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STRATEGIC PURCHASING

Principles and Current Issues

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The editorial team:

Beld van de, S., Dannenburg, M.J., Hoekman, S.W. & Vosselman, B.

List of Contributors

Chapter 2, Purchasing Strategies:

Barvar, A., Drop, J.D., Stanek, F. and, Vlap, S.

Chapter 3, Alignment and integration of the purchasing function:

De Groot, M.R., Li, B., Van Ruiten, R.F. and, Westhoeve, J.J.

Chapter 4, Supplier Relationship Management:

Becker, S.A.M., Rijnja, L., Weering, M.G. and, Zwart, J.

Chapter 5, Purchasing Business Services:

Bijl, A., De Haan, S.J. and, Kirchhoff, H.

Chapter 6, State of the art Global Purchasing:

Kramer, J., Oost, H. and, Van de Breemen, S.C.

Chapter 7, Sustainable purchasing:

Blanke, T., Deng, K. and, Frericks, A.J.

Chapter 8, Risk management and Purchasing:

Debye, Y., Guo, M., Rabo, P. and, Renkema, M.R.W.

Chapter 9, Purchasing from different perspectives:

Kräuter, V., Saaltink, N.J., Terpstra, M. and, Van Rijn, J.

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Preface

Purchasing and Supply Management have become important issues within every organization. This is not only evident in board room recognition of the function, but also when looking at job advertisements - skilled and highly educated Purchasers are in demand. Yet, there remain many challenges and possibilities for improvements. Therefore, academia and practice need to work together to further develop the Purchasing and Supply Management function.

In February 2016, 33 international MSc students were asked to plan, write and deliver an academic book on current issues in relation to Strategic Purchasing. Based on theory derived from academic articles and books, students in groups of 3-4 wrote one chapter for the overall course book with the joint ambition to describe and discuss the state of the art of Strategic Purchasing today. Additionally, for the first time this year, students further engaged with practice: thanks to 8 practitioners (mentors), each chapter group was able to find out what their theoretical insights derived from literature meant in practice. This is evident throughout the book in case studies and examples.

We proudly present the resulting E-book of this year's project – Strategic Purchasing Principles and Current issues. While the book focuses on the developments in Strategic Purchasing and Supply Management it might also provide a presentation of a coming generation of purchasing professionals.

The course and the book could not have been realized without the support of the companies, people and Nevi Noord who kindly contributed their time for *guest lectures*:

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Groningen, April 2016,

Dr. Kirstin Scholten and **Drs. Ing. Henk Faber**

Department of Operations, Faculty of Economics and Business

Chapter 1: Introduction

This book is about strategic purchasing; about its principles and current issues. "**Strategic purchasing** is the application of the whole selection of activities that help to develop and sustain a long term competitive advantage for companies, ranging from what, when, and how much to purchase, purchasing it and the process of making sure that what is purchased is received on time in the right quality and quantity" (Kraljic, 1983; Van Weele, 2010 and; Burt & Pinkerton, 1996). This chapter will give a first introduction to this topic and discusses the content of this book.

Purchasing has not always played a strategic role in organizations but this has changed over the last decades. Whereas it used to be an isolated part it is now regarded as an essential tool for having a profound impact on the performance of supply chains (Paulraj, Chen & Flynn, 2006). This involves buyer–supplier relationships with a customer point of view (Chen, Paulraj & Lado, 2004) but also a more internal point of view, where the execution of operations is the main point of interest (Paulraj et al., 2006). Both views can result in an improved financial performance in the way that both views can enhance revenues and reduce costs respectively (Paulraja et al., 2006). Besides costs, more opportunities for strategic purchasing are realized over the past decades. Research has shown that a strategic view on the purchasing process function can furthermore be beneficial for product or service quality (Carr & Pearson, 1999), innovation (Luzzini & Ronchi, 2011) and, overall efficiency of organizations (Normann & Ramirez, 1993). These aspects are realized by means of the purchasing process.

The **purchasing process** is defined by Monczka, Handfield, Giunipero & Patterson (2009, p.38) as **"**The process used to identify user requirements, evaluate the need effectively and efficiently, identify suppliers, ensure payment occurs promptly, ascertain that the need was effectively met, and drive continuous improvement". The purchasing process of van Weele (2010), is displayed in figure 1.1 and consists of six steps which occur between the supplier and the internal customer.

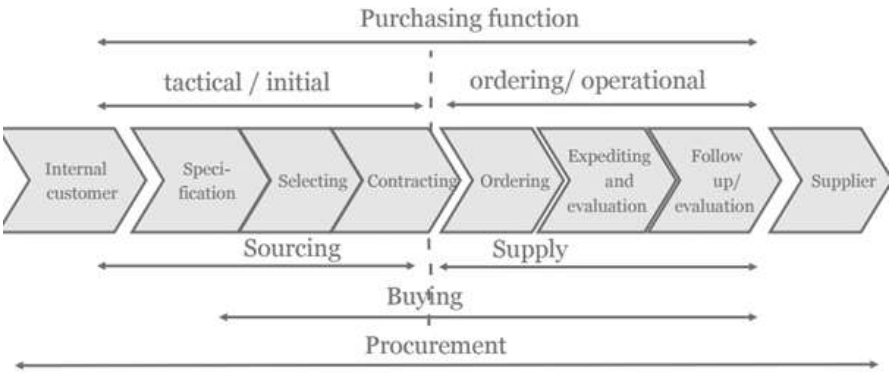

FIGURE 1.1 Purchasing process (Van Weele, 2010)

The purchasing process consists of two parts:

1. **Sourcing** (van Weele 2010, p. 10): "Finding, selecting, contracting and managing the best possible source of supply on a worldwide basis". This part consists of the steps Specification (determining the specifications of the needed goods or services), Selecting (select suppliers(s) and define routines and procedures) & Contracting (generating agreements which resolve in legal contracts).
2. **Ordering (supply)** (van Weele 2010, p. 30): "The placing of purchase orders at the suppliers against previously arranged conditions or when orders are placed directly at the supplier, without questioning the supplier's conditions''. This part also consists of three steps namely Ordering (the placing of the order), Expediting & Evaluation (paying close attention to order through confirmations) and Follow up & Evaluation (evaluating and documenting of supplier information).

This book will solely discuss the Business to Business (B2B) processes, instead of Business to Customer (B2C) processes. The main reason is that in B2B-processes, purchasing interactions withhold the most complex, interesting, dynamics and therefore are more relevant to clarify current knowledge on. B2B purchasing is mostly about buying capital equipment, operational supplies and industrial services. B2B purchasing furthermore differs from B2C purchasing in the following: the receipt for B2C is noticeably smaller than for B2B, B2B is far more complicated than B2C and it is likely for B2B buyers to purchase in repetition on a regular basis (Saini et al., 2010).

The reader of this book will find information on strategic purchasing on two main topics: (1) on principles, to provide a solid base and (2) on current issues in the field of purchasing to provide a state of the art overview of relevant topics. The following sections will give an introduction to the discussed principles and current issues.

1.1 Principles

The three strategic purchasing principle topics that are discussed in this book are Purchasing Strategies, Internal Alignment and Relationship Management. These principles are chosen because of their influence on multiple parts of the process of Van Weele (2010). Firstly, Purchasing Strategies determine the overall strategy of the purchasing function and hereby influence all the stages and stakeholders of the purchasing process (Watts et al. 1995). Secondly, internal alignment involves the interaction between different parts of organizations in realizing the six stages of the purchasing process (Leary-kelly & Flores, 2002). Third, buyer-relationship management. This topic incorporates the dynamics involved in maintaining relationships with the stakeholders 'outside' of the purchasing process (Herrman and Hodgson, 2001). I.e. the buyers and suppliers.

1.2 Current issues

Besides the principles of strategic purchasing, this book will pay specific attention to current issues in strategic purchasing. This, state of the art overview of strategic purchasing topics with a lot of recent attention in literature, will enhance the managerial purpose of this book. These **current issue**s will be the core content of this book. In this part, an overview of these will be given.

A current issue that needs to pursue a different strategy to deal with the challenging environment and maintain profits is *service purchasing*. According to Stradford and Tiura (2003; in van der Valk and Rozemeijer, 2009) cost savings could be best pursued on services. Savings on services range from 10 to 29 percent compared to 5 to 17 process for commodities or materials (Stradford and Tiura, 2003; in van der Valk and Rozemeijer, 2009). Purchasing services is furthermore of interest because the purchasing process of services differs from the purchasing process of goods (Stock and Zinszer, 1987). Besides the fact purchasing services serves as opportunities for cost savings, more firms move from manufacturing goods to offering services, or a combination of services and products, to provide a function or solution which evokes a new interest of research on purchasing services (Lindberg and Nordin, 2008).

Another current issue is *global purchasing*. Global purchasing has become one of the common strategies to deal with the challenging environment (Schoenherr et al., 2012). Furthermore, more and more organizations start to implement a global strategy (Trent and Monczka, 2005).

The research of Shi, Wu, Chu, Sculli & Xu (2011) has stated that the purchasing function is a critical function which is susceptible to risk. The field of research according to purchasing frameworks and models regarding *risk management* is furthermore developing (Schoenherr et al., 2012). This is why risk management also is also seen as a current issue within strategic purchasing.

Besides the increasing interest in purchasing services, global purchasing and risk management, there is an increasing concern among *sustainability* wherefore environmental and/or green dimensions are frequently used to evaluate and select suppliers (Schoenherr et al., 2012). Therefore, the amount of research regarding sustainable purchasing is growing (Miemczyk, Johnsen and Macquet, 2012) and is sustainable purchasing is perceived as a current issue.

Last, Lysons and Farrington (2006) state that intra-organizational, inter-organizational, environmental and risks related to purchasing are depending on the *context of an industry*. Van Weele (2010) adds that the function of purchasing specialists in industries differ. However, literature is relatively new on perspectives, other than on big companies, such as public purchasing or small- and medium sized enterprises. Therefore, this will also be one of the chapters of this book.

1.3 Book outline

As stated in the previous parts, the main goal of this book is to inform and educate about strategic purchasing principles and current issues and this book is therefore divided into two main parts. The first part, strategic purchasing principles, consist of the chapters; Strategies (Ch. 2), Internal Alignment (Ch. 3) and Supplier Relationship Management (Ch. 4). The second part, current issues, consist of the chapters; Services (Ch. 5), Global Purchasing (Ch. 6), Sustainability (Ch. 7), Risk Management (Ch. 8) and Purchasing in different contexts (Ch. 9). Figure 1.2. Provides an overview of the book outline:

FIGURE 1.2 Book outline

Each chapter starts with an introduction which highlights the relevance of the chapter's subject and furthermore briefly discusses the chapter content. After this, the main body of the chapter is presented which elaborates on strategic purchasing principles in the first part and on current issues in strategic purchasing in the second. After the main body of each chapter, a summary and discussion is added.

At least four examples are discussed throughout each chapter. These examples will give the reader a better understanding of what is being discussed and gives the reader a more practical view of what strategic purchasing entails. The examples can be recognized by the surrounding boxes.

Finally, the key-terms in each chapter are highlighted in bold. At the end of the book, a glossary list can be found which holds all key-terms in alphabetical order. Also et the end of each chapter a key term list can be found with the key terms in the order in which they are introduced within the chapter.

Key terms

The key terms mentioned in this list can, with their references, be found in the main body of this chapter.

Strategic purchasing - The application of the whole selection of activities that help to develop and sustain a long term competitive advantage, ranging from what, when, and how much to purchase, purchasing it and the process of making sure that what is purchased is received on time in the right quality and quantity.

Current issues - Literature study has found that some topics in the field of strategic purchasing are paid a lot attention to in recent years.

Purchasing process - This is the process used to identify user requirements, evaluate the need effectively and efficiently, identify suppliers, ensure payment occurs promptly, ascertain that the need was effectively met, and drive continuous improvement.

Sourcing - Finding, selecting, contracting and managing the best possible source of supply on a worldwide basis.

Ordering - The placing of purchase orders at the suppliers against previously arranged conditions or when orders are placed directly at the supplier, without questioning the supplier's conditions.

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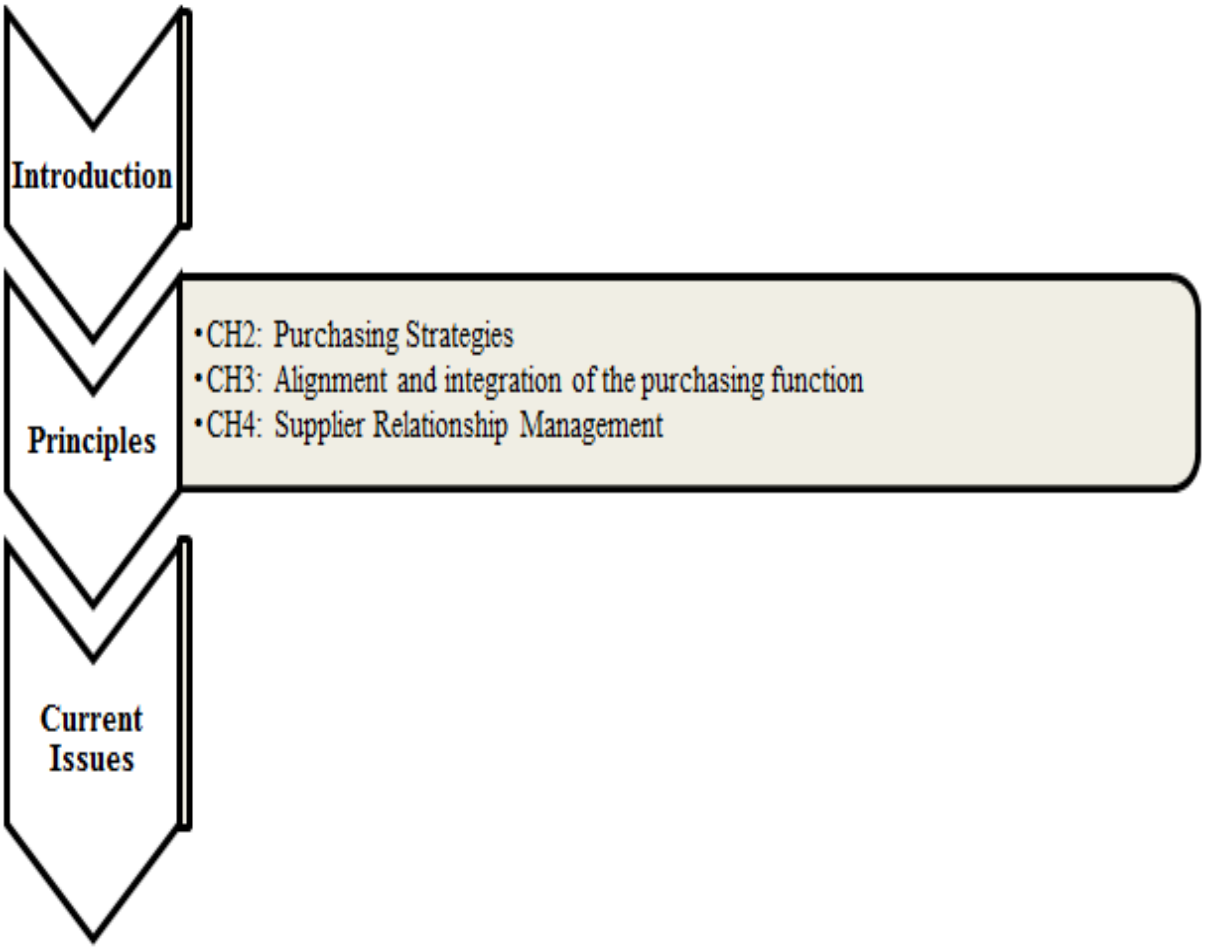
Part 1: Principles of Purchasing



Chapter 2: Purchasing Strategies

Authors:

Barvar, A.,
Drop, J.D.,
Stanek, F.
and, Vlap, S

Abstract

In this first chapter multiple purchasing strategies are discussed. To start with, the purchasing maturity is the level of professionalism in the purchasing function and can therefore be seen as the basis on which the purchasing strategies can build. Four main purchasing strategies are discussed: category management, portfolio models, supply base management and best value purchasing. Within each subchapter multiple different view will be explored.

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2.1 Introduction

Purchasing strategy: could it be a "one size fits all"-analogy? Would it be really that simple? From the extended list of articles in the purchasing literature one might concluded that there is more to purchasing strategies than a simple pick from the list (Ates, 2015; Caniels & Gelderman, 2007; Gonzalez-Benito et al., 2010). Hesping and Schiele (2015) have done a literature review on **purchasing strategy** development and stated that "formulating a single overall strategy for the purchasing function is a difficult task; rather, a diverse set of strategies and tactics for a diverse set of purchases and suppliers may apply" (p. 138). Moreover, making use of purchasing strategies results in a reduction of the company's exposure to opportunistic behavior of other companies and it increases the change of successful collaborative relationships (Chen et al., 2004). Watts et al. (1995) define purchasing strategy as "the pattern of decisions related to acquiring required materials and services to support operations activities that are consistent with the overall corporate competitive strategy".

2.1.1 Structure of the chapter

In this chapter multiple purchasing strategies will be discussed. Before reviewing the purchasing strategies, the purchasing maturity will be discussed. The **purchasing maturity** is the level of professionalism in the purchasing function (Rozemeijer et al., 2003, p. 7). Therefore the purchasing maturity can be seen as the basis which the purchasing strategies build upon. Many purchasing strategies are known and written about in literature. In this chapter the following purchasing strategies will be reviewed: Category Management, Portfolio Models, Supply Base Management and Best Value Purchasing. The chapter authors believe that the field of purchasing strategies is generally consisting of two major parts. The first being the inward looking view and the second being a more outward looking view. Some purchasing strategies mainly focus inwards meaning analyzing the company's products and services and according to these assign the purchasing strategy, like the Kraljic portfolio model does. On the other hand, there are also purchasing strategies that have a more outward looking view. One of the criticisms on the Kraljic model is that it does not include the involvement of suppliers to assign different purchasing strategies to commodities (Dubois and Pedersen, 2002; Kamann, 2007 in Sidhartha et al., 2012). Therefore, to cover the inwards looking view, the Category Management and Purchasing Portfolio Models are included and for outward looking view of the purchasing function, the Supply Base Management and Best Value Purchasing are included in this chapter.

Category Management and Portfolio Management strategies are chosen because they have been widely used and are frequently discussed in literature. The Supply Base Management strategy is included in this chapter because it looks at the entire buyer-suppliers system instead of mainly focusing on individual elements or connections. Lastly, the Best Value Purchasing is reviewed as this is currently widely discussed in literature as well and is gaining ground in practice. This approach can be classified as being more looking outside of the buying organization because it focusses on the buyer being the expert and providing the best solution for the product the buying-company wants to purchase. Furthermore, the Supply Base Management will be an introduction for chapter 4 and the Best Value Purchasing will function as an introduction to chapter 9.

2.2 Purchasing Maturity

"The level of purchasing maturity reflects the extent to which the purchasing function is integrated into the strategic management decision-making process (Pearson and Gritzmacher, 1990)" (Bemelmans, Voordijk & Bos, 2013, p. 343). The purchasing strategy an organization chooses depends on the purchasing maturity and to align the purchasing strategy with current practices of an organization, the purchasing maturity should be known. A maturity model describes several –auditable- stages an organization is expected to go through in its quest for greater sophistication (Schiele, 2007). Maturity models can indicate the current state and potential areas of improvement (Johnson, Howard and Miemczyk, 2014).

The level of purchasing maturity can influence the level of performance, since a higher level of purchasing maturity is associated with a better overall performance of the organization (Schiele, 2007). Purchasers remain on an operational level in the case of a low level purchasing maturity, while purchasers work on tactical and strategical levels in the case of high level purchasing maturity (Pearson and Gritzmacher, 1990). To support those tactical and strategical decisions, the organization will have an integrated information system (Pearson and Gritzmacher, 1990 in Bemelmans, Voordijk & Bos, 2013). Paulraj et al. (2006) also found the higher the strategic level of purchasing, the better the firm's performance.

The level of purchasing maturity determines the purchasing approach of the organization. To categorize different purchasing approaches, Rozemeijer et al. (2003) developed a matrix of different corporate purchasing approaches. Five different purchasing approaches (Figure 2.1) exits based on a low or high purchasing maturity and a low or high corporate coherence. Corporate coherence is related to the extent to which different parts of the corporation operate and are managed as one entity.

FIGURE 2.1: Purchasing maturity Rozemeijer et al. (2003)

A lot of different purchasing maturity models are developed throughout the years. Most of those models address the following dimensions (Schiele, 2007): procurement planning, organizational structure of purchasing, process organization, human resources and leadership and purchasing controlling. Bemelmans et al. (2013) agreed on those dimensions and added a sixth dimension: collaborative supply relation. Most of the purchasing maturity models include whether firms formulated a collaborative sourcing strategy. Schiele (2007) decided to leave out the collaborative supplier relation in the theory, since the collaborative supplier relationship has a prescriptive character, while the other dimensions are descriptive.

The purchasing maturity models differ in their research approaches and empirically testability. At first, purchasing maturity literature is based on different types of research input. Some maturity models are primarily based on theory, while others are based observation of a combination of both (Bemelmans et al., 2013). Furthermore, the purchasing maturity models differ in whether the maturity performance is empirically tested or not. The selection of the purchasing maturity models, which will be discussed below, are based on the different research approaches and empirically testability. The model of Reck and Long (1988) is primarily based on observations, but no empirical test for their results is done. Since the empirically testability is important for the contribution to existing literature, two purchasing maturity models which are empirically tested will also be discussed. The model of Van Weele (2009) is also primarily based on observations and is empirically tested by Bemelmans et al. (2013). A model primarily deducted from theory and empirically tested is the purchasing maturity model of Schiele (2007), which will be discussed as last.

