory regarding strategic relationships and partnerships it is clear that they are closely related and share a lot of characteristics like for example the long-term view, open information sharing and a high level of trust. What seems to differ in the definitions of the two terms is how gains and risks are shared in a partnership. A partnership is in our view a situation where both parties are sharing the gains and risks and this is something that is hard to adapt to the situation at Group IT. Especially when dealing with indirect purchases, it is often hard to relate the products or services that are procured to the gains for the customer and thereby for the organization. This gain- and risk-sharing perspective of the relationship type is our rationale for not using the term partnership in the purchasing portfolio for Group IT.

A possible supplier relationship that would be classified as a partnership could be if Group IT and a specific supplier would work together in a way where the possible benefits or losses would be shared between the involved actors. This would assume that the project could be directly related to the value it brings to the organizations. Since partnerships are characterized by a high level of mutuality there has to be benefits for both the buyer and the supplier. The benefits for the buying company regularly regard the development of core competences for the organization. For the supplier the benefits often concern having a stable customer since a partnership usually tends to have a long-term focus. The important thing to consider is that the creation of a

partnership is only achievable if it is the strategic intention of both the involved actors. The organizations have to match their intentions and strategies and create win-win situations.

7 Conclusions

The aim of this thesis was to suggest a method for segmenting Group IT and IDP IT's suppliers and to propose relevant supplier relationship strategies towards these segments. Furthermore to highlight issues related to an implementation of the strategies and segmentation method.

Empirical information was gathered through semi-structured interviews with key persons involved in the purchasing and sourcing processes. The aim was fulfilled using a set of theories such as purchasing portfolio models, supplier relationship management and supplier evaluation to design a purchasing portfolio model that can act as a tool in segmenting suppliers and in designing supplier relationship strategies.

Our suggested method for segmenting Group IT's and IDP IT's suppliers are by rating a purchased commodity on how important it is for Group IT and how complex the supplier market is. Doing this, Group IT and IDP IT can position a given commodity in the suggested purchasing portfolio matrix. When the commodities have been mapped, Group IT and IDP IT can visualize and identify suppliers that deliver strategic-, leverage-, bottleneck- and non-critical commodities. The supplier segments are then based on the characteristics of the purchased item. Four different segments of suppliers can then be identified:

- Suppliers of strategic commodities (Segment A)
- Suppliers of leverage commodities (Segment B)
- Suppliers of non-critical commodities (Segment C)
- Suppliers of bottleneck commodities (Segment D)

Considering the characteristics of Group IT's and IDP IT's supplier base and purchasing portfolio, our recommendation is for Group IT and IDP IT to differentiate their supplier relationship strategies based on the different supplier segment-characteristics. This would be beneficial for Group IT in that it would contribute to optimizing the use of their existing resources. For Segment A, the recommendation is to try to capture the value that the relationship can bring and to create a win-win situation for both parties. These relationships have a long-term focus and are characterized by trust, open lines of communication and mutual dependence. For segment B the recommendation is to use volume consolidation and the low market complexity as ways to reduce the costs of the purchased commodities. The relationships with supplier segment C should aim at being standardized and autonomous in order to minimize the administrative costs. Finally, in segment D the relationship strategy should be to either secure the service provided or to find a new supplier if possible. The time horizon of these relationships therefore

varies based on for example technology cycles but the operational costs should be reduced through standardization and more efficient ways to handle the purchasing situation.

Overall, the differentiated relationship strategies all stem from the theory that the right level of involvement is to be sought in the different types of relationships. Top management should be involved in strategic questions and not operational or tactical discussions in order to optimize the company competences.

An implementation of the purchasing portfolio model would require that Group IT deciding on the weighting of each factor in the portfolio model. The model should be weighted so as to reflect the relative importance of each factor seen from the perspective of Group IT and IDP IT. The correct forum to decide upon the weighting is most likely the within the sourcing committee since it involves key persons from both organizations with good insight in the sourcing process. The segmentation of suppliers and the formation of differentiating supplier relationship strategies would require Group IT and IDP IT to form action-plans surrounding the current supplier relationships so as to focus and rationalize efforts towards each segment of suppliers.

In order for the relationship efforts to continue to bring benefits, it is recommended that supplier relationships are regularly evaluated. This would ensure that Group IT's and IDP IT's resources are used efficiently even as the supplier-base changes.

One of the key problems identified within the organization was the structure of the purchasing organization and the commodity business plans. The purpose of a commodity business plan is to provide valuable information such as strategy and data on a certain group of commodities. However, the size and scope of the current commodity business plans makes it hard to extract any useful information. Because the commodity business plan is supposed to act as guidelines for the purchasers, improvements in this area would likely help the sourcing programme to better put strategy to action.

A topic that we think deserves further attention from the organization is e-procurement. It would be interesting to conduct a business case investigating the possible benefits that a standardization of non-critical purchases, may contribute to. This is especially interesting for the relationships with suppliers in segment C. The applicability of e-procurement for Group IT and IDP IT has only been briefly touched upon in thesis and would be of interest to investigate more for Group IT and IDP IT.

Finally it is important to conclude that the most valuable outcome of the suggested portfolio model might not be the matrix itself, but the process of creating it. One of the goals with this thesis has been to highlight the importance of differentiating the work with supplier relationship management and hopefully the thesis can inspire the managers with applicable strategies for the departments and help to raise the issue throughout the organization.

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