2.2.1 Reck and Long (1988)

Reck and Long (1988) developed one of the first purchasing maturity models. Maturity models do suggest that the process of making changes in purchasing is an entail one, requiring gradual changes in structures, processes, people and inter- and intra-organizational relationships; jumping steps can be problematic (Reck and Long, 1988). So the development of one stage into another needs some time and attention. Reck and Long (1988) identified four stages of purchasing maturity: passive, independent, supportive and integrative.

First of all, the passive stage is mainly focused on price savings with no clear purchasing and supply management (PSM) strategy. Secondly, the independent stage is focused on a small set of (easy-to-measure) KPIs and an emerging, informal PSM strategy. Thirdly, the supportive stage is focused on a range of KPIs aligned with the PSM strategy. The PSM strategy is a formal strategy supportive of corporative strategy. At last, the integrative stage is focused on a range of KPIs aligned with the PSM strategy, including soft behavioral factors. The PSM strategy is an integral part of the corporate strategy. More characteristics of each purchasing maturity stage can be found in table X.

	Passive	Independent	Supportive	Integrative
Nature of long-term planning	None	Commodity of procedural	Supportive of strategy	Integral part of strategy
Organizational visibility	Low	Limited	Variable	High
Sources of new ideas	Trial and error	Current purchasing practices	Competitive strategy	Inter-functional informational exchange
Basis of supplier evaluation	Rice and easy availability	Least total cost	Competitive objectives	Strategic contributions
Purchasing & Supply Management (PSM) Strategy	None	Emerging, informal	Formal strategy supportive of corporate strategy	PSM integral part of corporate strategy
KPIs	Price savings	Small set of easy-to-measure KPIs	A range of KPIs aligned with PSM strategy	A range of KPIs aligned with PSM strategy, including soft behavioral factors
Skills training and development	Minimal, low level tactical	Current popular best practice	Cross-functional	Cross-functional, leadership, change management
Supplier relationships	Mostly adversarial	Emerging partnerships	High proportion of partnerships, SRM	A portfolio of appropriate varied relationships: SRM
Sustainability strategy	No consideration	Partial and emerging	Integrated sustainability and PSM strategy: sustainability strategy supports PSM strategy	Integrated sustainability and PSM strategy: sustainability strategy drives PSM strategy
Sustainability implementation	None or limited	Initiatives to avoid negative exposure. Mainly meeting minimum legal requirements	Ethical supply chain evaluation e.g. CO2 supply chain measurement and supplier audits. Mostly direct supplier focused	Ethical supply chain evaluation. E.g. co2 measurement and audits but also supplier development/mentoring. NGO engagements. Extends to indirect supplier

TABLE 2.1: Purchasing maturity model, Reck and Long (1988)

As already is said, the model is based on observations and is not empirically tested. The findings are derived from a series of interviews with experts whose suggestions were summarized into a stage model (Schiele, 2007, p. 276). Besides that, the model only include the dimensions: procurement planning, human resources and leadership and purchasing controlling (Schiele, 2007). Hereby, the model is very limited and therefore a more elaborated version of a purchasing maturity model is needed to describe purchasing maturity.

2.2.2 Van Weele (2009)

Van Weele (2009) used the model described by Keough (1993) to develop his own model. The original model of Keough is primarily based on observations and not empirically tested, just like the model of Reck and Long (1988). So the model of Van Weele (2009) belongs to the same category as the one of Reck and Long (1988), until Bemelmans et al. (2013) empirically tested the purchasing maturity.

Keough's model consists of five stages, while Van Weele added one stage based on valuable insights from other contributors. The six stages describe the purchasing maturity (Van Weele, 2009 in Bemelmans, Voordijk & Bos, 2013, p. 348-349):

- Transactional orientation: the primary task of purchasing is to find appropriate suppliers and ensure that the organization's operational processed do not run out of raw materials and components. In this stage, purchasing is a decentralized function, regarding to Rozemeijer et al., 2003
- Commercial orientation: This stage focus on low prices, cost savings and the delivery performance of suppliers by negotiating and contracting good deals.
- Purchasing coordination: Some form of strategy formulations first appears, aimed at capturing the benefits of internal coordination, collaboration and synergy among business units.
- Internal integration: The emphasis turn to cross-functional problem solving with the objective of reducing total lifecycle costs and not just the unit cost of purchased components.
- External integration: At this stage, suppliers are actively involved in new product development, process improvement and pre-production planning.
- Value chain integration: At the latest stage, suppliers are continuously challenged to support the organization product/market strategies and to actively participate in product development.

Bemelmans et al. (2013) empirically tested the model, which results in a quick scan purchasing maturity tool. The framework of Bemelmans et al. (2013) is more specific compared to the model of Reck and Long (1988). Since it includes six stages, the risks of jumping steps, as Reck and Long (1988) mentioned, could be reduced. So, the model of Bemelmans et al. (2013) has two advantages compared to the model of Reck and Long (1988), but unfortunately also one disadvantage. The framework include the dimensions: procurement planning, organizational structure of purchasing, process organization and human resources and leadership but not purchasing controlling (Schiele, 2007). The model of Schiele covers all parts of purchasing maturity and would therefore be discussed in the following paragraph.

2.2.3 Schiele (2007)

To categorize the purchasing maturity model of Schiele (2007), the model is primarily deducted from theory and is empirically tested. Moreover, all aspects of purchasing maturity as mentioned in paragraph 2.3 are included. Therefore, the purchasing maturity model could be seen as the most extensive purchasing maturity model. Schiele (2007) developed an instrument to categorize the purchasing maturity of an organization into four stages: stage 1 (0-25%), stage 2 (26-50%), stage 3(51-75%) and stage 4 (76-100%). Questions are based on the dimensions of purchasing maturity, of which an example is given below in table 2.2. The complete tool can be found in the article of Schiele (2007).

Management function	Question for Analysis	Stage 1 (0-25%)	Stage 2 (26-50%)	Stage 3 (51-75%)	Stage 4 (76-100%)
Procurement planning – Demand planning					
Process	To what degree is purchasing involved in the project / product planning?	Product or project planning is sporadically known to purchasing	Dedicated purchasing personnel are informed about product or project planning.	Purchasing is integrated into product and project planning and utilities existing demand planning systems	Early involvement of purchasing in product and project planning is always ensured.

TABLE 2.2: Schiele purchasing maturity model, Schiele (2007)

By the use of this instrument, organizations can measure and improve their purchasing maturity based on a practical tool.

2.3 Category Management

Category Management has become more and more important over the last years. Companies have recognized the importance of this approach to become a more strategically oriented purchasing department. In the following, the Category Management will be introduced as an effective method to analyze and evaluate the organizational activities in a purchasing context.

2.3.1 What is Category Management?

Category Management is a strategic approach that aims to classify goods and services within a company into different categories. In a purchasing context the focus is on all kinds of expenditures for suppliers. The main areas of organizational spend are segmented into discrete groups of products and services according to their specific function (O'Brien, 2015). Those small strategic business units can then be used to adapt the managing efforts depending on the individual situation (Kurtulus and Toktay, 2015). It also enables companies to work cross-functionally on the different categories, which is a good way to examine different factors. Organizations have less difficulties to review a small category rather than the whole business processes (O'Brien, 2015). For instance, the costs of a particular group can be analyzed very carefully and actions of the management can be adapted. This enables firms to get a good overview of their expenditures. Examinations can also be made for other factors, e.g. the usage of bought in goods and services or the supplier structure. In the best case, it helps managers to understand how individual marketplaces are organized by analyzing the categories. It can be very helpful if companies are aware of potential specific characteristics they are facing in the purchasing of goods and services (Kurtulus and Toktay, 2015). The Purchasing of many organizations is becoming more and more strategic in the last years. Because of that, the Category Management can be seen as an important current issue for the analyses and evaluations purchasers have to make.

2.3.2 Importance of Category Management

If applied correctly, the Category Management is a great tool for the strategic purchasing of every company. According to Monczka et al. (2010), Category Management is maybe one of the most important ways for purchasers to create value for their stakeholders. However, the benefit is determined by the market structure (Zenor, 1994). Not every category will provide the opportunity for improvement. But there is usually still enough potential available. Cost savings are typically one of the most important issues for companies. After examining the expenditures by using Category Management possible ways for saving can regularly be found. Another positive effect is, that the knowledge gained due to the analysis of the marketplaces can help to reduce the risk in the supply chain. Purchasers can reveal gaps and see where shortages are likely to occur. Furthermore, there is an increase of the overall value from the supply base. When purchasers have a better understanding of their suppliers, they are more likely to gain access to more innovation which can also be a great advantage for companies. Closer relationships and an improved collaboration with the most important suppliers can lead to a better understanding of each other. The demands of the buying firm become well known for the supplier (Knoppen and Sáenz, 2015). Category Management may also enable managers to develop and implement specific strategies for each group defined, which will help to maximize the value of the segmentation (Monczka et al., 2010).

2.3.3 Determining Categories

To apply the Category Management successfully, the implementation has to be made carefully. It requires the participation of various business units of the organization. This means, that a certain investment is necessary. However, if this is once correctly done, the benefit can be very good (Lindblom et al., 2009).

Determining Categories is the most important step towards a successful usage. Therefore, it is crucially important that the Categories are defined in a reasonable way. Teams that deal with those issues should therefore have a representative of all processes involved to be familiar with the case (Monczka et al., 2010). A cross-functional integration of the process is important to support strategic decisions. People who are involved in the process should have a sophisticated knowledge about e.g. the supply market conditions and the estimated spend (Monczka et al., 2010). Although this is not cost free, e.g. because of the higher expenditure of time, the contribution of knowledge can be very enriching (Foerstl et al., 2013). In order to determine categories, O'Brien (2015) describes five factors which should be considered. The first factor identifies the spend. This may sound easier as it actually is. Especially for larger multinational organizations with many different sites this step can be quite difficult, because of e.g. the usage of multiple IT systems or poor communication between different locations. After identifying the expenditures, companies need to direct resources to addressable spend. It is not always totally clear where resources are spent on. Because of that it is necessary to identify the non-addressable spend and to think about the reasons for that. The third step is to focus on categories with a high potential. Typically, most of the expenditures are spent for only a few suppliers. It is therefore necessary to focus on those categories rather than all together. Targeted effort is the most efficient way to use Category Management. The next step is to identify the market boundaries of each category to make them market facing. Marketplaces of each category

will have their specific characteristics. Purchasing managers should have a good knowledge of them, because it can be very helpful to safe costs and to exploit the whole potential a market can provide. Boundaries of a market can be e.g. the form, the size or the scale. Finally, it is important to find the most appropriate way to work with the categories. They must be big enough to provide enough opportunities, but small enough to work on them. This basically means that companies usually are not able consider every single category. They have to decide which of them are promising and which are not considerable (O'Brien, 2015). If organizations take care of those factors, they are likely to use Category Management successfully and benefit from new opportunities for improving their business. Managers can develop specific strategies for the different categories. This will make them able to react more precisely to certain issues (Luzzini et al., 2012).

2.1 Case Study: Eekels Technology

Eekels Technology is a Dutch company which operates in the Marine & Offshore market as well as in the Industry & Infrastructure market. They carry out projects in the technical automation, electrical and mechanical engineering sector. *Eekels* achieves a turnover of over 60 million euros and employs more than 550 employees worldwide.

Eekels Technology decided that the Purchasing department has to become more strategically orientated about three years ago. In order to do that, they started a variety of different projects. One of the main projects at the moment is to implement the Category Management. A few years ago, *Eekels* did not categorize its suppliers and had therefore problems to analyze the sourcing activities. They identified this problem and started to overcome those issues. The first step *Eekels* took to implement Category Management was to define the categories. They tried to determine them product related. For each of the main goods which are being purchased they created a main category with a number of sub-categories. According to Chong et al. (2001) this type of categorization can be titled as a product tree. The salient attributes of the products are used for creating sub-categories (Chong et al., 2001). *Eekels* established a total number of 25-30 main categories. After successfully finishing that, the company is currently assigning the suppliers to the defined categories. They have to evaluate each supplier to be able to link them to the corresponding category. Once they are finished with that, *Eekels* can finally start analyzing the categories by using their ERP system. The most important goals will be to examine the expenditures and to know the total number of suppliers for each category. This reflects the results of Luzzini et al. (2012), who identified that cost is the most relevant competitive priority among strategic categories. At the moment *Eekels* has about 1400 active suppliers. The strategic goal is to reduce the total number and focus on a few key suppliers in the future. This would have the advantage that they would spend on less suppliers and therefore have better purchasing conditions because of the more favorable negotiating position. In the end this is supposed to reduce the overall purchasing expenditures. Furthermore, in that way the SRM should also be improved. Category Management is one of the most important issues for strategic purchasing at *Eekels Technology*.

Source: E. Kroeze, in an interview with the authors of this chapter, March 07, 2016.

2.4 Portfolio Models

By the evaluation of purchasing as an operational into a strategic function, purchasing can contribute to an organization competitive advantage (Cousins, 2005). The role of the purchasing should be clear, in which portfolio models can help to categorize products into different purchasing strategies. Since the supplier involvement is not considered in for example the Kraljic Matrix (Padhi et al., 2012), portfolio models only focus on the internal factors of an organization. On the external factors will be elaborate more in the Supply Base Composition and Best Value Procurement.

Gelderman and Van Weele (2005, p. 19) found that purchasing sophistication is a two-dimensional construct: purchasing's professionalism and purchasing's position within companies. Since the purchasing's maturity is the level of professionalism in the purchasing function (Rozemeijer et al., 2003, p. 7), the level of purchasing maturity determine the purchasing strategy and approach of the organization (Rozemeijer et al., 2003). Therefore, organizations should know their purchasing's maturity first, to adjust the purchasing strategy to it.

Portfolio models have primarily been used in strategic decision-making to support resource allocation decisions (Skjott-Larsen et al., 2015). Moreover, the portfolio models also have been widely used in strategic planning (Olsen and Ellram, 1997) for which the purchasing function should be mature. The purchasing portfolio is often considered a valuable tool for developing differentiated purchasing and supplier strategies (Gelderman and Van Weele, 2005). Portfolio models can be used as a tool to organize information and create a classification framework (Olsen and Ellram, 1997, p. 103). Regarding Olsen and Ellram (1997), the process of categorizing the products might be more important than the classification itself, because the inconsistencies among different products, suppliers and relationships will be discussed.

Several portfolio models are developed throughout the years, of which a couple of them will be discussed into depth in the following paragraphs. What the portfolio models all have in common is "the search for the optimal balance of resources among alternative objectives, depending on the risks and expected return (Turnbell, 1989)" (Luzzini, Caniato, Ronchi and Spina, 2012, p.1021).

2.4.1 Kraljic (1983)

Probably the most well-known portfolio model is the one of Kraljic (1983) and therefore the Kraljic matrix has become the standard in the field of purchasing portfolio models (Lamming and Harrison, 2001; Gelderman, 2003) (Gelderman and Van Weele, 2005, p.21). Kraljic introduced the first purchasing portfolio model, which classifies the purchased items into four categories (Figure 2.2, next page) (Gelderman and Van Weele, 2005).

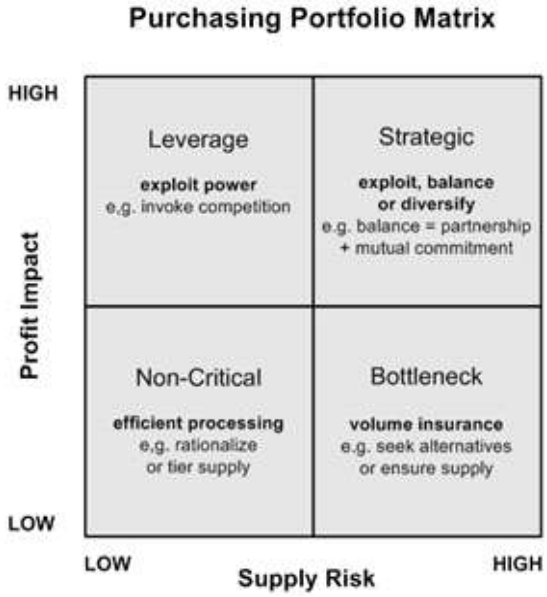

FIGURE 2.2: Kraljic's portfolio matrix (Gelderman and Van Weele, 2005)

Purchased products are categorized based on the low or high profit impact and low or high supply risks. Those scores on both axes leads to the following quadrants (Gelderman and Van Weele, 2005, p. 20):

- Non-critical items are routine items of low value and are ordered frequently. Main aim of those items are efficient processing to reduce transaction costs.
- Leverage items allow the buying company to exploit its full purchasing power, for instance through tendering, target pricing and product substitution.
- Bottleneck items cause significant problems and risks that should be handled by volume insurance, supplier control, safety stock and backup plans.
- Strategic items require a more collaborative strategy between both the buyer and the seller.

The main idea of the matrix is that the four different quadrants requires a distinctive approach towards suppliers (Padhi et al., 2012).

Although, the purchasing portfolio matrix of Kraljic is seen as the standard, different criticisms exist. At first, the matrix has no theoretical foundation, because it has never been empirically tested. Therefore, the matrix is practitioner-oriented (Luzzini et al., 2012). Secondly, since the Kraljic matrix is used by purchasing managers to categorize their products, the positioning of the items are subjective (Padhi et al., 2012). This subjectivity makes the portfolio model imprecise. At third, selecting the dimensions is challenging and the factors that determine the dimensions of the Kraljic's matrix are difficult to obtain (Padhi et al., 2012). Gelderman and van Weele (2005) confirm that the selection of the dimensions on the axes and the operationalization of those dimensions are critique. To solve those problems, Olsen & Ellram tried to operationalize the dimensions and factors, which will be discussed in the next paragraph.

2.4.2 Olsen & Ellram (1997)

Olsen and Ellram (1997) expanded on the Kraljic's model to propose an approach to analyze a firm's portfolio of supplier relationships (Skjott-Larsen et al., 2015, p. 242). Olsen and Ellram (1997) changed both axes: profit impact into strategic importance and supply risk into difficulty of managing the purchasing situation. The four quadrants are kept the same like the Kraljic matrix (Figure 2.3).

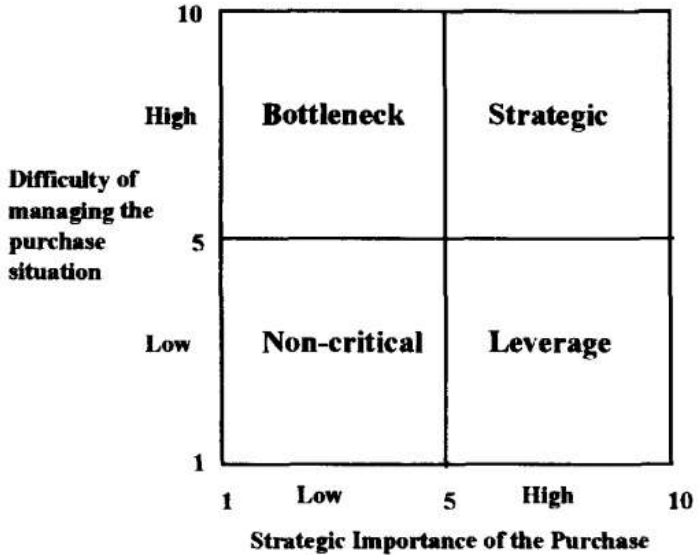

FIGURE 2.3: Portfolio matrix, Olsen and Ellram (1997)

Furthermore, Olsen and Ellram (1997) added and recommended a multi-step approach to analyze a company's supplier relationships. Those three steps include the following:

- Step 1: Categorize the company's purchases according to the strategic importance and the difficulty of managing the purchase situation. Strategic importance describes factors internal to the firm, while difficulty of managing the purchase situation describes factors external to the firm.
- Step 2: Analyze the supplier relationships based on the relative supplier attractiveness and the strength of the current supplier relationships. The relative supplier attractiveness describes the factors that make a company choose a specific supplier and the strength of the relationship describes the factors that create bonds between two companies (Olsen and Ellram, 1997, p. 106-107).
- Step 3: develop action plans by the use of normative guidelines on how to establish an order of priority.

Olsen and Ellram (1997) tried to operationalize Kraljic's matrix based on three-step methodology by the development of normative guidelines in the development of action plans. Although, it is still difficult to operationalize and measure the dimensions (Luzzini et al., 2012). What is supported during the research of Olsen and Ellram is that portfolio models can be used to improve the allocation of scarce resources.

2.2 Case study: The Universitair Medisch Centrum Groningen (UMCG)

Although, criticism exists, the model of Kraljic and Olsen and Ellram is often used as a basis for classifying and setting purchasing strategy (Skjott-Larsen et al., 2015). Many organizations are working on a daily basis with the Kraljic matrix, for example *Eekels Technology* as illustrated in Caste Study 1 (Mr. Kroeze, 7th of March 2016) and *University Medical Center Groningen (UMCG)*. The UMCG is one of the largest hospitals is the Netherlands and the largest employer in the Northern Netherlands. More than 10,000 employees provide patient care, are involved in medical education and perform cutting-edge scientific research (UMCG, 2016). The UMCG purchase a wide range of products in a highly regulated market, in which many internal and external stakeholders are involved.
The UMCG combines both models for their axes: the Y-axis is represented by the importance (value) and the X-axis is represented by the complexity of the supply market. In the current Kraljic matrix, most products are categorized as leverage items, while the optimal Kraljic matrix consist of mostly leverage and strategic items. An example of the leverage items are food and beverage, which is the supplier with the highest turnover. Therefore, the importance of the food and beverages is high, while the complexity of the supply market is low. The current supplier could easily be substituted to another supplier since the complexity of the products is low. This situation does not hold for medical implants, like cardiac implants. The complexity as well as the importance of the products is high and therefore the cardiac implants are strategic items.
To realize the optimal situation, the board and business should be aligned. Mr. Hans Bax (Head of Procurement UMCG) is continuously improving the supplier portfolios by the creation of long-term supplier contracts. Those long-term contracts are for periods between five and seven years to form strategic partnerships. Besides that, the UMCG jointly develop medical innovations with their suppliers and improve the adoption of innovative medical devices.

Source: guest lecture of Hans Bax, February 15, 2016

2.5 Supply base management

Supply base management is an approach towards strategic purchasing that is concerned more with looking outside of the buying organization compared to the category management and portfolio models that were discussed earlier in this chapter. Although supply base management takes into account possibilities of the buying company, structure of suppliers, the way they are managed and their characteristics are the most crucial thing for this approach.

The term supply base structure was emphasized for the first time by Gadde and Hakansson (1994). They discussed it as one of the three most strategic questions in purchasing along with make or buy decision and customer-supplier relationships. They defined two major dimensions of supply base structure: number of suppliers and the way suppliers are organized. Choi and Krause (2006) further elaborated on this idea by identifying three dimensions of supply base: Number of suppliers, their differentiation and the degree to which suppliers interrelate. The work of Choi and Krause was developed further by Ateş et al. (2015) who enriched the framework of supply base by adding two new dimensions: time and transparency.

As multiple connections between these dimensions of supply base and performance aspects of purchasing were found in scientific literature, conclusion is that they can have a crucial impact on performance of purchasing for every buying company and therefore an impact on performance of the whole company whether it is aware of it or not. Managing the supply base should therefore be considered as a matter of grave importance for every company with a purchasing function.

Following parts of this subchapter build up on the framework proposed by Ateş et al. (2015) and elaborate on what are the dimensions of supply base and how are they influencing performance of the buying company with focus on two major aspects: costs and supplier-driven innovation.

2.5.1 Number of suppliers

Maintaining business relationships with the right amount of suppliers has been a major concern of firms for a long time (e.g. Gadde and Hakansson, 1994). Initially it was argued for example by Porter (1980) based on economic theory that if there are more suppliers available and competing against each other, the prices should be driven down and therefore using of multiple sourcing should bring significant cost reduction. However this idea seems to be largely rejected by companies purchasing strategies. As argued by Cousins (1999) many companies are engaging in supplier reduction campaigns to extent of 40-70%, mostly motivated by price reduction. There are several reasons that were identified to explain this phenomena.

Firstly, as multiple sourcing for given amount of goods or services to be supplied essentially means that there will be multiple contracts with smaller volume for more suppliers, these smaller contracts prevent suppliers from achieving economies of scale (Chen et al., 2004; Guimaraes et al., 2002; Hahn et al., 1986) which in turn naturally means that the price offered to the buying company is higher as suppliers costs are higher compared to a situation where big contracts are awarded to few suppliers. Secondly, it was argued in literature that as the number of suppliers grows, the transaction costs grow as well. Choi and Krause (2006) noted that decreasing number of suppliers might be beneficial in terms of reducing transaction costs for the buying company i.e. the reduction in invoices, checking, progressing and managing multiple suppliers. For example, using multiple suppliers for a particular item increases costs, including the labor and order processing costs to manage multiple-source inventories (Shin et al., 2000). Thirdly, it was argued already be Treleven (1987) that multiple sourcing increases variation in incoming quality among suppliers and therefore lowers overall quality level. Fourth reason might be that as Koufteros and Marcoulides (2007) argued, a smaller supply base supports collaboration with suppliers and closer relationships which reduce the fear of opportunism and increases sharing of innovations. It is important to note that this doesn't apply universally. The positive impact in innovation is visible in jointly-developed projects and doesn't affect the innovations that suppliers carry out by themselves for the customer.

It may seem that reducing the number of suppliers is generally beneficial for the buying company, however there also risks associated with this approach connected to portfolio models, which were introduced in the previous part. Choi and Krause (2006) noted that reducing number of suppliers naturally results in increased dependency on these suppliers. Cousins (1999) argued that buyer-supplier dependency might actually be detrimental for the buying company in long-term perspective if the relationship is not managed properly. He noted that often when company is reducing the number of suppliers, leveraged approach is used. That way the costs are reduced in short term, however when there's not enough emphasizes on building a long-term partnership and mutual competitive advantage, the suppliers will accept the price reduction initially, but will have little motivation to reciprocate in long-term. Therefore because of high dependency of the buying company, suppliers might eventually increase the prices and use the fact that it might be very costly for the buying company to switch to a different supplier or even different purchasing strategy.

2.5.2 Differentiation of suppliers

Differentiation (or interchangeably heterogeneity) of the supply base is another important factor determining outcomes from supply base in several ways. In comparison to number of suppliers, where reducing supply base is a prevailing approach, there is no clear strategy concerning differentiation of supply base. This is caused by the fact that there are multiple, often opposing effects of more differentiated supply base with main consequences for two purchasing performance indicators: costs and innovation. Further in this part, definition of supplier differentiation created by Choi and Krause (2006) will be used. According to them it's: "the degree of different characteristics such as organizational cultures, operational practices, technical capabilities, and geographical separation that exist among the suppliers in the supply base" (Choi and Krause, 2006, p. 642).

Regarding costs, Choi and Krause (2006) argue that heterogeneity among the suppliers contributes to operational load for a buying company. They argue that high level of supply base heterogeneity negatively impacts cost performance as more coordination is needed to manage them. Factors such as different culture or work norms might make interactions with suppliers more time and resource demanding. There are examples of systems that effectively use low supplier differentiation to create sustainable competitive advantage. One of them is Japanese keiretsu (Nishiguchi, 1994 in Choi and Krause, 2006), which refers to the group of companies that have organized themselves around a powerful buying company, they usually share common work norms and communication styles that enable them to work more efficiently together. They are also usually in the same geographical area as the buying company.

There are also implications regarding supplier differentiation and innovation processes in buying company. Choi and Krause (2006) propose that homogenous supply base with similar capabilities and cultures, operating in same market might lack the diversity of knowledge which is required for innovation. Findings of Gao et al. (2015) support this claim by finding out that technological diversity of suppliers positively impacts buying firms' innovation. Furthermore Ateş et al. (2015) argued that even proximity of the suppliers in a global setting, which might be seen essentially as harmful at first sight, might contribute positively by sharing diverse backgrounds and ideas. According to Choi and Krause (2006), while there is a positive effect

of supplier differentiation considering innovations, there is a point where more differentiation can start to become problematic, it might eventually lead to negative impact on innovation because anarchy or disintegration might arise.

2.5.3 Interrelations between suppliers

As pointed out for example by Wynstra et al. (2003), relationships between two firms cannot be considered in isolation from relationships among other firms, in this case more specifically among suppliers. Interaction among suppliers can be divided into two categories: cooperation and coordination. Whereas the traditional view, used for example by Gadde and Hakansson (1994) stresses importance of competition among suppliers, that in turn results into more advantageous prices for the buying firm, Sobrero and Roberts (2002) found out that joining resources of multiple suppliers and exchange of information increase the likelihood of developing a new innovation. Another possible outcome of supplier-supplier cooperation that the buying company needs to be aware of is collusion. It was argued by Choi et al. (2002) that information exchange among suppliers might lead to loss of control and suppliers using information as a leverage for their own benefit. This theme will be addressed more extensively in chapter 4, Supplier Relationship Management.

2.5.4 Time

Time element of supply base is strongly connected to the prevailing approach towards sourcing of engaging in partnerships with limited amount of suppliers, which was discussed before. It was pointed out that opportunistic behaviors diminish when the transactions occur on repeated basis (Dwyer and Oh, 1988; Hill, 1990). Therefore if the supply base is small enough and the buyer-supplier relationships are on long-term basis with repeated interactions, the cost of guarding against opportunistic behaviors is lower (Choi and Krause, 2006). Another way how to look at this issue from perspective of buying company is trying to determine, whether suppliers are capable enough to fulfill needs of the buying company if they enter into long-term relationship. Sarkar and Mohapatra (2006) found out that most companies focus only on performance factors such as cost, quality and service not considering important capability factors for long-term relationship to be successful such as technological and financial capabilities or measurement of quality. They argue that these capability factors should be more included in the process of selecting suppliers.

2.5.5 Transparency

The final dimension of supply base that is discussed in this part is transparency. Awaysheh and Klassen (2010) define it as the extent to which information is available to parties in the supply chain. Lin, Huang and Lin (2002) found that sharing of more detailed information lowers the total costs in supply chain. Ateş et al. (2015) focused on sharing information of supplier to buying company and found out that sharing of information is positively associated with performance of innovation strategies, with exception of sharing information about costs. Information sharing among suppliers and buying company will be discussed more thoroughly in chapter 4 Supplier Relationship Management.

2.3 Case study: Neopost

A good example of using the potential of the suppliers in the supply base for innovation is the approach of the Dutch company Neopost that was presented during guest lecture of Purchasing course (Fellinger, 2016). Neopost is a company that provides solutions for mail processing and digital communication with around 6200 employees and sales of over 1 billion €. They made a big investment in development of new complex machine for packaging. In the phase when Neopost had a working proto type a group of pre-selected suppliers were invited to share their ideas with them and take part in the process of creating a final product. This early supplier involvement is a good example of using the heterogeneity of suppliers as because of their diverse backgrounds and knowledge, they can contribute to the development of a new product in various ways. Neopost claims that benefits which arise from this approach in short-term include better production quality, lower production and development costs and shorter development cycle. There are also long-term benefits such as joint research programs, aligning technology strategies and risk sharing. Because the aim of Neopost is to cooperate with suppliers that are ready to add value for the innovation process, they also use their capability and willingness to contribute in this process as part of the evaluation of suppliers. In case the supplier is not capable or willing enough to contribute and it is not is hard or impossible to replace, they look for a new one.

Source: guest lecture of Piet Fellinger, March 7, 2016

2.6 Best Value Purchasing

2.6.1 Best Value Purchasing vs. Lowest Price

The lowest purchasing cost is always the way to go, or is it? According to Wong et al. (2001) "the 'lowest-price wins' philosophy has been a consistent theme of contract selection over the years" (p.257). Although it might sound appealing, it does not assure the lowest price in the end, as the English expression goes "penny wise, pound foolish". Instead of the lowest-price purchasing strategy, the Best Value Procurement method can be used. In this book, as was discussed before, the term procurement and purchasing can be used interchangeably and therefore in the remaining of this chapter the term Best Value Purchasing will be used.

2.6.2 BVP explained

Best Value Purchasing (BVP) is a purchasing process where not only price is considered but also many other key factors are taken into account during the evaluation and selection process to enhance the long-term performance and value (Scott et al., 2006; Abdelrahman et al., 2008). Many criteria could be selected but the BVP selection criteria should only be chosen if the elements measure an additional value to the product (Molenaar & Johnson, 2003). The factors, other than cost, depend on the industry and the product to be supplied, but it normally includes different kind of technical, financial and managerial aspects, health, environmental aspects and past performance (e.g. time, image, appearance, quality, safety, efficiency, value for money, performance standards, operation and maintenance) (Gransberg and Ellicott, 1997; Akintoye et al., 2003). Using BVP it necessitates the user to specify the different factors besides the cost of the product (Abdelrahman et al., 2008). Therefore, the user should create the product

specifications of the to be supplied product in an early stage. This crystallizes the product specifics more accurately and aids the source-selection process (Yu & Wang, 2012).

2.6.3 BVP in perspective

The main difference between BVP and other purchasing strategies is the fact that the buying company only specifies what the product should do, instead of making a list with all the (technical) specifications the product should have. In other words, BVP has a more functional view on the purchasing function instead of a technical view. BVP can be seen as a strategic approach where the buying company makes a well-structured risk analysis to come to the overall (and long-term) best choice (Witteveen & Van de Rijt, 2013). The BVP originally stems from Dean Kashiwagi and he states that the buyer does not explicitly need to know how the supplier provides the products only that the supplier will do a good job in providing the products (Kruus et al., 2010). The BVP approach is best to be used in an environment with enough suppliers so the buying company can compare the different suppliers' offers and choose the best fitting for the required product (Weterings, 2016). If the technical specifications are very important, like in a highly technical company, the BVP is not the preferred choice as this approach advocates specifying the least amount of product detail possible. Moreover, in a highly price competitive environment the BVP will not yield the best results as this purchasing approach focuses on many other factors as well (Bamberger & Stark, 2008). Mr. *Kroeze* of the company Eekels stated that implementing the BVP also depends on the management's willingness to be vulnerable to the power of the supplier. If management does not want to be reliant on the supplier, it should use a different purchasing strategy (Mr. Kroeze, 7th of March 2016). Furthermore, the buying company should also keep the power balance with the supplier in mind. On the one hand the supplier is more in control when the BVP is used, as the buying company does not specifies the product details (Weteringen, 2016). On the other hand, in the proposition phase the BVP forces the suppliers to take a "test of competitiveness" (Martin, 2000, p. 212) to show the buying company their capabilities which places the power at the buying company.

As was discussed above, the BVP uses a strategic approach in selecting a supplier and is therefore very different from the lowest-price approach. In table 2.3 below, the main characteristics of lowest-price and BVP are listed and state the difference between the two approaches.

Lowest Price	**Best Value Purchasing**
Buyer is the expert and takes most decisions	Supplier is the expert and makes sure the buyer refrains from decision making
A lot of communication	The least commination possible
Usage of a lot of details	Usage of simple, easy to understand information
Low yield of supplies	Realistic yield of supplier
Relocate risks	Control risks
Surprised by disruption	Searching for solutions of disruptions
Blindly trusting supplier	Showing proof of succeeding
Thinking from an “I”-perspective	Thinking from a “we”-perspective (win-win situation)
Management, inspection and control	Listening, observing and structuring

TABLE 2.3: Characteristics of lowest-price and BVP

2.4 Case study: GasUnie

This example is about GasUnie, the Dutch company that provides the transport of natural and green gas in The Netherlands and the Northern part of Germany. In the guest lecture, provided by Mr. Ad Weterings, Senior Purchaser of GasUnie, BVP was discussed (Weterings, 2016). It was highlighted that the most important thing in the BVP tasks is, as buyer, to have trust in the supplier. The supplier is the proclaimed expert and the buyer should recognize the supplier as being the expert.

GasUnie distinguishes four phases in the BVP method: preparation, proposition, make contract and contract execution. In the preparation phase it is examined for whom the purchase it going to be: the internal client. In the proposition phase the suppliers come with a price for the product is set depending on the quality, a risk assessment, a value-add analysis and a description of performance. In this phase it is of high importance that the contract manager is involved, as this person will be handling the project once the supplier has been selected and therefore needs to know how the supplier is going to perform the project. The total amount of pages a supplier can submit is 6, which forces the supplier to be clear and concise. In the private sector, it was common to base the supplier selection not on the appropriate qualification but on relationships (Abdeltahman et al., 2008). Therefore, to prevent this from happening, Gas Unie receives all supplier offers anonymously. After receiving the offer, it is graded on the price, value-add, risk analysis and description of performance. This procedure follows the theory of BVP because next to the price, other important factors are being taken into account when assessing the supplier offer. After having all factors taken into account, the propositions are ranked. This is not an easy task, as each company invests about 500 man-hours in making the offer and therefore wants a detailed explanation if it did not get the job. Next to the buyer determining what is needed, not specifying this in too much detail and focusing on the quality of the product and service, there is one other aspect that is also important in the BVP. The BVP can only be used if there are enough suppliers available. This is a subjective statement, but can be internally discussed to ensure there is enough choice among different suppliers.

Concluding one can say that Gas Unie has implemented the BVP successfully. It knows what the advantages of the BVP are and how to use these to optimize the supplier selection process.

Source: guest lecture of Mr. Weterings, February 29, 2016

2.7 Summary

In this chapter, several aspects of strategic purchasing and the most common practical approaches towards this area of business activity were discussed. The importance of strategic purchasing was stressed in the introduction and purchasing maturity part. This is followed by an introduction of various practical approaches towards strategic purchasing.

Different purchasing maturity models were discussed. They differ in their research approaches and empirically testability. More models are based on observations rather than dominant theory (Schiele, 2007). Besides that, no empirical test is performed for the purchasing maturity, which makes it hard to verify the findings of the research.

In the second part Category Management was discussed as an effective tool for managers to analyze and evaluate the organizational activities in a purchasing context. By looking only at a specific category rather than at the whole company, purchasers can easily identify important aspects, such as the expenditures or the supplier structure, and adjust their strategy accordingly. This can lead to a high added value for every organization.

The third part of this chapter was about portfolio models. This strategic approach, coined by Kraljic (1983) is characterized mostly by its practicality and wide acceptance among purchasers.

The fourth part took a closer look at supply base management. This approach towards strategic purchasing takes a look at connections between buying company and its suppliers and draws conclusions from the whole structure rather than from individual buyer-supplier relationships. Aspects defining supply base were discussed with emphasis on their influence on performance of purchasing and therefore whole buying company with a focus on costs and innovations.

The last part introduced the concept of best value procurement. This purchasing approach takes multiple factors into account besides the price of the product. The approach focusses on the fact that the supplier is the expert and the buying company should not specify the product details too much. The BVP is mainly used by non-private organizations as companies have some barriers to use this approach.

To sum up, this chapter took a closer look at some of the most important purchasing strategies and their most important aspects. The aim of this chapter was not to create a comprehensive list of all the possible purchasing strategies but rather to introduce different ways to discuss purchasing strategies in terms of inward and outward looking of the buying company. Furthermore the ambition was to introduce the complexity of purchasing strategies and inspiring the reader to get to know some of them and possibly give the reader ideas for future studying and/or practice.

2.8 Discussion

Although initially portfolio models, category management, supply base management and best value procurement were discussed as separate purchasing strategies in this chapter, there are distinct connections among some of them that can be found.

The first thing that can be said is that there is no agreement on the coherence between category management and portfolio models. On the one hand category management could be seen as a tool or approach that the portfolio management uses to categorize the products into different purchasing strategies. On the other hand, it can also be argued that Category Management is just a part of the portfolio management. Category Management is a more practical tool which can be easily applied in purchasing departments, while Portfolio Management is the theory behind it.

Secondly, although it seems that best value procurement can be used among corporate purchasing officers, it is a tool mainly focused on the use in the public purchasing area. In the

NEVI this concept has grown in attention and therefore it can be an improvement in the purchasing function of a company although more factors play a role. One of these factors is the fact that the buying companies only state the “what” in the purchasing interaction with the supplier gives the supplier an unbalanced among of power. This shifted power balance towards the supplier can be unbeneficial for the buying company as it can control the negotiations less and therefore is afraid for the final result. In chapter 9 more will be discussed about BVP.

Lastly, supply base management can be seen as an approach that can be combined with portfolio models, category management as well as best value procurement which might not be obvious at first glance. As long as a purchasing function is present in a company, there is a supply base that can and should be analyzed and managed. However looking at the whole supply base, it is not contradictory to taking a different approach for separate buyer-supplier relationships as presented in portfolio models and best value procurement or different approach for separate categories of purchased products as presented in category management.

Finally it has to be mentioned, that purchasing strategies are a very complex theme and some of the areas of interest were not covered. Therefore this chapter should be perceived as an introduction to some of the basic concepts of strategic purchasing and following chapters will go more into depth and present the current issues which influence purchasing strategies.

Key terms

The key terms mentioned in this list can, with their references, be found in the main body of this chapter.

Best Value Purchasing - a purchasing process where not only price is considered but also many other key factors are taken into account during the evaluation and selection process to enhance the long-term performance and value

Category Management - categorizing the purchasing activities of a company into determined groups

Lowest price purchasing - only selecting a supplier who offers the lowest price for the product

Portfolio Model - The purchasing portfolio is often considered a valuable tool for developing differentiated purchasing and supplier strategies

Purchasing Maturity - The level of purchasing maturity reflects the extent to which the purchasing function is integrated into the strategic management decision-making process

Purchasing strategy - a strategy to make purchasing more effective and efficient

Supply Base Management - systematic approach for strategically managing the whole supply base, including, but not limited to aspects such as, number of suppliers, supplier differentiation, interrelations between suppliers, time and transparency

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Chapter 3: Alignment and integration of the purchasing function

Authors:

De Groot, M.R.,

Li, B.,

Van Ruiten, R.F.

and, Westhoeve, J.J.

Abstract

Traditionally seen, employees that perform the same specialized tasks are assigned to the same business unit. However, inter-organizational alignment between different departments is strongly emphasized in the current business world. Such integration includes open knowledge and information sharing and is believed to promote value creation, minimize costs and promote overall performance of firms. The aim of this chapter is to give insight in the importance of integrating and aligning the purchasing department with the whole organization. Strategy alignment, organizational structure and organizational culture are three important conditions for the alignment of purchasing. Furthermore, the integration of purchasing with other departments is important to increase financial and overall performance. The first step is to establish inter-functional collaboration. The second step is to achieve internal alignment. The roles of purchasing and marketing are evolving since services are replacing products. The last part discusses why the purchasing and marketing departments should collaborate and it introduces the process integrative framework for effective co-ordination between departments.

Table of content

3.1 Introduction

From a traditional perspective, employees performing the same kind of tasks are working together in the same business unit (Arnold, 1999). Advantages of such separations include specialization and the obtainment of high knowledge and expertise in a specific task (Lidegaard, Boer, & Møller, 2015). However, departments solely operating on their own islands cause some problems which can be solved with more alignment amongst functions. For example, integration might serve as a facilitator for higher levels of innovation and flexibility (Turkulainen & Ketokivi, 2012) and it provides more consistency between the different functions, policies and practices (Weelwright, 1984). Moreover, evidence by Luzzini & Ronchi (2011) suggests that when organizations want to excel at innovation, alignment with the purchasing department is important. Recently, literature has stressed the increased strategic importance of purchasing within organizations (Kaufmann & Gaeckler, 2015; Zimmermann & Foerstl, 2014), hence, raising questions on how organizations can better align their purchasing function with other organizational functions. Therefore, the aim of this chapter is to provide a comprehensive view on why the purchasing function should be aligned with other functions throughout the organization and how internal alignment benefits the organizational as a whole.

Literature also sheds light on the fact that cross-functional teams are becoming more standard within purchasing organizations, especially larger organizations (Driedonks, Gevers, & Weele, 2010). This serves as an indicator for the fact that organizations are already working on better aligning functions. However, there can also be negative consequences of increased alignment between departments such as higher costs due to an increase in human resources and it could slow down organization's responsiveness through a lack of flexibility (Das, Narasimhan, & Talluri, 2006). Furthermore, integration still seems difficult to many organizations (Moody, 2001). Nevertheless, it can be expected that organizations will continue to work on aligning purchasing strategy with the organizations 'main strategy' as there is a clear link with performance (Miocevic, 2011).

In order to guide the reader through the chapter, an important distinction needs to made clear beforehand. **Internal alignment** involves a configuration of competences for each strategy alternative (Vanderstraeten & Matthyssens, 2012). On the other hand **internal integration** encompasses the extent to which different functions cooperate to arrive at mutually acceptable outcomes (Leary-kelly & Flores, 2002). Nevertheless, both terms are being used as both alignment and integration influence each other (Joshi, Kathuria, & Porth, 2003).

The rest of this chapter is set up as follows. Firstly, conditions for integrating with the purchasing department are presented. This part is separated in strategy alignment, organizational structure, and organizational culture as these should aid the alignment with the purchasing department. Without doing so, alignment will probably fail (Schneider, 2000). These conditions form the basis for the second part of the chapter which is focusing on integrating purchasing with other departments. Several current movements will be elaborated on such as the importance of interdepartmental collaboration (Kahn & Mentzer, 1998) and hence, why integration with other specific departments is necessary to achieve higher degrees of performance (Miocevic, 2011). Furthermore, due to an increasing amount of services offered by companies, the traditional role of purchasing and marketing is transforming into a more

integrated task (Sheth, Sharma, & Iyer, 2009). This current trend will form an extensive but important part in the end of this chapter. Finally, a summary of the chapter and a discussion with possible future research topics will be presented. This aids to a comprehensive set with issues that are currently important in the internal alignment literature on strategic purchasing.

3.2 Conditions for integrating purchasing department

The importance of strategic purchasing is growing (Kaufmann & Gaeckler, 2015) and for purchasing the growing importance refers to aligning the strategic purchasing practices and goals with the overarching firm practices and goals (Gonzalez-Benito, 2007; Narasimhan & Das, 2001). A prerequisite for integrating the purchasing function into the firm's overall objectives is the participation in strategic debates within the organization (Narasimhan & Das, 2001). The level of purchasing refers to purchasing maturity as has been outlined in section 2.2 (Rozemeijer, Weele, & Weggeman M, 2003) and a higher level of purchasing maturity leads to better performance (Schiele, 2007). Furthermore, it has been argued that proper alignment between organizational structure and organizational uncertainty has a positive influence on performance (Powell, 1992) and there needs to be a fit in the organization's structure to enhance the alignment (Chan, 2002). Lastly, culture has been stressed as being most powerful within the organization and when culture is not aligned with the strategy, the strategy will fail (Schneider, 2000). Hence, this section focuses on purchasing, its relation to the business strategy, structure and culture and why these need to be aligned to achieve higher performance.

3.2.1 Strategy alignment

When organizations are gradually putting more importance on purchasing decisions, there is a general tendency towards higher centralization of purchasing issues, hence a more strategic role (Johnson & Leenders, 2006; Pearson & Gritzmacher, 1990). However, proper implementation of purchasing as a strategic function can still be difficult, especially in organizations where purchasing is a highly decentralized function (Bemelmans, Voordijk, & Vos, 2013; Moody, 2001). This is due to the fact that decentralization often follows from low criticality of purchasing decisions, which can be identified by a long chain of reports in which top management is not directly informed about supply issues (Pearson & Gritzmacher, 1990) and purchasing decisions are taken rather at an operational level (Bemelmans et al., 2013). From the outside, it is often clearly visible when purchasing becomes increasingly important to an organization as in terms of reporting structure. Communication often goes more directly to the top management and there are close ties with the CEO (Johnson & Leenders, 2006; Pearson & Gritzmacher, 1990). In such strategies, where purchasing is given high criticality, supply issues need to be discussed before problems or crises occur.

Narasimhan & Das (2001) introduced two perspectives that can be used to show to what extent organizations have integrated purchasing into the strategy. Firstly, the **task perspective** asks for a reorientation of the focus of the activity as purchasing strategies shift towards being more critical. Instead of the more routine activities like order placements and expediting, focus will be put on value adding tasks like product and process design (Narasimhan & Das, 2001). Furthermore, from an **organizational perspective** there is the requirement that purchasing is included in inter-functional project teams and participates in the development, articulation and deployment of strategies (Narasimhan & Das, 2001). Both perspectives can be related to the strategic orientation of the organization, as a less integrated task perspective is more likely to be present in a decentralized structure in which operational tasks are rather important (Bemelmans et al., 2013) and vice-versa for a highly integrated task perspective where decisions are made more at a strategic purchasing level (Bemelmans et al., 2013). For the integrated organizational perspective, purchasing needs to be included in the corporate strategy of the organization (Johnson & Leenders, 2006; Pearson & Gritzmacher, 1990).

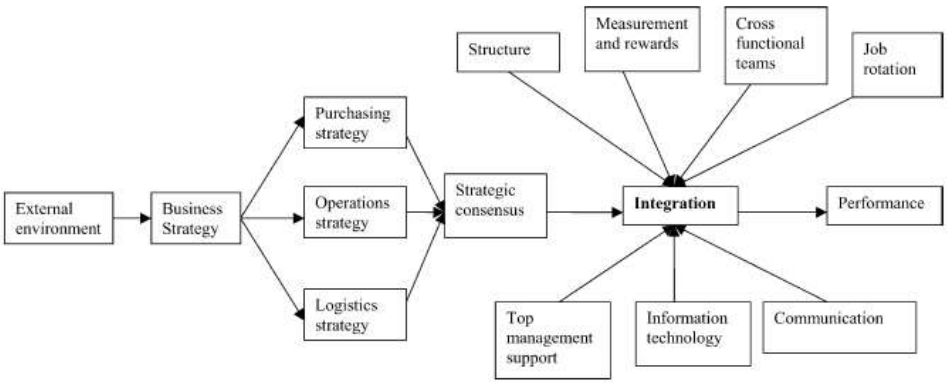

FIGURE 3.1: Key drivers underlying integration different functions, Pagell (2004)

Figure 3.1 shows the key drivers underlying the integration of different functions (Pagell, 2004). This closely relates to the organizational perspective because of the shared characteristic of coordination amongst functions. The model presents the idea that a general lack of integration within firms is caused by a lack of knowledge on how to integrate knowledge on purchasing, operations and logistics. When departments separately determine their strategy, it will be difficult to reach consensus about the overall business strategy, though integration has a positive effect on performance (Miocevic, 2011). A recall from the introduction of this chapter is that integration and alignment are highly interrelated (Joshi et al., 2003). So, without aligning the strategy of the different departments, the model will become a complex network where several departments are having for example different structures, measurement and rewards, communication styles. Furthermore, figure 3.1 specifically focuses on purchasing, operations and logistics. However, the horizontal complexity will increase in larger organizations (Anderson, 1999) as these organizations also have to deal with other departments such as marketing, finance and R&D. Therefore, cooperation is important and will lead to higher consensus and eventually to greater performance (Pagell, 2004). Moreover, Das & Narasimhan (2000) have empirically shown that integrating specific purchasing practices with business

strategy can be a source of competitive advantage. These include "a reorientation of purchasing's functional focus and evaluation programs toward customers and markets, and purchasing involvement in new product development" (Das & Narasimhan, 2000, p. 24).

Concluding this section, in organizations where purchasing becomes increasingly important, decisions tend to be taken more centralized (Bemelmans et al., 2013; Moody, 2001; Pearson & Gritzmacher, 1990). Furthermore, in both the department as well as in the organization as a whole there needs to be the perspective that purchasing is a true strategic function (Narasimhan & Das, 2001). Lastly, cooperation between departments is essential in order to reach strategic consensus about the overall business strategy (Pagell, 2004). Hence for purchasing to become strategic, it needs to be part of this.

3.1 Case study: The Inköp case

Inköp is a Swedish company, active in civil engineering and building. The name of the company is fictional. The problem encompasses the fact that purchasing used to be a rather decentralized activity to Inköp. However, top management decided in 2005 to align purchasing with the corporate strategy and invited the vice president of purchasing to join the top management. The goal of aligning the purchasing strategy with corporate strategy was to become a role model in the industry.

In the historical situation, purchasing was rather fragmented in terms of the amount of suppliers and these suppliers treated each buyer from Inköp separately. The reason for this fragmentation was that each employee at Inköp could basically pick their own supplier based on preference for each little project. As twenty-five percent of the employees (out of 9.400) had purchasing activities, the supplier base got too extensive. The transformation aimed at making purchasing a strategic function rather than an operational one. A team consisting out of purchasing managers and representatives from top management decided which activities to centralize and which to keep decentralized as they decided that half of the activities should stick to the old situation.

Following the new purchasing strategy of Inköp, strategic purchasers were taught about marketing processes and their work focused more on a combination in purchasing and marketing. As a result of this dual role, there was a shift of focus towards utilizing signed framework agreements (non-binding agreements to buy services or products) which are made with the suppliers.

The case example illustrates the practice of firstly adapting the corporate strategy to integrate purchasing, and thereafter focusing on implementing steps such as aligning marketing and purchasing functions. Furthermore, it includes the task perspective since purchasing changing internally, and a firm perspective as it changes for the whole organization too.

Source: Frödell, Josephson, & Koch (2013)

3.2.2 Organizational structure

Organizational structure revolves around hierarchies, rules and roles (Davis, Eisenhardt, & Bingham, 2009) and the ultimate goal of a structure within an organization is to enable processes to contribute to the organization in order to achieve its goals as effectively and efficiently as possible (Lidegaard et al., 2015). Thus, in order to align the purchasing function with other functions, it is important to take a look at the role of the purchasing structure in the organization. In general, structure follows the strategy of the organization (Luzzini & Ronchi, 2011). For example, strategic decision-making as imposed by top management can aim at decentralization of the organization (Papadakis et al., 1998) which results in a change of structure of the organization, coherent to the change in strategy. Furthermore, organizations are frequently changing (Gebauer, Edvardsson, Gustafsson, & Witell, 2010), hence, organizational structure and also the strategy cannot be considered to be stable over time.

TABLE 3.1: Configurations of purchasing activities, Lindegaard et al. (2015)

Configuration	Degree of alignment with other departments	Activity/product characteristics	
Dedicated	Because there is high dependence on the purchasing department there is need for coordination between departments. However, considering the depth of knowledge that is required for the purchasing department and its dominance, it is unlikely that there is much alignment between departments.	Complexity	High
		Uncertainty	High
		Variety	Medium
		Interdepedence	Low
Integrator	High coordination with other departments because purchasing serves as facilitator for the coordination between supplier and other departments. Specific knowledge needs to be obtained from other departments.	Complexity	Medium-to-High
		Uncertainty	Medium
		Variety	High
		Interdepedence	High
Coordinator	There should be some alignment between departments. However, this structure can be identified as being highly standardized, so coordination between departments is stressed to a lesser extent. Departments do not actively participate in information sharing, so should be treated rather seperately.	Complexity	Low
		Uncertainty	Low
		Variety	Low
		Interdepedence	Medium

Table 3.1 integrates the characteristics of purchasing activities and the configurations of purchasing departments as proposed by Lidegaard et al. (2015) and Luzzini & Ronchi (2011). With the aid of this table, it becomes more clear how the structure of the purchasing department can be assessed and whether it plays a central role within the structure of the entire organization. Thereafter, a more elaborative description of both the configurations (Luzzini & Ronchi, 2011) and activities (Lidegaard et al., 2015) will be provided.

Luzzini & Ronchi (2011) distinguish three configurations of the purchasing department. Firstly, a **dedicated configuration** considers purchasing activities to be of major concern to the organization, hence it is the dominant factor in the structure of the organization. Central to this configuration is that purchasing is in charge of many activities related to the supplier. Secondly, an **integrator configuration** puts high importantance on the purchasing function, however, to a lesser extent than the dedicated configuration. This is mainly because there is less technological risk involved in the decision making and revenues are created to a greater extent by other departments. In this case, there is more back-up support with specific knowledge from other departments. Thus, the structure needs to be determined by a higher degree of coordination between departments. Lastly, the **coordinator configuration** can be considered as a much more traditional purchasing structure, where the main focus lies on costs and technological risks are rather low. Other departments are perceived as being more important and purchasing is not aimed at being a source of competitive advantage.

From the viewpoint of structure as an enabler of processes, it is important to emphasize the nature of activities being performed within the purchasing department. It also important to determine to which extent purchasing actually enables processes, and the relation of the tasks to subsequent departments. Lidegaard et al. (2015) describes four characteristics inherent to purchasing activities. From these activities, inferences about the purchasing structure and necessity for alignment with other departments can be made. Firstly, **uncertainty** refers to the extent to which people, groups and organizations have information about future events. A higher level of uncertainty indicates that higher levels of integration with other departments are necessary to be able to cope with contingencies (Lidegaard et al., 2015). In fact, organizations always have to deal with a uncertainty which imposes risk because the desirability in outcomes differs (Juha & Järvi, 2008). Actions could refer to integration, standardization and formalization. Secondly, **complexity** refers to the difficulty or easiness in understanding work (Mintzberg, 1979). A higher level of complexity indicates that more specific knowledge is necessary within the department has to deal with more difficult problems. Even though gaps between departments will increase when complexity is high and tasks are too far apart between departments, high complexity purchasing decisions make it difficult to integrate with other departments. It is expensive to train many employees with very specific and complex knowledge. Thirdly, **variety** influences the depth and width of knowledge within the purchasing department (Lidegaard et al., 2015), hence, influencing the size and structure of the purchasing department as well as the necessary level of integration with other departments. Lastly, the level of **interdependence** shows the extent to which activities are mutually dependent (Lidegaard et al., 2015). For example, the extent to which the activities of operations depend on related

purchasing activities. Higher interdependence needs a significant higher level of integration compared to low interdependence between the departments.

In summary, whether or not to align the purchasing function highly depends on the structure that is inherent to the activities of the purchasing departments. Characteristics such as the uncertainty, complexity, variety and interdependence show whether purchasing plays a central role in the organization (Lidegaard et al., 2015). Based on these characteristics, it can be shown which configuration the department has (Luzzini & Ronchi, 2011). As a result, it becomes clearer whether the purchasing function currently has a central structure within the overall organizational structure.

3.2.3 Organizational Culture

Inter-organizational alignment between different departments is strongly emphasized in the business environment (Frödell et al., 2013). Such interaction is believed to promote value creation and minimize costs, improving the overall performance of firms (Pearson & Gritzmacher, 1990). There are multiple practical examples supporting this. The purchasing director of Neopost who has 35 years' experience in purchasing and logistic said: "Culture plays an important role in integrating different departments in the process of purchasing. Appropriate corporate organizational culture can promote information and knowledge sharing while integrating different departments" (P. Fellinger, purchasing director Neopost, March 09, 2016). This statement emphasizes the fact that it is important to include organizational culture in a purchasing context. The following section will focus on previous studies on organizational culture and internal alignment and create a link between these two subjects.

Before analyzing the link between organizational culture and internal alignment, it is important to introduce the definition of organizational culture. **Organizational culture** is "a set of shared assumptions and understandings about organizational functioning" (Deshpande & Webster, 1989, p. 3). Organizational culture is one of the determinants of a firm's competitive advantage. In operations management, several studies have shown that organizational culture has a significant impact on decisions such as adopting advanced manufacturing technology, cellular manufacturing and time-based manufacturing practices (Braunscheidel, Suresh, & Boisnier, 2010). Quinnf & Rohrbaugh (1983) developed the competing value framework (CVF) to measure the value of organizational culture. The organizational effectiveness is measured through two aspects: internal vs. external focus and flexibility vs. stability. Hence, this sorting results in a spatial model of four distinct quadrants (figure 3.2,next page).

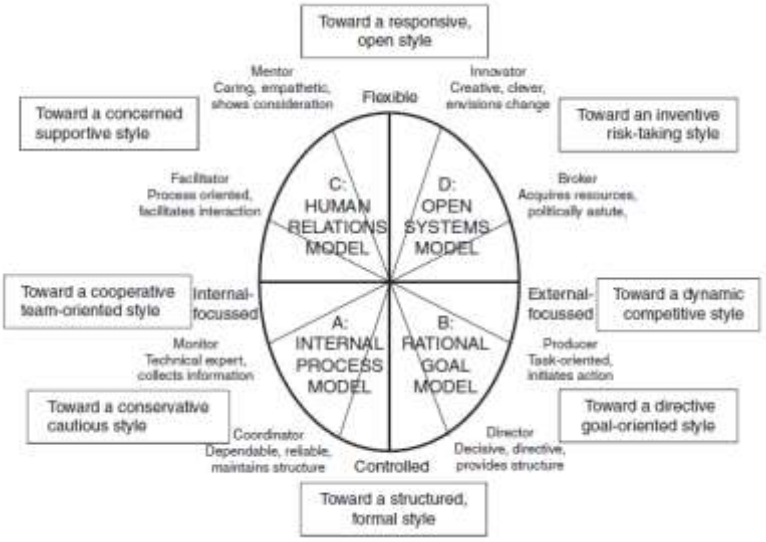

FIGURE 3.2: Competing value framework of leadership roles, O' Neill & Quinn (1993); Quinn & Rohrbaugh (1983)

The internal process model (quadrant A) focuses on the internal organization and pertains generally higher degrees of control. Furthermore, the rational goal model (quadrant B) is more externally oriented, which is also exposed by higher degrees of control. On the other hand, the human relations model (quadrant C) rather has an open and flexible communication style and is internally focused. Lastly, the open systems model (quadrant D) is characterized by an external focus and also has the open and flexible communication style (O' Neill & Quinn, 1993; Quinnf & Rohrbaughf, 1983). According to these four distinct quadrants, a classification of four organizational cultures can be made namely clan, adhocracy, market and hierarchy. The clan culture type is characterized by a combination of internal orientation and a flexible organizational structure. A fundamental assumption in clan cultures is that the organization's trust in and commitment to employees facilitates open communication and employee involvement (Hartnell, Ou, & Kinicki, 2011). The adhocracy culture type is characterized by the combination of external orientation and a flexible organizational structure. The core belief of adhocracy cultures is that change promotes the garnering or creation of new resources (Wiewiora & Coffey, 2013). The market culture type is characterized by a combination of external orientation and an organizational structure steeped in control mechanisms. According to the CVF, a core belief underlying market cultures is that an achievement focus produces competitiveness and aggressiveness, resulting in productivity and shareholder value in the short and immediate term (Kaufmann & Gaeckler, 2015). The hierarchy culture type is characterized by the combination of internal orientation and an organizational structure driven by control mechanisms. A predominant assumption in hierarchy cultures is that employees meet expectations when their roles are clearly defined (Hartnell et al., 2011). The following section will analyze how various organizational cultures affect the internal integration of different departments.

Current studies reveal that organizational culture is responsible for a series of practices or activities related to an organization (Braunscheidel et al., 2010). First, departments can choose either for an internally or externally oriented integration according to their cultural characteristics. Organizations that demonstrate an external focus may be more interested in the overall competitiveness of the firm (Quinnf & Rohrbaughf, 1983). For example, firms characterized by a market-type culture focus more on integration with key suppliers and

customers. Such external focus will lower the firm's internal alignment because of the lack of internal integration. Likewise, adhocracy cultures featured by innovation and adaptability will also focus on suppliers and customers (Baker, Hunt, & Hawes, 1996). On the contrary, firms with an internal focus emphasize developing people and enhancing cross-functional interaction to facilitate the communication among different departments, thus promoting their internal alignment (Cheung, Wong, & Wu, 2011). For example, clan culture based on family or clan focuses on teamwork (Quinnf & Rohrbaughf, 1983). Since members of the different department are close to each other, it is easier for them to build trust and share information with each other. Likewise, since employees in a hierarchy culture is goal-oriented, they will be more willing to collaborate and share information with others to meet the expectations of their roles (Chadwick & Raver, 2015). This will promote the transparency among different departments and facilitate the communication among them. The establishment of cross-functional teams, formal and informal communication practices will lead to better internal alignment (Cheung, Wong, & Lam, 2016). Considering the above findings, firms having an organizational culture with a primary internal focus tend to realize the need for internal alignment faster than those with an external focus.

3.2 Case study: The Cisco Case

This case example describes the situation within Cisco Systems, Inc, an American multinational technology company. In order to make use of attractive technologies, products or market opportunities, Cisco has acquired more than 120 companies, from small start-ups to large, well-established firms, such as Linksys, Scientific Atlanta, etc. In order to realize value-adding effects from acquiring existing firms, Cisco spends a considerate amount of time and effort integrating employees, products, services, operations and functions.

The integration activities of Cisco include three basic principles. The first principle is alignment. It is required that all internal organizations and integration activities should adopt common standards to make sure that integration activities will be aligned to realize the desired goal from the acquisition. The second principle is communication. In order to establish interdependencies among different departments, Cisco encourages cross-functional communication. Finally, in order to realize operational effectiveness, Cisco takes some measures to improve the integration capabilities of the organization (Atlanta et al., 2007). One measure related to our theme is to adapt integration standards to accommodate different business models to reduce integration project setup time.

The culture within Cisco is a typical example of a hierarchy corporate culture due to its internal focus and control. As mentioned in the previous section, the goal-oriented employees are more willing to collaborate and share information with each other to ensure that they will meet the expectations of their roles (Chadwick & Raver, 2015). In order to integrate purchasing with corporate strategy, Cisco uses standard information sharing and collaboration tools to align purchasing and marketing departments. For example Cisco Tele-Presence, virtual meetings facilitate communication of remote integration team members and employees of the acquired company in a distant location.

Source: Atlanta, Integration, Business, & Group (2007)

3.3 Alignment and integration of purchasing and departments

Functional integration of different departments consists of multiple terms such as alignment, collaboration, teamwork and many others (Chen, Daugherty, & Roath, 2009). Functional integration consists of two parts: 'information shared and understood', which requires sharing information. Secondly communication of 'aligned decisions'. This requires aligned goals and shared understandings of each other's departmental goals (Gonzalez-Zapatero, Gonzalez-Benito, & Lannelongue, 2015). The following section will focus on the integration process between purchasing and different departments. In this part the integration process will be clearly defined and the effectiveness of possible purchasing integration is discussed. Due to the enormous trend related to the increasing services industry (Sheth, Sharma, & Iyer, 2009), the changing role of the purchasing and marketing function will be discussed in depth.

3.3.1 Inter-functional collaboration

When integrating the purchasing department with other functions within the organization, two different processes can be defined (Kahn & Mentzer, 1996). The first process is the **interaction process**. This process can be defined as "the communication aspects associated with interdepartmental activities" (Kahn & Mentzer, 1996, p. 9). Interaction activities can exist of information exchanges, conference calls, clear documentation exchanges and more. The second process is inter-functional collaboration when integrating purchasing with other departments. This process, also called **interdepartmental collaboration**, can be defined as "an affective and volitional process where departments work together with mutual understanding, common vision, and shared resources to achieve collective goals" (Kahn & Mentzer, 1998, p. 55). Interdepartmental collaboration requires joint efforts and can be furthermore defined as: "the willingness of departments to work together, which emphasizes working together, having mutual understanding, having a common vision, sharing resources, and achieving collective goals" (Kahn & Mentzer, 1996, p. 9).

A low level internal integration between corporate functions leads to worse performance than companies that have a higher level of integration (Ellegaard & Koch, 2012). Lower levels of internal integration lead to uncoordinated operations and purchasing activities that negatively affect the resource mobilization of the supplier (Ellegaard & Koch, 2012).

According to Ellram, Zsidisin, & Stanly (2002) performance of a company is dependent on each function. If the purchasing function performs very well this does not automatically makes up for a poor distribution strategy or a faulty marketing plan (Ellram et al., 2002). The purchasing function might have a broad impact in some organizations, however it generally does not set overall corporate strategy (Ellram et al., 2002).

Functions like purchasing, operations and logistics each impact firm competitiveness. However, the greatest potential can be realized when these functions are coordinated and when each function is aligned with the overall strategy (Fawcett & Fawcett, 1995). Four decisions were similar to each of the latter functions. Infrastructure, materials, technology and people are like a thread through each function, together creating a value-added system. To build a sustainable competitive advantage these decision areas have to be properly managed (Fawcett & Fawcett, 1995). Functions like R&D and engineering are important to integrate with

purchasing (Hou & Mohnen, 2013; Zsidisin, Ellram, & Ogden, 2003). According to Hou & Mohnen (2013), firms with lower levels of integration between R&D and purchasing tend to be less innovative. Purchasing can acquire and license new technologies. According to Zsidisin, Ellram, & Ogden (2003) information and knowledge on strategic cost management needs to be shared with other functions, for example cost structure data of suppliers can be shared with the engineering department. The engineering department can tell what specifications products need in order to use them properly.

Not always it is needed to integrate purchasing with other departments. According to Ashenbaum & Terpend (2010) only a few activities can link the purchasing function to logistics. This is emphasized by Sheth et al. (2009) which stresses the importance of the alignment between purchasing and marketing instead of purchasing with operations. Firms have to focus on the capabilities instead of tangible goods (Sheth et al., 2009). Purchasing's relation with routine products has become less important and the traditional advantage of materials has decreased substantially (Sheth et al., 2009). These trends lead to the conclusion that purchasing and marketing beyond their current roles are essential for a successful organization (Ivens, Pardo, & Tunisini, 2009; Sheth et al., 2009).

3.3.2 Internal integration

Demands from the purchasing department in the beginning were two-fold. On the one hand the objective was obtaining the lowest price possible from **vendors** and on the other hand maintaining an uninterrupted supply of product to ensure the success of the marketing and operations plans (Bregman, 1995). These findings are somewhat outdated. There has been a shift towards focusing on **total cost of ownership,** later to be called TCO. TCO can be defined as: *"*All costs associated with the acquisition, use and maintenance of an item to be considered in evaluating that item and not just the purchase price" (Ellram & Siferd, 1993, p.163). According to Heilala, Montonen, & Helin (2007) the cost of reworking products or producing products of poor quality should not be underestimated. The purchasing function is in this sense responsible for the total cost incurred by using a certain product. "It is important to first define your strategy either to focus on being a cost or a quality leader, afterwards the objectives for the purchasing department can be set" (P. Fellinger, purchasing director Neopost, March 09, 2016). Different objectives can be chosen dependent on the strategy. Nevertheless the purchasing department has to notice the needs of the internal customer.

Internal marketing looks at the employee as a customer (Berry, 1981). The employee is seen as an internal customer inside the organization which has needs and wants, which they request from other functions (Berry, 1981). Wisner & Stanley (1999) discuss that the view of internal suppliers was mainly on satisfying the external customer, not looking at internal needs. However, the internal customer should be taken into account. A direct link is found between satisfying the internal customer leading to external customer satisfaction (Wisner & Stanley, 1999).

The ultimate focus of internal suppliers should be on improving relationships with the internal customer by developing processes to raise internal service and product quality. The better quality can result in improved market share and financial performance. "Because of its

direct contacts with external suppliers, internal suppliers, and internal customers, purchasing can play a key, integrative role in the development of internal service quality initiatives throughout the organization" (Wisner & Stanley, 1999, p.26). The internal customer is one view of looking how to integrate functions. Another view can be looking at a company consisting of processes instead of different departments.

An organization is represented by business processes which represent the core of the functioning of an organization, the company is mainly build around processes and not products or services (Skrinjar, Stemberger, & Hernaus, 2007). According to Reijers (2006) several organizations choose to be process-oriented. **Process orientation** can be described as the focus on business processes instead of emphasizing on functional and hierarchical structures (Reijers, 2006). It is noted by senior-level materials managers that, critical strategic objectives require different value-added functions to co-operate. The challenge lies in the shift from improving individual processes to cross-functional integration and realizing a value-added materials system (Fawcett & Fawcett, 1995). Integration of the purchasing function means to sometimes set aside departmental goals but rather focus on the overall outcome at the end of a process.

3.3 Case study: The Neopost Case

Neopost is a big manufacturer in postage meters and mail room equipment. The company is founded in 1924 and is located in many countries such as the Netherlands, France, USA, and Canada. Neopost is a company focusing on leading software developments related to customer communications management and shipping solutions such as packaging.

Mr. Fellinger the purchasing director at Neopost states that integration of the purchasing function enhances the speed and quality within the company. At the department of new product development, a multi-disciplinary team works together. Departments like marketing, purchasing, engineering, logistics, quality and production work together.

A prerequisite of a good collaboration is creating the right atmosphere between the departments. It is important that different departments acknowledge a certain product and that they do not have a negative attitude if the product is not invented at their department. Furthermore, for the successful integration of the purchasing function the employees need to have a set of skills on cross-functional working. According to Mr. Fellinger also the percentage of turnover contributed by the purchasing department plays an important role, if the purchasing department only contributes a relatively small part to the overall turnover the need for integration might not be relevant.

Because of the wide variety of parts that are used in the products produced by Neopost, it is important that parts are produced and designed the first time right. Through active co-operation between departments different goals are reached. Design reviews are discussed with multiple disciplines. R&D receives input from other disciplines so they can make the right products. The right materials are used and the production of a product becomes easier. Furthermore, also the supplier is part of discussion on the design of a product and whether this is possible. If problems are encountered they can be discussed.

Results of the company are improved thanks to the use of the multi-disciplinary teams. No time is lost because the right parts are produced. Time is won in the assembly process of a product. Quality as well as the purchase price have been improved.

Source: P. Fellinger, purchasing director of Neopost, in an interview with the authors of this chapter, March 09, 2016.

3.3.3 Integration with marketing

The previous part described the interdepartmental integration with the purchasing department. This part will focus on the alignment and integration of the purchasing and marketing department. In the first part, issues regarding the alignment of marketing and purchasing will be described. Due to the current issue of the increasing amount of services offered by companies (Sheth et al., 2009), the traditional and the current roles of purchasing and marketing will be explained. The topic of purchasing related to services will be discussed in detail in chapter 5. The second part will introduce the process integrative framework. This framework displays several managerial approaches for coordinating the marketing and purchasing function within a company.

Marketing and purchasing received a lot of attention in literature so far. The traditional role of marketing can be seen as the department which mainly focuses on the fulfilment of customer needs and demand generation, while the purchasing department traditionally seen mainly focused on the suppliers, manufacturing and capacity utilization (Sheth et al., 2009). In figure 3.3 the difference in focus is graphically depicted. Both departments have different priorities and strategies (Sheth et al., 2009).

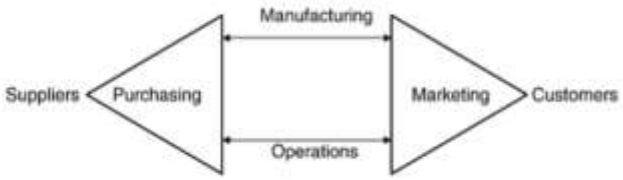

FIGURE 3.3: Distinct foci purchasing and marketing department, Sheth et al. (2009).

According to the traditional view of the purchasing and marketing function: “these two fields represent the extreme ends of a company's value process and, hence, hardly related to each other” (Ivens et al., 2009, p. 853). It can be described as a unique chain. Purchasing takes care of the resources while marketing activities are strongly related to the transformation of the resources into activities or products (Ivens et al., 2009). The role and strengths of the marketing department changed throughout the years. Nowadays marketing departments try to make use of their customer and market knowledge to create customer value (Ivens et al., 2009). Also one of marketing’s distinctive capabilities is their ability to segment customers and segments result in different needs (Jüttner, Christopher, & Baker, 2007).

According to Jüttner et al. (2007) the key component of the marketing department is the relationship management with customers. The big difference with the traditional Supply Chain Management (SCM) function is that this department focuses on the efficiency of supplying. The SCM function tries to maximize efficiency related to the created demand by marketing’s distinctive capabilities (Jüttner et al., 2007).

Traditionally, SCM does not anything with customer value and propositions (Jüttner et al., 2007). Both departments agreed that working together would create opportunities. They also agreed that information sharing and communication would be crucial (Ellinger, 2000; Jüttner et al., 2007). Figure 3.4 shows the working relationship and the potential differences between marketing and supply chain management as described earlier.

FIGURE 3.4: Working relationship between marketing and supply chain management, Jüttner et al. (2007).

After discussing the two departments and describing their differences, now the possible integration between these departments will be discussed. “Today’s competitive business environment is largely dependent on the degree to which firms are able to integrate across traditional functional boundaries to provide better customer service” (Ellinger, 2000, p.85). But to fully capitalize on this customer service the two main domains purchasing and marketing need to collaborate intensively to achieve optimal results (Ellinger, 2000). Results show that operational problems can be solved by implementing collaborative interdepartmental relations. Working together as a team, sharing ideas, information and resources is needed to achieve this (Ellinger, 2000). But besides these operational problems, real performance benefits can be achieved. Figure 3.5 shows the influence of the marketing-purchasing collaboration and the business performance. This model also encounters the mediating effect of customer orientation.

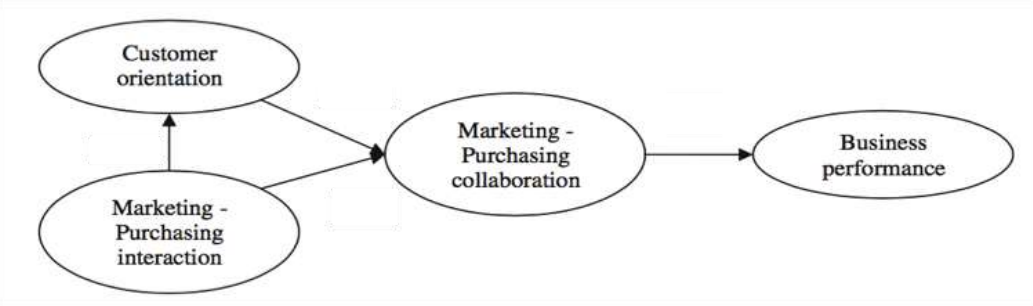

FIGURE 3.5: Nomological model: effect of purchasing-marketing collaboration on business performance, Smirnova, Henneberg, Ashnai, Naudé, & Mouzas (2011).

Successful collaboration between the purchasing and marketing function can result in a positive and significant effect on the performance of a business, whereas there is a dual relationship between the amount of influence a marketing department has and the importance of developing a customer orientation within the company (Smirnova et al., 2011).

A major trend is occurring in the market. Service industries are becoming more dominant nowadays which shifts the focus of companies from well performing exchange

process of goods towards stronger and better capability provision (Ivens et al., 2009; Sheth et al., 2009). This shift in focus has its consequences for both departments. “Purchasing needs to be more aligned and integrated with marketing. The source of competitive advantage from knowing how to do knowing how to put it together” (Sheth et al., 2009, p. 870). This means that companies can create a competitive advantage by creating real customer solutions instead of only providing products or services. To create effective customer solutions, the purchasing-marketing integration enables companies to make effective use of the customer (demand side) and of the suppliers (supply side) (Sheth et al., 2009). Marketing’s function new role in this integration is as an **integrator** of the solutions companies offer towards their customers while purchasing’s new role can be seen as a more **outsourcing coordinator**, which is “putting together various services contracted from various vendors to collate the best customer solution promised by marketing”(Sheth et al., 2009, p.870).

The trends in the market have created an environment where effective collaboration between purchasing and marketing functions is highly important to have an effective value creation but also to have an effective alignment with its business environment (Toon, Morgan, Lindgreen, Vanhamme, & Hingley, 2015). By co-managing the marketing and purchasing function the efficiency and effectiveness of the exchange processes could increase the amount of competitive advantage as well as the value delivery systems (Wagner & Eggert, 2015).

The concept of **co-management** can be defined as the “different levels of organization that have comparative advantages in the generation and mobilization of knowledge acquired at different scales” (Berkes, 2009, p. 1688). Bridging organizations provide a forum for the interaction of these different kinds of knowledge, and the coordination of other tasks that enable co-operation: accessing resources, bringing together different actors, building trust, resolving conflict, and networking” (Berkes, 2009, p. 1692).

In the previous section about internal integration there is stated that the greatest potential can be realized when functions are properly coordinated and aligned with the overall strategy. To fully capitalize on this potential competitive advantage, the process of integration needs to be properly co-managed (Wagner & Eggert, 2015). Co-management of both departments consists out of internal and external co-management. **Internal co-management** can be described as the internal alignment between functions within a firm and **external co-management** as the alignment between different organizations (Wagner & Eggert, 2015). It could consist of “information or the coordination of tasks (activity links), the transfer of know-how or financial resources (resource ties), and the definition of joint goals or mutual commitment (actor bonds)”(Wagner & Eggert, 2015, p.28). In figure 3.6 both types of co-management are being graphically depicted.

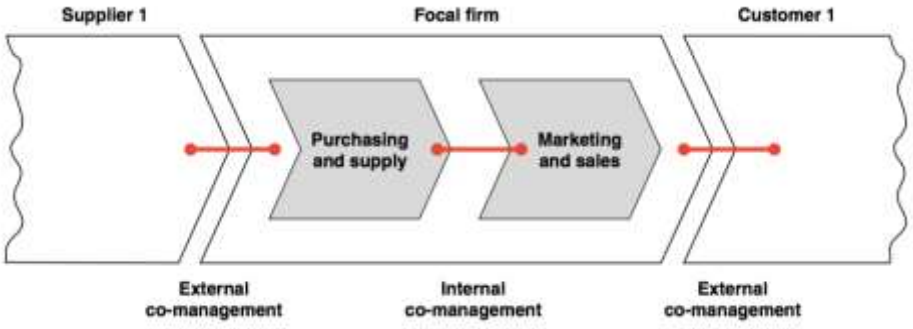

FIGURE 3.6: Different types of co-management ,Wagner & Eggert (2015).

The area of purchasing-marketing integration is very recently studied by Toon et al. (2015). They introduce a process-interface framework for marketing and purchasing integration (table 3.2). In this framework different theories have been combined to summarize the possible managerial approaches towards the effective coordination of aligning or even integrating both departments. This framework consists of two main parts.

The first part is about internal dynamics. Internal dynamics can be described as the processes and different contexts within organizations when creating value (Toon et al., 2015). The integration of the purchasing and marketing department is highly related to the first form of dynamics namely structural dynamics. Barriers that can influence these internal processes necessary for integration are the lack of skills, motivation and opportunities within a firm (Bals, Hartmann, & Ritter, 2009). This form of dynamics can be directly related to the first condition for proper alignment, namely structure discussed earlier in this chapter. The second form of dynamics is human dynamics. This relates to the energy and the willpower between members within a form to cooperate with each other. Higher behavioral integration of humans and collaborative behavior results in a better performing company (Carmeli & Schaubroeck, 2006). Human dynamics can be directly related to the proper form of culture also discussed in the first part of this chapter. The third form of dynamics is the situational dynamics which refers to the ability and internal factors related to the integration process. This means that the different departments should all have the aligned focus to achieve optimal integration on a strategic level (Sheth et al., 2009). This can be related to the strategy alignment earlier discussed in this chapter.

The second part consists of managerial approaches to coordinate both functions within a company. In this framework a distinction between two approaches can be made, namely a transactional approach and a relational approach. The first approach is focused on a simple, cost saving exchange between departments. Departments mainly focus on their own agenda and interests rather than integrating their knowledge and capabilities (Toon et al., 2015). The main purpose of this approach is related to self-satisfaction and individual service in case of cooperation (Mirvis, 2012).

The second approach is the relational approach. This approach consists of a more collective approach with a main purpose of joint obligation of the complete company (Mirvis, 2012). This approach can be separated in two distinct classifications. The first classification is

the integrative approach. This approach is the opposite of the transactional approach. By this approach, departments are supposed to work together, have cross-functional relations and are supposed to have informal relations (Toon et al., 2015). The second relational classification is the one about co-management. As discussed before, co-management is a structured managerial approach which includes cross-function collaboration when carrying out own goals (Wagner & Eggert, 2015). How these managerial approaches differ in case of different forms of dynamics can be found in table 3.2 (Toon et al., 2015). According to Mirvis (2012) a third approach must be considered. This is a developmental approach. This approach has the main purpose of going beyond joint obligation. This approach focuses on the joint opportunity within a full corporate ecosystem. This third approach focuses on improving the total community by self-development services and learning experiences (Mirvis, 2012).

Forms of Dynamics	Theoretical Manifestation	Managerial Approach to Purchasing – Marketing Co-Ordination		
		Transactional	Integrative	Co-Management
Structural Dynamics	Exchange linkages including "formalization, joint planning, and team work" (Homburg *et al.*, 2008)	Pre existing systems of work and market focus including competition have a positive affect on clusters within the value chain and so have particular application to integration that extends along the value chain externally to the organization (Teller *et al.*, 2015)	Our empirical study of an electrical appliance manufacturer revealed co-location of internal functions and an interwoven set of exchange processes	Co-management systems is achieved through internal systems in which organization-wide knowledge-sharing architecture is developed. Such internal co-management measures may be more successful when extended to additional upstream and downstream zones (Wagner & Eggert, 2015)
Human Dynamics	Trust in exchange including "information sharing" and the nature of communication underpinning cultural norms (Blois & Ivens, 2006)	Knowledge exchange in transactional management approaches observes a reach that is typically predetermined by contract. Communication is less frequent than in integration and co-management approaches with a predominance of formal communication.	Information is shared in the electrical appliance manufacturer in an ongoing process with stages of procurement and marketing feeding into one another. This generates an iterative value creation process formed by continued knowledge exchange and adjustment (Toon *et al.*, 2012)	Relationalism in co-management facilitates the structured inclusion of upstream and downstream external value chain agents in bringing about exchange-based adaptation in the process (Viio & Grönroos, 2015)
Situational Dynamics	Goal orientation, physical location, institutional power arrangements and cross-functional knowledge. (Flynn *et al.*, 2010; Griffin & Hauser, 1996; Wind, 2005)	Shared goal orientation will assist in the value delivery to the customers. For example dual orientation on customer and supply bases represent strategic assets from which the organization might attain advantage (Ziggers & Henseler, 2015)	The co-location of internal functions and adoption of singular goals supports organization-wide strategic goals in the electrical appliance manufacturer. Power is not exercised internally and cross-functional knowledge developed through this close interaction	Physical proximity and integration incentives may be used to facilitate co-management leading to effective shared information and aligned decisions (Gonzales-Zapatero, 2015)

TABLE 3.2: Process-interface framework for marketing and purchasing integration, Toon et al. (2015)

3.4 Case study: The Chemspec Case

This case study discusses the intra-organizational situation of integrating marketing and purchasing within a large chemical company in France. For discretion the real name of the company (therefore called Chemspec) is not mentioned. The company is interviewed and observed for more than five years. The company is a world leader in chemicals. Informants are interviewed throughout the whole company to observe the problems that can occur with the process of integrating both departments and making the function closer within the organization.

An enormous amount of difficulties did arise when integrating the purchasing and marketing department. Top management did not see purchasing as a core function of the company which resulted in different agencies within the company in the beginning. For the marketing function, it was hard to accept that purchasing was gaining importance in the strategic process. Seeing purchasing as a "information provider but not as a real business partner" explained the status of both functions in this case (Pardo, Portier, & Salle, 2011).

The differences between both functions led to bad performance. Also in this case it was clear that only the purchasing department did put effort into their collaboration with marketing. This is unexpected since normally marketing can be seen as the function which need to orientate and collaborate with other functions but this was not the case. This unexpected result is also endorsed by Mr. Fellinger, the purchasing manager of Neopost. "It is common that the initiative is coming from the purchasing department towards the marketing department and not the other way around" (P. Fellinger, purchasing director Neopost, March 09, 2016).

Clearly researched and confirmed with the interviews was the role of top management. Eventually they were able to manage the marketing organization to make use of the information both functions could provide. This vital role was pivotal for "overpassing different obstacles" (Pardo et al., 2011).

We can conclude from this case that the main elements for integration are managing top managers and supportive marketing and purchasing function. Only with their cooperation the integration process could be directed and resulted in real improvements for the Chemspec company.

Source: P. Fellinger, purchasing director of Neopost, in an interview with the authors of this chapter, March 09, 2016.

3.4 Summary

This chapter addressed relevant theories and current issues about internal alignment and integration related to the purchasing function within a company. The aim of the chapter was to provide a comprehensive view on how the purchasing function can be aligned with other functions and how this benefits the organization as a whole.

In the first section of this chapter, the conditions necessary for effective alignment are discussed. The first condition is strategy alignment, where purchasing needs to be in line with the overall business strategy to achieve, in the end, high degrees of integration. Purchasing becomes increasingly important where decisions tend to be more centralized (Bemelmans et

al., 2013; Moody, 2001; Pearson & Gritzmacher, 1990). In order to reach strategic consensus between different departments, purchasing needs to be real cooperative and a true strategic function (Narasimhan & Das, 2001). The second condition is a contributing organizational structure to achieve the goals as effectively and efficiently possible. The structure needs to follow the strategy of the organization to achieve optimal alignment (Lidegaard et al., 2015). Whether purchasing plays a central role in the organization depends on several characteristics such as complexity, variety and interdependence (Lidegaard et al., 2015; Mintzberg, 1979). The last condition is related to organizational culture, where internal focused companies regarding a facilitating communicative culture among different departments is crucial in case of effective internal alignment (Braunscheidel et al., 2010). Furthermore, the establishment of cross-functional teams and communication practices will lead to better internal alignment (Cheung et al., 2016).

In the second section of this chapter, the alignment and functional integration of purchasing and other departments is discussed. This integration consists of two main components namely information shared and understood and secondly the communication of aligned decisions (Gonzalez-Zapatero et al., 2015). In the first part, the integration of the purchasing function with other functions is separated in two processes. The first process is interaction and the second process is interdepartmental collaboration (Kahn & Mentzer, 1996, 1998). Literature suggests that functions like R&D and engineering are important to integrate (Hou & Mohnen, 2013; Zsidisin, Ellram, & Ogden, 2003). Though, it became evident that it is not always beneficial to integrate purchasing with other departments such as logistics and operations (Ashenbaum & Terpend, 2010; Sheth et al., 2009). The second part focused on the relation between the purchasing and the marketing function. Since the traditional product related industry is changing towards a more service focused industry, it is highly important that both core functions, purchasing and marketing, are more aligned and integrated (Sheth et al., 2009). A process-integrative framework is introduced with managerial approaches towards an effective co-ordination of the purchasing and marketing function (Toon et al., 2015). Two main approaches were considered with one possible extension. The first approach is the transactional approach which is focusing on self-satisfaction and the individual service of each department (Toon et al., 2015). The second approach is the relational approach. With this approach a real joint obligation of the purchasing and marketing function can be established (Toon et al., 2015). A suggested third approach is the developmental approach. This approach suggests collaboration beyond joint obligation and sees all the departments as a full ecosystem with merged learning capabilities (Mirvis, 2012). In the next section, the discussion section, possible future research topics will be proposed.

3.5 Discussion

Research on centralization and decentralization has stressed that proper implementation is difficult when purchasing is a decentralized function within an organization (Bemelmans et al., 2013; Johnson & Leenders, 2006; Pearson & Gritzmacher, 1990). However, the purchasing manager of Neopost, Mr. Fellinger, opposes this view as in his opinion purchasing can be a decentralized function and still be very strategic to the organization. Hence, giving rise to a contradictory view between theory and practice. Future research should aim at finding whether

it is really the case that purchasing decisions have to be made central in the organization to be strategic.

In terms of structure, this chapter suggests that the extent to which purchasing activities have a certain degree of uncertainty, complexity, variety and interdependence determine whether purchasing structure should play a central role within organizations (Lidegaard et al., 2015). Due to the fact that outsourcing services is increasingly put on the agenda of firms (Wiengarten, Pagell, & Fynes, 2013) and a more complex nature of services, it is likely to expect that the purchasing department will receive an increasing central role in the structure of organizations in the future because increased complexity leads to more integration of the purchasing function. Chapter 5 of this book discusses further issues in services and outsourcing services.

This chapter reveals how different organizational cultures will affect the internal integration of different departments. However, it is also interesting to consider the presence of subcultures in an organization and their impacts on integration practices. A subculture is a group of people within a culture that differentiate itself from the parent culture to which it belongs (Chang, 2005). Subcultures and their supporting routines, habits and norms within an organization enable, transform or constrain the implementation of a firm's HR strategies (Palthe & Kossek, 2003). Since HR strategies affect the composition of employees in the firm, they also affect organizational culture of the firms. If this is the case, the presence or absence of particular subcultures may enable, transform or constrain the integration between purchasing and other departments.

It was wound that there is the need to integrate departments to achieve common goals and better financial performance (Ellegaard & Koch, 2012; Ivens et al., 2009; Sheth et al., 2009; Smirnova et al., 2011). However, from the case at Neopost it can be found that not always integration is needed. Working together is essential always to accomplish common goals. This contradictory view between theory and practice should be a topic for future research. Future research should elaborate on the distinction between integration and working together in different situations.

Literature emphasized on the fact that integrating marketing and purchasing could be really important (Ellinger, 2000; Gonzalez-Zapatero et al., 2015; Ivens et al., 2009; Sheth et al., 2009; Smirnova et al., 2011; Toon et al., 2015; Wagner & Eggert, 2015). For marketing and purchasing the process-integrative framework is really helpful to categorize different coordination approaches when integrating both departments (Toon et al., 2015). Since the managerial approaches suggested in this framework are not tested yet, future research should test whether or not these coordination approaches are really effective in practice and do the forms of dynamics really occur as mentioned in theory.

Key terms

The key terms mentioned in this list can, with their references, be found in the main body of this chapter.

Co-management - different levels of organization that have comparative advantages in the generation and mobilization of knowledge acquired at different scales. Bridging organizations provide a forum for the interaction of these different kinds of knowledge, and the coordination of other tasks that enable co-operation: accessing resources, bringing together different actors, building trust, resolving conflict, and networking

Complexity - the difficulty or easiness in understanding work

Contributor configuration - a much more traditional purchasing structure where the main focus lies on costs and technological risks are rather low, hence, purchasing is strategically less important

Coordinator configuration - Can be considered as a much more traditional purchasing structure, where the main focus lies on costs and technological risks are rather low

Dedicated configuration - considers purchasing activities to be of major concern to the organization

External co-management - the alignment between different organizations

Integrator configuration - puts high importantance on the purchasing function, however, to a lesser extent than the dedicated configuration

Integrator (marketing's new function) - the solutions companies offer towards their customers

Interaction process - the communication aspects associated with interdepartmental activities

Interdependence - the extent to which activities are mutually dependent

Interdepartmental collaboration - an affective and volitional process where departments work together with mutual understanding, common vision, and shared resources to achieve collective goals

Internal co-management - the internal alignment between functions within a firm

Internal customer - looks at the employee as a customer. The employee is seen as an internal customer inside the organization which has needs and wants, which they request from other functions

Internal integration - Encompasses the extent to which different functions cooperate to arrive at mutually acceptable outcomes

Internal marketing - Looks at the employee as a customer

Outsourcing coordinator (purchasing' new function) - putting together various services contracted from various vendors to collate the best customer solution promised by marketing

Organizational culture - a set of shared assumptions and understandings about organizational functioning

Organizational perspective - There is the requirement that purchasing is included in inter-functional project teams and participates in the development, articulation and deployment of strategies

Organizational structure - revolves around hierarchies, rules and roles

Process orientation - the focus on business processes instead of emphasizing on functional and hierarchical structures

Task perspective - a reorientation of the focus of activities in the purchasing department activity as purchasing strategies shift towards being more critical

Total cost of ownership - all costs associated with the acquisition, use and maintenance of an item to be considered in evaluating that item and not just the purchase price

Uncertainty - the extent to which people, groups and organizations have information about future events

Variety - the depth and width of knowledge that is necessary to perform a purchasing activity

Vendors - anyone who provides goods or services to a company or individuals

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Chapter 4: Supplier Relationship Management

Authors:

S. Becker, s.,

Rijnia, L.,

Weering, M.,

And Zwart, J.

Abstract

This chapter aims to illustrate the importance of Supplier Relationship Management within the broad topic of Strategic Purchasing in examining the whole purchasing model from the selection of suppliers until the management of contracts. Contract management can be seen as an important integrated part of Supplier Relationship Management, nevertheless, this chapter is separated in the two main parts Supplier Relationship Management and Contract Management. The purpose of the first part is to understand the sequence of the relationship process, which contains elements such as supplier selection and evaluation, different types of relationships that can develop between a buyer and a supplier as well as important conditions for a relationship which can have positive but also negative consequences for both parties. The second part of this chapter discusses the following topics: first an introduction about the influence of contracts on Supplier Relationship Management is given. Thereafter, the different types of contracts are highlighted and it is investigated how to evaluate contracts after the execution of the contracts. By understanding and considering the issues which are examined in this chapter, buyers and suppliers can accomplish a successful relationship and reach their companies goals in the short- and long-run.

Table of content

4.1 Introduction

Strategic Purchasing, through the broad definition that has been used throughout this book, can essentially be reduced to an exchange between a buyer and a supplier. No matter if a company is a manufacturing firm or a service company, it has to rely on its supplying partner to ensure products and services with a high quality. The selection, management and also maintenance of the supplier can be an essential factor for the long-term success of a company (Shin et al., 2000; Verma and Pullman, 1998; Herrman and Hodgson, 2001). In order to see why and how this exchange, and the relationship that accompanies it, is managed, a definition of **Supplier Relationship Management** (SRM) will first be provided. Herrman and Hodgson (2001, p.88) mention SRM to be [...] "focused on maximizing the value of a manufacturer's supply base by providing an integrated and holistic set of management tools focused on the interaction of the manufacturer with its suppliers". The value that is maximized in the relationship management process can be the result of several factors. Herrman and Hodgson (2001) have distinguished three areas in which SRM can provide a competitive advantage, given its proper implementation: First, a lower level of inventories and the reduction of tasks that do not add value are examples of ways in which SRM can reduce costs by making the business process more streamlined, and improving the flow of information. Secondly, market share can be increased through an increase of flexibility and responsiveness, as the ability to match demand can increase. Finally, improved cycle times can be achieved through the improvement of information flow.

There are different distinctions in the types of relations that need to be made before elaborating on SRM. Avery (2010) has presented a distinction between cooperative (relational) and non-cooperative (transactional) relationships. A transactional buyer-supplier relationship typically lasts only for the short-term and in this method, suppliers are usually selected based on price and availability of product. However, a relational exchange represents a relationship in which commitment between the partners plays a highly important role. This kind of relationship usually holds a long-term agreement between the buyer and the supplier (Avery, 2010). Furthermore, a cooperative partnership can be the basis of a firm's competitive advantage as the performance regarding cost, quality, delivery and flexibility of both parties can be improved (Krause, Handfield et al., 2007). This chapter will focus on relational (cooperative) relationships, because they are complex and difficult to manage (Avery, 2010). In addition, these cooperative relationships are often characterized by a small number of suppliers (Avery, 2010).

The overarching classification of the model of van Weele (2014) that describes the strategic purchasing model, provides the structure of this chapter. In the six steps between the supplier and the internal customer, SRM is presented as an overarching theme, influencing the underlying links (figure 4.1, next page). The last three links are classified also under contract management, which will be the second part that will be addressed. First, the suppler selection and evaluation will be discussed. This will form the basis of the relationship management process. As the relationship between the buyer and the supplier has now commenced, the different types of buyer-supplier relations will be discussed and Bensaou's portfolio model will be elaborated on. Then, the relationship life-cycle will be analyzed. This analysis will provide

insight in the way in which relationships can be developed. The development of suppliers is the subsequent topic that is investigated. In order to examine the conditions that may influence the development of a strong buyer-supplier relationship, and to discuss both the positive and the negative side of these conditions, SRM will be concluded with a discussion of important conditions of the relationship, focusing on social capital theory, and interdependence and power. In the second part of this chapter, contract management will first be introduced, after which its relation to SRM will be made clear. Then, several types of contracts and their influence on the buyer-supplier relationship will be analyzed. The final step in the contract management process, the evaluation and control of the contract will conclude the second part of this chapter.

The chapter ends with both a summary, that highlights the most important aspects, and a discussion, which focuses on the limitations of this chapter and provides suggestions for future research.

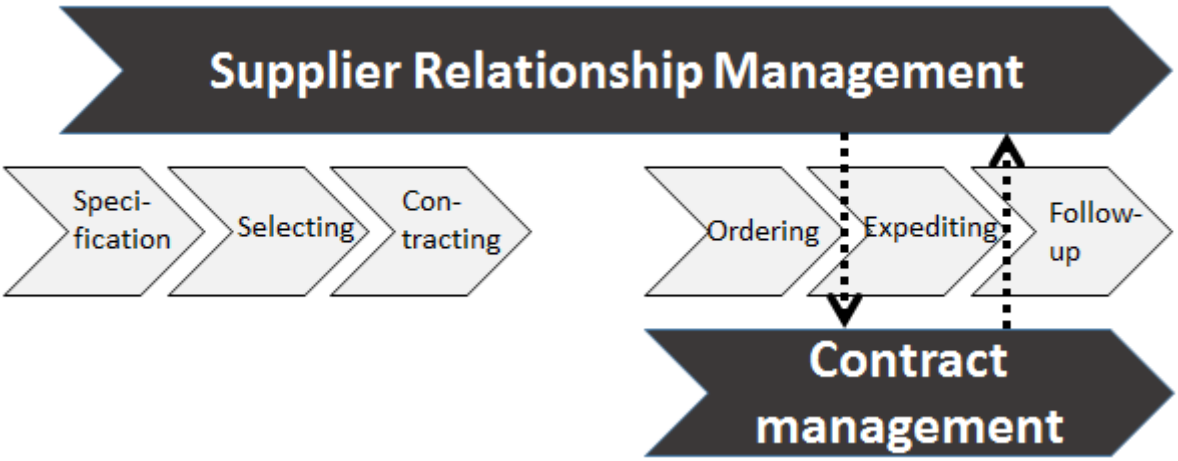

FIGURE 4.1: Purchasing process model (adapted from Benefit, 2015, adapted from van Weele, 2014)

4.2 Supplier Relationship Management

Supplier Management can be defined as all processes and tasks related to the selection of suppliers, the evaluation of suppliers and the development of suppliers (Amin and Razmi, 2009; Reuter et al., 2010). First supplier selection and evaluation takes place, and if suppliers pass these processes, they are added to the supply base as discussed in section 2.5 (Burke et al., 2007). Now relationship management becomes important: the relation between the suppliers needs to be managed and improved if needed. **Relationship Management** is defined as "the ability to act ethically, listen effectively, communicate, and use creative problem solving. The ability to drive relationships is critical for firms seeking to build strong integration [...] with external suppliers" (Monczka et al., 2009, p. 119).

In order to get a better understanding of SRM and its importance within the wide topic of Strategic Purchasing, the whole process of supplier selection and supplier evaluation is to be investigated in this subchapter. Thereafter, in a chronological order the focus is on important aspects of the management of a buyer-supplier relationship. The important Relationship Life-Cycle will be investigated and the Portfolio Model of Relationships (Bensaou) will be

examined. Moreover, important conditions of SRM will be inspected before having a look at how all these elements can lead to a bright and a dark buyer-supplier relationship. When a lucrative buyer-supplier relationship is established, the process of supplier development plays an important role. The investigation of this procedure is the last part of this subchapter.

4.2.1 Supplier selection and evaluation

As shown in figure 4.1, supplier selection and evaluation are the first steps in SRM. Chen (2011) developed a model of the supplier selection and evaluation process (figure 4.2). **Supplier selection** is defined as the process of selecting possible suppliers in order to reduce risk, maximize value and build a long-term relationship between the buyer and the supplier (Monczka et al., 1998). **Supplier evaluation** is defined as the process of evaluating the selected suppliers based on selection criteria (Chen, 2011). As can be seen in figure 4.2, the process starts with the identification of the strategy, which is described in section 2.2 - 2.4. Then the evaluation criteria need to be established for supplier selection. Verma and Pullman (1998) identified five **supplier selection criteria** for the supplier selection process, which can be defined as the criteria that should be used to select possible future suppliers (Verma and Pullman, 1998). These five criteria are the unit cost of components/service, the quality of components/service, the delivery lead-time, on-time delivery and flexibility in changing the order. The purchasing function of a company should select suppliers based on these attributes.

For the supplier selection stage, suppliers are selected based on their performance on predefined indicators related to the selection criteria. For example, a supplier that is located far away from the company and is therefore not able to meet the maximum shipping time needed, will not be selected (Chen, 2011). The suppliers to be selected should have a chance of meeting the selection criteria (Chen, 2011). After selecting the suppliers, weights are added to the selection criteria. Normally a supplier does not score high on all these five criteria (Verma and Pullman, 1998). It is important for companies to know what selection criteria are the most important for their specific situation (Verma and Pullman, 1998). To do this, weighted scores can be used for example (Karande and Chakraborty, 2015). This is done based on the importance of certain criteria for the company (Chen, 2011). It is also important to keep in mind that the criteria can vary from case to case. For suppliers of simple raw materials, costs and delivery lead time might be important criteria, while for suppliers of complex custom-made parts, quality and flexibility might be more important. For this reason, it is important to not select and evaluate all suppliers taking the same importance of criteria in mind.

After the supplier selection, the suppliers will be evaluated based on the criteria and the weights. The result of this stage is a matrix which contains the performance of all suppliers on all criteria multiplied by the specific weight of the criteria (figure 4.2, Chen, 2011). If a supplier meets these criteria it can be added to the supply base of the company as discussed in section 2.5 (Burke et al., 2007).

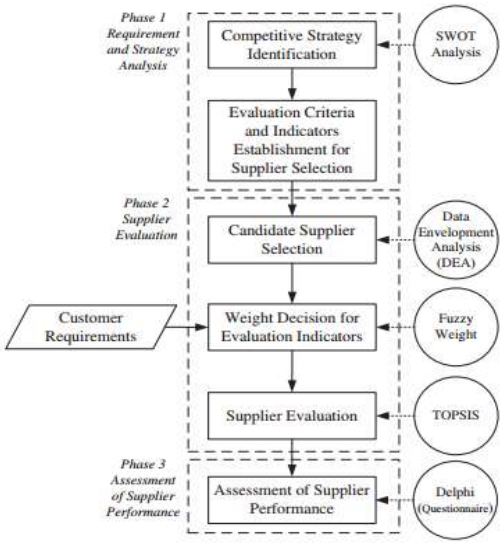

FIGURE 4.2: Supplier selection and evaluation process, Chen (2011)

In example 4.1 the supplier selection and evaluation of *Zara* is described. *Zara* is a fashion retailer with 4670 stores in 74 countries worldwide.

4.1 Case Study: Supplier selection and evaluation at *Zara*.

The fashion retail can be characterized by fashion being designed in Europe and the United States of America, and being produced by suppliers in Asia and then shipped to Europe and the US. The most important reason for this are the low production costs in Asia for a good quality. A disadvantage however is the long lead time of delivering the products to the stores in Europe and the US. For this reason, *Zara* has a completely different strategy: it selects its suppliers close to the designers and the market. Therefore, half of the products are produced close to the head office in La Coruña, Spain. *Zara* selects its suppliers based on quality, low lead times and flexibility. The costs may be a little higher compared to producing in Asia, but *Zara* ensures it has always the latest fashion in its stores because of the low lead times.

Another benefit of the suppliers' closeness to the company is the fact that smaller batches are possible. When ordering in Asia, larges batches are needed to achieve economies of scale. In fashion however smaller batches are better for *Zara* due to the fast changing fashion trends.

After production, the goods are shipped to distribution centers, where orders from the stores are being picked. From the distribution center, *Zara* is able to ship the goods within 24 hours to the European stores and within 48 hours to the American and Asian stores.

Source: Lu, C. (2014)

The *Zara* example makes clear that evaluation and selection criteria can vary from company to company and from product to product. Within the fashion business, *Zara* uses different criteria than other fashion sellers. Companies should define the evaluation and selection criteria that are aligned with the product being sold and the overall company strategy.

When the suppliers are added to the supply base, the relationships between the buyer and the suppliers become important. The next part of the chapter will further elaborate on the relationships. Also suppliers can now be contracted to supply the buying company. For this reason, contract management will be discussed after this.

4.2.2 Typology of relationships between buyer and supplier

With companies added to the supply base, relationships are developed. The relations between the buyer and the supplier vary from case to case. A classification of different relationship levels can be seen in figure 4.3 (Harland, 1996).

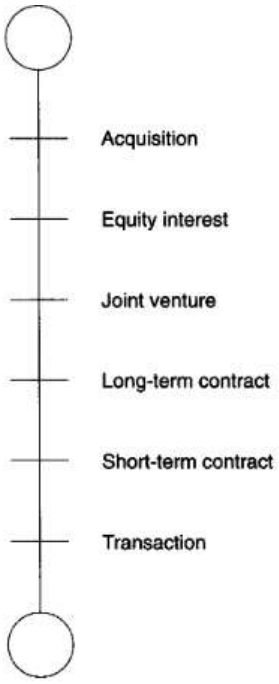

FIGURE 4.3: Relationship levels between buyer and supplier, Harland (1996)

On the bottom of the figure, the relationship with the least interaction is shown (transaction), while on the top the highest level of interaction can be seen (acquisition). In case of acquisition, the buyer has become the owner of the supplier, in case of equity interest, the buyer has become partly the owner of the supplier (Harland, 1996). In between are short- and long-term contracts between the buyer and the supplier and the joint venture between the buyer and the supplier. Harland (1996) also defined another way to classify the relationships. He identified four levels of relations**: Internal chain, dyadic relationships, external chain** and the network (figure 4.4, Harland, 1996).

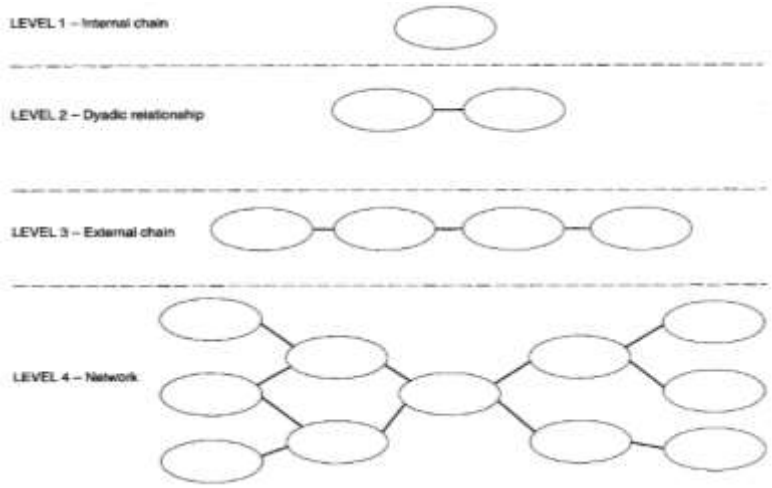

FIGURE 4.4: Levels of relations, Harland (1996)

As can be seen in figure 4.4, **internal chain** is the first level. This level can be defined as a relationship in which no suppliers are included. Level two is the **dyadic relationship**. This level can be defined as the relationship between one buyer and one supplier. The third level is the **external chain**, which is a sequential relationship in which more than two companies are involved. An example of this relation is a supplier that is supplying the supplier of the buyer. Also these suppliers of suppliers are important since these companies determine the price of the final product for example or can delay the whole process when these suppliers do not meet the predetermined delivery lead times. The fourth level is the **network**. The network can be defined as all relations between all suppliers and buyers involved in the process from raw material to the final customer. Not only the suppliers (on the left side), but also the buyers (on the right side) of the focal firm are depicted. In this network, the whole process from raw materials to final customer is included. Within the network, there exist internal and external chains and dyadic relationships (Harland, 1996).

Lamming et al. (2000) came up with a classification of supplier networks. The networks are classified based on two dimensions: the complexity and the product characteristics (innovative and unique products on one side, functional products on the other side). In table 4.1 this classification is depicted. As can be seen, in low complexity networks, IT is less important, but in high complexity networks, information sharing by IT through the network is very important. Supplier networks producing innovative and unique products have more problems with information sharing because of the fact that these companies want to keep the product innovative and do not want to share all information with suppliers. It is important for buyers to define the type of network to also know what type of relations with suppliers is important. Low complexity networks of functional products where costs are an important competitive priority are characterized by a mostly transactional and contract-based buyer-supplier relationship. For high complexity networks of innovative products, the relationships between buyer and supplier will be more intensive since more communication is needed on new innovations and product changes for example. For important suppliers in this network type joint ventures or even acquisition can be good strategies.

Characteristics	Supplier networks of innovative and unique products	Supplier networks of functional products
High complexity	*Competitive priority*: speed and flexibility, innovation, quality supremacy *Sharing of resources and information*: large amounts of nonstrategic information enabled by IT - problematic when involving sensitive information and knowledge.	*Competitive priority*: cost reduction, quality sustainability, service *Sharing of resources and information*: large amounts of nonstrategic information enabled by IT - generally unproblematic: may include cost breakdowns and strategic knowledge
Low complexity	*Competitive priority*: speed and flexibility, innovation, quality supremacy *Sharing of resources and information*: problematic exchange of sensitive information and knowledge - IT less critical	*Competitive priority*: cost (by high volume production), service *Sharing of resources and information*: generally unproblematic - may include cost and strategic knowledge - IT less critical

TABLE 4.1: classification of supplier networks, Lamming et al. (2000)

Important aspects in supplier networks are the interdependencies and the cross-over effects (Roseira et al., 2010). Within networks there are interdependencies between the suppliers. Suppliers supplying the same product for example are interdependent: when one supplier comes up with a new resource or new innovation to facilitate higher quality products, this has an impact on the position of the other suppliers. This influences the decision to single or dual source certain parts as was described in section 2.5.1. The interdependencies can have either high intensity effects or low intensity effects (Roseira et al., 2010). High intensity effects occur between suppliers that belong to the same specialization group, while low intensity effects occur between suppliers of different groups (figure 4.5).

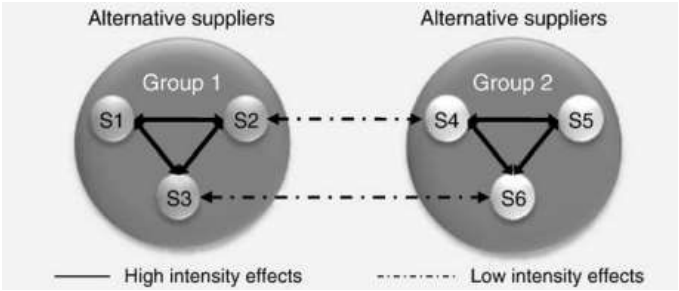

FIGURE 4.5: Intensity effects within and between specialization groups of the supply base, Roseira, Brito and Henneberg, (2010)

In example 4.2, a case is defined to describe how an innovative machinery production company manages its supplier network.

4.2 Case Study: The supplier network of Agrifac

Agrifac is a company that produces large and customized agricultural machines. Every end product is different, which means that the raw materials needed vary per ordered product. Although all products are customized, *Agrifac* is able to ensure a lead time for the customer of around 6 weeks. In comparison, competitors promise a lead time of 3 to 6 months for the same kind of products. The key to this important characteristic of *Agrifac* is supplier management.

Agrifac has divided all its suppliers according to the Kraljic-matrix. Based on this matrix *Agrifac* uses different strategies for different suppliers. For *Agrifac*, cooperation between suppliers is very important. So called milk-runs are used to pick up materials at different suppliers in one transport. These transports are also used to transport materials from supplier to supplier, which means that there is cooperation in terms of logistics between the supplier networks. Lower transportation costs for all companies involved is the main benefit here.

A key in the supplier development process are the supplier days. All suppliers are invited to the production facility of *Agrifac* where current problems, recent trends and improvements can be discussed with all suppliers involved. By doing this, suppliers and *Agrifac* can learn from each other and suppliers are stimulated to work together. The relationships between the networks are more important to ensure improvements than all dyadic relationships between *Agrifac* and the separate suppliers. Also new innovations get diffused faster in this way. This means the supplier management is not only restricted to the relation between *Agrifac* and its suppliers, but has to be seen broader: as the relation between *Agrifac* and its supplier network. The goal is to create a supplier network with a continuous improvement focus.

Source: Joël Zwart, one of the authors of this chapter, has experienced this case example during an internship at Agrifac in 2015.

From the example can be derived that communication with suppliers is very important and that benefits can obtained if the supplier network is brought together and motivated to cooperate. *Agrifac* and its suppliers get serious benefits from this cooperation, not only techniques can be interchanged but also information can be shared and there can be cooperated in terms of transportation within the network. The supplier network of *Agrifac* can be characterized as a complex network for innovative products. As speed, flexibility, innovation and quality are of high importance in such networks, cooperation is important to ensure this flexibility and speed in terms of low lead times. An important issue described in the *Agrifac* case is the supplier days to stimulate suppliers to change. By the supplier days organized by *Agrifac*, suppliers are always up to date and also know the current situation at other suppliers.

Next to different levels of relationships also different types can be determined. The next paragraph will elaborate further on the types of relationships between buyers and suppliers.

4.2.3 Portfolio Model of Relationships (Bensaou)

In order to determine the type of relationship that is applicable for different types of suppliers and the products of services they deliver, portfolio models can be used. Before 1997, the use of portfolio models in buyer-supplier relationship management was limited (Olsen & Ellram, 1997). However, since then, portfolios in relationship management have been addressed by several authors (Bensaou, 1999; Gelderman & van Weele, 2002). In order to go more in-depth into buyer-supplier portfolio models, it is useful to formulate a concrete definition. Wagner and Johnson (2004, p.717) provide a clear and concrete definition of the matter: […**supplier portfolio management**], "the management of an array of supplier relationships, each having various characteristics and each serving the firm in different ways". The implementation of portfolio management in supplier relationships can be advantageous, as the supplier can have a significant impact on a firm's competitive position (Wagner and Johnson, 2004).

One of the best known examples of such a portfolio model is presented by Bensaou (1999). As can be seen from figure 4.6, Bensaou distinguishes between the specificity of buyer investments, and the specificity of the supplier's' investments. These specific investments mean that value can be lost when the same investment is made with a different buyer or supplier due to for example complexity, or asset specificity. The first relationship described by the model is the 'captive buyer'. As its name suggests, the buyer is in a way held captive by the supplier, who can easily switch to another buyer due to the low specificity of investments. In case there is low buyer specific investment, and high supplier specific investment, it is the other way around. The buyer is now holding the supplier captive. In case both supplier- and buyer specific investments are low, there is a market exchange. Both the buyer and the supplier can easily switch in this case. The last relation that the model describes, is the strategic partnership. Both specific investments are high, indicating high asset specificity and complexity.

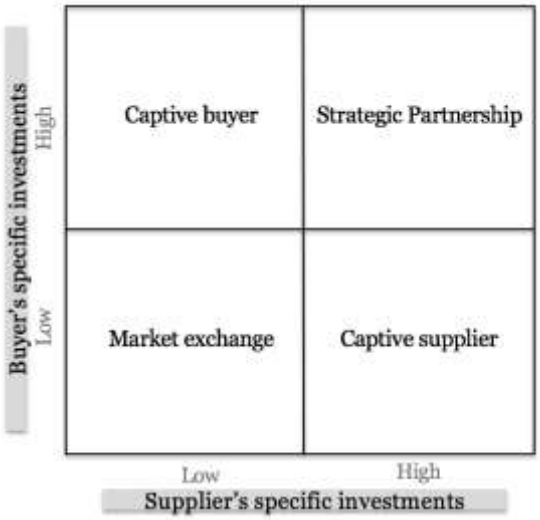

FIGURE 4.6: Portfolio Model of Relationships, Bensaou (1999)

Nellore and Söderquist (2000) note several similarities between Bensaou's model and the Kraljic matrix as presented in section 2.4.1. The market exchange items can be compared

to the non-critical items and the strategic partnership will be applicable in case there are strategic items. The two remaining relationships are more difficult to attribute to a certain purchasing category. Items that are purchased in a captive buyer relationship can correspond to leverage items due to their high strategic importance (which can mean high investments), but Bensaou argues that in particular car manufacturers are heavily dependent on their suppliers, which would classify it as a bottleneck item (Nellore and Söderquist, 2000). In a captive supplier relationship, items can belong to the bottleneck category due to their low strategic importance (which can mean low investments), even though Bensaou argues that the bargaining power of suppliers in a captive supplier relationship is low, which can be attributed to leverage items (Nellore and Söderquist, 2000).

As can be imagined, all mentioned relations bring different threats and opportunities. The ways in which these portfolios are managed are represented in figure 4.7. According to Bensaou, a successful relationship is constructed by first selecting the type of relation to match external and internal conditions such as the market, and technology. Then, the management profile for the selected type of relation has to be identified. Finally, this relationship has to match the management profile that has been selected (Bensaou, 1999).

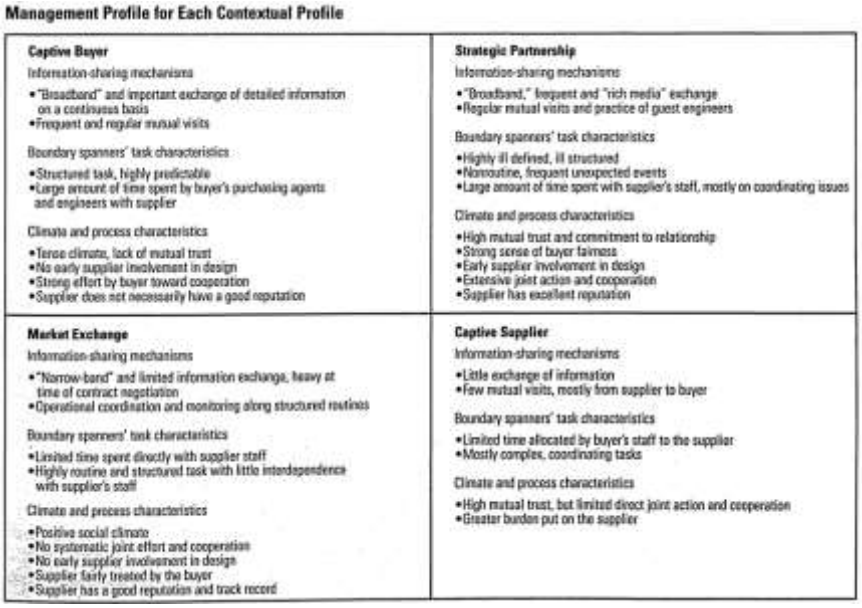

FIGURE 4.7: Management Profile for Each Contextual Profile, Bensaou (1999)

Even though Bensaou's model has been widely used, Nellore and Söderquist (2000) mention the importance of using several approaches when analyzing buyer-supplier relationships. In addition, Wagner and Johnson (2004) recognize that portfolio models constantly need to change. Environments are becoming more turbulent, technology is rapidly changing, and there is an increasing globalization. Therefore, it is necessary to review the way in which there is thought about buyer-supplier relationship portfolios. The way in which the organizational environment is changing also provides opportunities with respect to the relationship portfolios. The internet presents possibilities with respect to for example data collection, communication, integration etc. (Wagner and Johnson, 2004). In example 4.3 a case

of *Agrifac* is used to describe how a company producing innovative products deals with its captive suppliers that have to make high investments to supply *Agrifac*.

4.3 Case study: The captive suppliers of *Agrifac*

Captive suppliers can be characterized by high supplier investments, and low buyer investments. As can be seen in figure 4.7, trust is very important in these types of relations. *Agrifac* produces complex agricultural machines, but most of the specialized work is outsourced to suppliers because *Agrifac* does not see the production as a key competence. "The world needs more and more food" is their vision, and they design and assemble machines to accomplish this vision. The strategy of *Agrifac* is to design machines that are better than the machines of competitors and to deliver these machines faster than competitors.

Since most of the production is specialized, high investments are needed for the production of the parts for the final assembly. Suppliers have to make high investments for the production of these parts, and *Agrifac* has to trust the suppliers that they will deliver the right materials in time for the final assembly of the product. On the other hand, the suppliers have to trust *Agrifac* that they will keep on buying the parts, so the investments can be recouped.

Most of these suppliers are dependent on *Agrifac* since a large part of their work is for *Agrifac*. On the other hand, there are not a lot of suppliers able to produce the specialized materials since high investments are needed beforehand, which means *Agrifac* is also dependent on the suppliers because not a lot of alternatives are available. This means in cases of captive suppliers, the parties involved are highly dependent on each other due to the high investments made by the supplier.

If a company like *Agrifac* would like to switch supplier, it has to extensively overthink this decision and have another new supplier available that is willing to make the high investments needed when making this switching decision. Another important aspect in this decision is the fact that all specialized knowledge is at the supplier and so the supplier has some extra power here.

Source: Joël Zwart, one of the authors of this chapter, has experienced this case example during an internship at Agrifac in 2015.

As can be learned from the example in the case of captive suppliers, the buyer and the supplier are highly dependent on each other. The supplier has made high investments and so is dependent on the buyer to gain the investment costs back by supplying products to the buyer. On the other hand, the buyer is dependent on the supplier, because this supplier made high investments and so there are not many alternative suppliers available to supply the same products. The relationship will for this reason be intensive in such cases.

Since a relationship between a buyer and a supplier lasts for a certain time it has also different phases, this will be explained in the next part of the chapter.

4.2.4 The Relationship Life-Cycle

It is often assumed that the length of a relationship between a buyer and a supplier is a direct antecedent of performance. However, according to Wagner (2011), the effectiveness of a

buying firm's supplier development activities is moderated by the so-called relationship life-cycle. This life-cycle consists of the three phases: "initiation", "maturity" and "decline". This paragraph will shortly explain the three different phases of a buyer-supplier relationship, however, the next paragraph "Supplier development" will investigate in depth which possibilities the buying firm has to develop a successful relationship with its supplier. According to Wagner, for supplier development to be successful, an established and partnership-like buyer-supplier relationship is required. In the initiation phase, the buyer and supplier develop relation-specific routines so that they are better able to engage in supplier development activities. However, when a buyer–supplier relationship is in the decline phase, because e.g. both parties have disagreements about the collaboration, the buyer and the supplier will engage less in relation-specific routine and reduce relation-specific investments (Wagner, 2011). Therefore, for the buying firm it is crucial to assess the status of the buyer-supplier relationship and to pay attention to the fact that direct supplier development (e.g. training, consulting) and indirect supplier development (e.g. evaluation, feedback) are important at different stages in the relationship life-cycle. In the initiation stage of a buyer-supplier relationship, the buying firm should consider indirect supplier development, but as soon as the maturity stage is reached, direct development should be applied. However, in declining buyer–supplier relationships, the buying firm should gradually move from direct to indirect development activities (Wagner, 2011). The supplier involvement and performance improvements of buying firms are closely linked to the social capital that both parties develop in their relationship. The theory of Social Capital will be discussed later in this chapter. The next paragraph investigates the buying firms' opportunities to develop a successful relationship with its supplier.

4.2.5 Supplier development

Once a supplier is contracted by a company to supply materials or services, **supplier development** can take place. Supplier development is an important aspect of supplier management (Hahn et al., 1990). Supplier development can be defined as the processes to improve the performance of a supplier and to increase the capabilities of the supply base to ensure improvement on the selection criteria of the goods and services supplied by these suppliers (Krause et al., 1998). To determine improvements at suppliers, the same criteria can be used as the criteria for selection and evaluation. If a supplier scores below standards on a specific criterion, supplier development can be used to improve the performance of the supplier on this criterion. In figure 4.8 on the next page, the supplier development process can be seen step by step.

After selecting suppliers for development, communication with the supplier is very important since the supplier has to be convinced to invest in the improvements (Krause et al., 1998). Communication can be seen as one component of direct supplier development (see paragraph "The Relationship Life-Cycle"). After the supplier is convinced, the areas to improve and the ideas on how to improve this can be developed. When the improvements are agreed upon, cooperation between the supplier and the buyer to make the improvements happen is important. The supplier needs to get help of the buyer (Krause et al., 1998). After the results of the improvements are recognized the cycle starts over again.

Naturally, the goal is that both suppliers and the company itself benefit from the energy that is put into it. From the process in figure 4.8, it can be derived that issues to focus on in supplier development can both come from critical commodities or critical suppliers that were identified. The framework can be seen as a stepwise approach for companies to improve the performance of their suppliers. Improving the supplier can basically be divided into three aspects: Information integration, inventory and logistics integration, and cooperation in product development (Prajogo and Olhager, 2012; Hsuan, 1999).

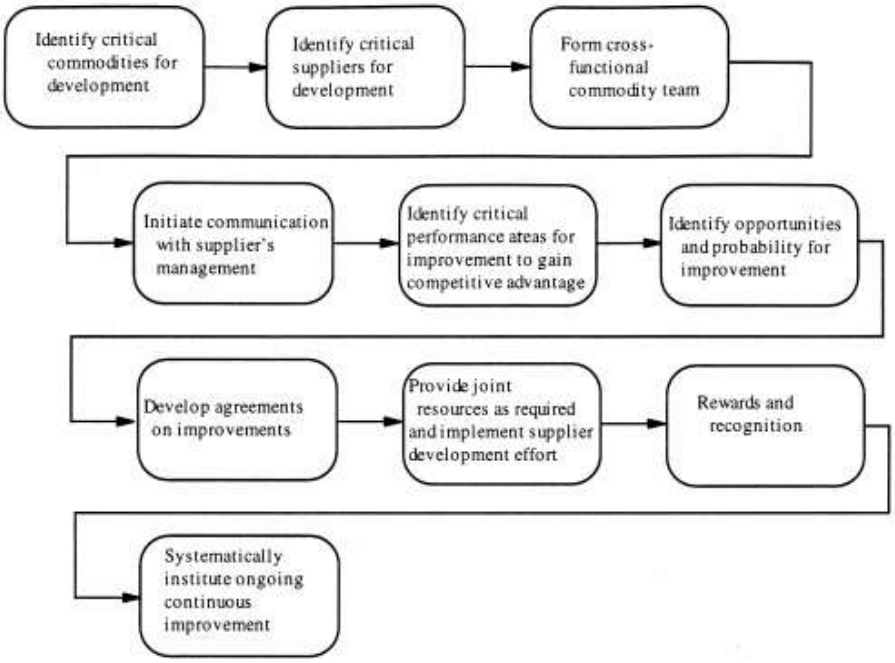

FIGURE 4.8: Supplier development process (Krause, Handfield and Scannell, 1998)

A first important improvement for all suppliers is information integration (direct supplier development) with suppliers (Prajogo and Olhager, 2012). Information integration should take place with suppliers that need more and frequent information (Prajogo and Olhager, 2012). According to the study of Prajogo and Olhager (2012), information integration, consisting of information technology and clear information sharing, leads to a higher performance of the firm and the supplier that was involved. It can be imagined that for all suppliers, information is important to make sure the right product or service is delivered.

A second aspect in supplier development is inventory and logistics integration (Prajogo and Olhager, 2012). This is also a component of direct supplier development. Order quantity reductions, more frequent deliveries and vendor managed inventory are three main focuses in inventory and logistics integration. This should give mutual benefits to both the suppliers involved and the company buying the products from the supplier.

Thirdly, also cooperation in product development is important (Hsuan, 1999). This can be implemented in form of trainings or consulting (direct supplier development). In many industries, suppliers are performing a large amount of the production, so it is important to involve them in the development of products. Next to cooperation on the product development

like the materials selection, the production process selection and the product characteristics also modularization is important (van Hoek and Weken, 1998). Modularization leads to more similarities between products, thereby facilitating the production (van Hoek and Weken, 1998).

As already discussed there are different levels and types of relationships between buyers and suppliers. The relationship between a buyer and a supplier can be influenced by both the buyer and the supplier, but there are also other conditions that can influence the relationship between the buyer and the supplier. These conditions will be discussed in the next paragraph.

4.2.6 Important conditions of Supplier Relationship Management

According to previous research, there are many factors that influence the relationship between a buyer and a supplier. On the one side, it is highly important to elucidate why a lucrative relationship between the buying firm and its supplier can be beneficial for both parties. Leveraging resources and achieving operational and strategic benefits, are only two of many advantages that can arise from such a relationship (Villena et al., 2010). On the other side, it is also crucial to investigate the dark site of a strong relationship between the buying firm and the supplier. For both parties, the buyer and the supplier, it is crucial to be aware of the fact that there also might be negative aspects in a strong relationship. The purpose of this subchapter is to examine the factors that may influence the development of a strong buyer-supplier relationship and to discuss both the positive and the negative side of these performance indicators.

According to Powers et al. (2007), companies can engage in a competitive advantage through a successful buyer-seller relationship. With regard to the different types of relationships that have already been mentioned in the introduction of this chapter, here, it is highly important to remark that the following elements can lead to a cooperative (relational) buyer-supplier relationship. Amongst others, the following enablers for a lucrative buyer-supplier relationship are to be investigated: Elements embedded in the Social Capital Theory, such as common goals, shared vision, trust, respect, information sharing and the element interdependence.

When a buyer is very satisfied in the relationship with its supplier, he might be opposed to the risk of disregarding other suppliers, even though a relationship with another supplier would maybe be more beneficial. Managers should be aware of the fact that building a strong buyer-supplier relationship can also have counterproductive outcomes. According to Villena et al. (2010), the accumulation of Social Capital improves performance up to a point where increasing risks and costs offset the benefits and that beyond this point buyer performance declines.

Social Capital Theory

For the investigation of important elements in a buyer-supplier relationship, the theory of Social Capital has become increasingly popular (Adler and Kwon, 2002). In general, **Social Capital** is defined as “a valuable asset that stems from access to resources made available through social relationships” (Villena et al., 2010, p. 562). According to Nahipiet and Ghoshal (1998), the theory can be distinguished in three dimensions: “Cognitive Social Capital”, “Relational Social Capital” and “Structural Social Capital”. Much literature (e.g. Krause, Handfield et al., 2007)

investigates the Social Capital Theory in a broader perspective as often the focus is on the general network of a company, rather than the direct relationship between a buyer and a supplier. However, Villena et al. (2010) investigated that Social Capital can be seen as a paradox term as it can improve the importance of both the buyer and the supplier, but it also can hurt the performance. The following paragraph applies the dimensions of this theory particularly on the buyer-supplier relationship. It is to be investigated if and how they contribute to the overall performance of both the buying firm and the supplier.

Cognitive Social Capital

The first dimension Cognitive Social Capital not only refers to a shared vision between the buyer and the supplier, but Inkpen and Tsang (2005) also put an emphasis to a shared culture and consistent goals within this dimension. This theory is particularly important in the initial phase of a buyer's relationship with its supplier. The reason why the consideration of this theory is crucial in the first phase of the Relationship Life Cycle is that normally elements such as common goals are agreed in the beginning of a relationship. However, they can certainly still develop during the maturity phase. According to a research study of Krause et al. (2007), shared values and common goals between a buyer and a supplier can improve the buyer's performance in terms of cost, quality, delivery and flexibility. However, both parties are exposed to the risk of losing some objectivity about their alliance. When establishing goals in the very beginning of a relationship, the buyer and the supplier might want to hold on to their objectives as both parties worked hard to achieve these goals. This leads to the risk of losing objectivity and wasting resources (Villena et al., 2010). Therefore, it is highly important that supply chain managers have a good understanding of how common goals and shared values with their suppliers help their company to create value in the short- and long-run (Krause et al., 2007).

Relational Social Capital

Just as the two other dimensions, the second dimension, Relational Social Capital, also has the overall goal to build a strong relationship. However, this aspect contains elements such as trust, obligations, respect and friendship (Villena et al., 2010). Hence, this dimension focuses on the strength of a relationship which is built up over time. The element Relational Social Capital consists of several characteristics, however, for this purpose only the following two are investigated as they might have the most meaningful impact on a buyer-supplier relationship: Buyer commitment and trust. Already in the year 1992, Heide and Miner determined that the commitment that the buyer has to his supplier is often characterized by the length of their relationship (Avery, 2010). According to Krause et al. (2007), buyer commitment to the supplier improves the buyer performance in terms of cost, quality, delivery and flexibility. Hence, commitment between the two companies is an important complementary condition for establishing performance goals, moreover, it provides value to buying firms that seek social capital accumulation with their suppliers. One can easily imagine that trust also plays a fundamental role in a buyer-supplier relationship. For instance, a buyer has to trust his supplier regarding the quality of delivery. Trust between the two companies' increases as the length of the relationship increases (Krause et al., 2007). Through repeated interactions, the firms appear to develop trust in each other in such a way that they may no longer need to rely on formal

contacts to ensure performance (Venkatraman et al, 1995). Nevertheless, Relational Social Capital can also have a dark side. Obviously, when a buyer is very satisfied in the relationship with its supplier and both developed deep trust in each other, the buyer might be opposed to the risk that he does not look anymore for other suppliers, even though a relationship with another supplier would maybe be even more efficient. Managers should be aware of the fact that buyer commitment and trust are very important elements for a strong relationship, nevertheless they should know that building a strong buyer-supplier relationship can also have counterproductive outcomes.

Structural Social Capital

As the name of the third dimension Structural Social Capital already implies, the focus of attention is on the perspective of social ties within a buyer-supplier network. In particular, this refers to the existence of connections and the resulting potential of gaining access to valuable information (Villena et al., 2010). The Structural Social Capital dimension describes the network in which both the buyer and the supplier are in. For this dimension it is highly relevant how strong the ties between the two parties are and how intensively they are trying to keep up their relationship, e.g. with monthly meetings (Bolino et al., 2002). Information sharing plays a crucial role in this dimension. For a collaborative buyer-supplier relationship, it is inevitable that all kinds of information are communicated and shared freely. Only when both parties pay attention to this importance, process efficiency and a trustful relationship can be guaranteed.

These three dimensions are highly related to each other. As can be imagined, a buyer-supplier business that already has been continuing for a long time, strengthens the network ties (Structural Social Capital), but also has an impact on the relational aspect as elements such as trust and respect can be developed (Relational Social Capital). According to Villena et al. (2010), the accumulation of Social Capital improves performance up to a point where increasing risks and costs offset the benefits and that beyond this point buyer performance declines. Therefore, for the short- and the long-term success of a company, it is crucial that managers know that building a strong buyer-supplier relationship can have a lot of positive results, but also counterproductive outcomes.

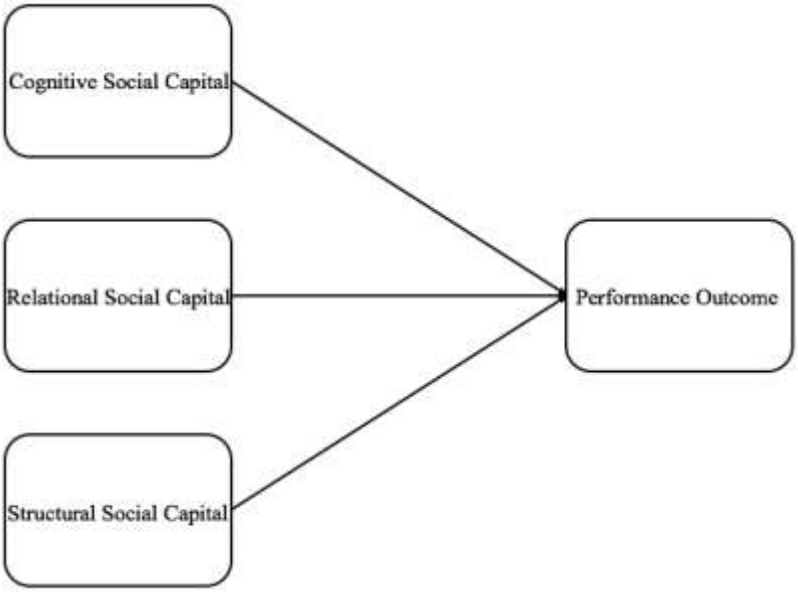

FIGURE 4.9: Social Capital Model, Avery (2010)

Interdependence and Power

Interdependence and power are not directly linked to the Social Capital Theory, however, they will also be investigated as they are generally considered to be important concepts for building a strong buyer-supplier relationship. Powers et al. (2007, p. 1236) define **power** as "the ability of one partner to have an advantage over the other and it can allow one partner to coerce the other into doing something they otherwise may not do". For a successful long-term relationship, this does not sound like an appropriate basis, because as soon as one partner feels the situation is not fair, the relationship will begin to come apart (Powers et al., 2007). In summary, it can be emphasized that both parties should be interdependent of each other – otherwise they would not be in need of a relationship – but power of one party over another will not result in a successful buyer-supplier relationship in the long run.

As discussed in the introduction also contract management is an important part of supplier relationship management that takes place after the supplier selection. After the selection of the supplier, the relationship can be managed by contracts. From the supply base, suppliers can be chosen to supply the buyer of products. As shown in figure 4.1, contract management becomes important from here on. Its importance and components will be discussed in the next subchapter.

4.3 Contract Management

This chapter will focus on the relation between contract management and SRM. To manage a contract, Trent (2007, p.135) discussed **contract management** which can be defined as "an active process which will start in the contracting phase when the formal agreements will be aligned". A discussion among professionals in this field is about managing relationships rather than contracts. Contracts can be used for the alignment of objectives among supply chain members and reduce inefficiencies within the supply chain (Sluis and De Giovanni, 2016). In

this chapter, first the types of contracts will be discussed, after which the effect of contracts on SRM will be explained.

The literature of contract management in relation to supplier management is not widely developed in a strategic aspect. However, the level of outsourcing within companies is increasing (Van Iwaarden and van der Valk, 2013). Contract management can be considered to become more important when outsourcing activities are increasing. Outsourcing is defined as the process of transferring semi-finished products from a supplier to the focal company, finished products obtained from outside the company or services obtained from outside the company. Traditionally these products or services are performed internally. (Dolgui and Proth, 2013; Roberts, 2001; Jacobs and Chase, 2010). This increasing level of outsourcing results in an increasing level of transfers between companies. These transfers can be controlled by using contracts to ensure the quality and behavior of the supplier (Van der Valk and Van Iwaarden, 2011; Roberts, 2001). These contracts can be evaluated to test the performance (Heide, Wathne and Rokkan, 2007). On the other hand, SRM can control the transactions between buyer and supplier as discussed earlier in this chapter.

A **contract** is defined by Rendon (2015) as a mutual commitment between a principal and an agent. A commitment can be developing or delivering a product or a service. After the development of the contracts, the second phase is to monitor and manage the agreements. According to van Weele (2014) the purchasing process in separated in the contracting phase and the contract management phase. In the first phase specification, selection and contract activities are involved. After the contracting phase, the contract management phase will start: the company will buy the products or services (order), expedite these orders and evaluate the process (figure 4.10). Literature about contract management agrees that the process starts with managing efficient and systematically during the contract creation. After this process, the execution starts and this execution will be analyzed in the monitoring phase. This framework, developed by Van Weele (2014) and supported by Trent (2007) will be the basis when contract management is discussed. In the introduction, the model of Van Weele (2014), adapted by *Benefit* (2015), has been discussed. *Benefit*'s model is connecting the strategic purchasing process to SRM in the last three links. Despite of this connection made by *Benefit* (2015), the original model has been used in this chapter because of its distinction between the contracting phase and contract management phase. In the adapted Van Weele (2014) model by *Benefit* (2015) evaluating is replaced by 'follow-up' to make it a more "ongoing process" (Mr. F. Huitema, March 15, 2016).

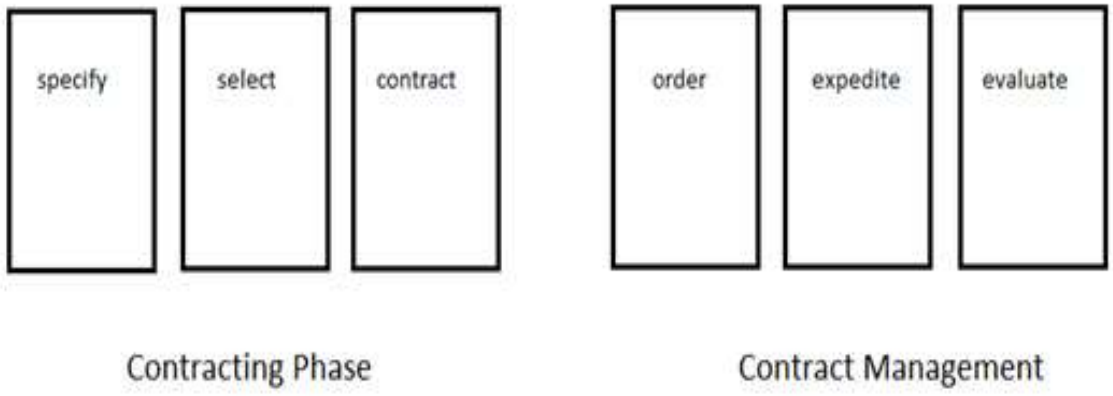

FIGURE 4.10: The six stages in the purchasing process, Van Weele (2014)

In the following section, the types of contracts used will be discussed. As mentioned, contracts are used to coordinate objectives between partners. First, the different types of contracts will be discussed and after that the effect of contracts on SRM will be elaborated on.

4.3.1 Influence of contracts on Supplier Relationship Management

The types of contract can influence the relationship with the supplier. The **agency theory** is an interesting and relevant theory concerning alignment problems between the principal and agent in outsourcing literature and is commonly used (Eisenhardt, 1989; Van der Valk et al., 2011). For example, the supplier wants to make a high profit while the buyer wants to ensure its quality standard for a competitive price: the agent (supplier) has to act in the best interest for its principal (buyer), the agent can become opportunistic (Van der Valk et al., 2011), which can jeopardize the quality standards of the principal. The principal can be affected by the decisions made by the agent, partly because of bounded rationality (Eisenhardt, 1989). According to Wright et al. (2001) the success of the principal may not be maximized because both parties have different views towards risks and goals. Companies are outsourcing a significant amount of activities and beside of the misalignments between goals and risks information asymmetry occurs while doing business. This information asymmetry occurs because the supplier can be seen as the expert which has more information about the product than the more distant buyer has (Eisenhardt, 1989). Miller and Sardais (2011) stated that the information asymmetry can be seen as the basis for opportunistic behavior. When the buyer has for example no control in the process of producing, quality standards will decrease due a) opportunistic behavior, b) different views on risks or c) a misalignment in goals. In table 4.2 an overview of the agency theory is given.

Definition	Misalignment between the interests of the principal and the agent which can affect the performance because of partly different goals and risk preferences
Unit of analysis	Contract between principal and agent
Sources of problem	Different goals and risk preferences, information asymmetry, self-interest, bounded rationality

TABLE 4.2: an overview of the agency theory, Eisenhardt (1989); Van der Valk et al. (2011); Miller et al. (2011)

Because of these misalignments, contracting and trust are highly important topics in SRM as mentioned in the paragraph "Social Capital Theory". Trust starts to be an issue when a party has the confidence in his exchange partner's reliability and integrity (Camén et al., 2011; Krause et al., 2007). During the contract period, the mutual trust will increase when the parties gain knowledge about their counterparts. However, in the initial phase the level of trust is significantly lower. Contracts are considered to be a form of control to protect companies against uncertainty. The transaction costs theory can be considered as a related theory (Heide et al., 2007), which suggests that controlling/monitoring serves as a control mechanism that decreases opportunistic behavior of the supplier. Self-interest can be a real risk when contracting parties start a relationship (Harmon et al., 2015). According to Whipple and Roh (2010), it is important that the supplier understands the problems of the buyer when receiving products of bad quality.

Misalignments can occur as explained in the agency theory. When a company wants to control the agency problem, a contract has to fit with the goals of the company. In the next chapters, several contract types will be discussed and the evaluation of the contracts will be investigated.

4.3.2 Types of contract

In order to understand the relation between SRM and contracting, it first has to be investigated whether or not the contract influences the buyer-supplier relationship. Van Weele (2014) stated that contracts are part of the contracting phase and no transactions are done before or during this phase. Contracts can be divided in traditional contracts and performance based contracts (Gajurel, 2014).

Traditional contracts

Traditional contracts can be defined as contracts that are based on the input of the buyer (Gajurel, 2014). The buyer will specify his requirements and the desired process, techniques, procedures and materials. The payment to the contractor is based on input, for example unit prices or completion of the project. Traditional contracts are characterized on the input base instead of its output base as in performance based contracting (Gajurel, 2014). A distinction can be made within traditional contracts in terms of length as can be seen in table 4.3. In this table, a framework is given based on which factors organizations are considering long-term or short-term relations.

	Long-term contracts	Short-term contracts
Flexibility – How flexible is the buyer to switch between contracts or requirements?	Long-term contracts are characterized by a lower degree of flexibility. The flexibility of changing between suppliers is low because the buyer is locked within its long-term contract. Long-term contracts are feasible in a stable environment	Short-term contracts are characterized by its higher degree of flexibility. Changing between suppliers can be considered as easier because of the shorter term of the contracts. It is more feasible with short term of the contracts to change to a new innovation in a constantly changing environment.
Investment – From buyers' perspective	Investments with long-term contracts are high, especially in the initial phase. Negotiations are time-consuming and a trust base has to be developed	The investments related to contracts with a short term are significantly lower (near-zero investments). The reason for this significant lower investment can be explained by its less time-consuming negotiations in the initial phase.
Changing environment – Is the buyer involved in a constantly changing environment or in a stable environment?	Long-term contracts are feasible in a stable environment with stable prices. Long-term contracts are a form of certainty and stability.	Short-term contracts are more feasible in a dynamic environment. With regard to the prices, the flexibility of the short-term contracts will result in paying market prices for the buyer. Known as the market price uncertainty.
Relationship – Intensity of relationship	With long-term contracts relationships are more intense. The contact between buyer and supplier is more frequent and partly based on trust. The codifiability of results is higher (figure 4.3).	With the short-term contracts the relationship between the buyer and supplier is less intense compared to the long-term contracts. With the smaller amount of transactions the codifiability is lower which results in an extensive use of contracts (figure 4.3).
Learning – Are the partners learning during the process?	Due the longer relationships, learning during these relationships is higher (known as the learning-curve).	Learning is lower, contracts are mainly focused on the desired outcome according to the contracts.

TABLE 4.3: the differences between short- and long-term contracts (Cohen and Agrawal, 1999; Kleindorfer and Wu, 2003)

In example 4.4, a case of a company in the food processing industry is described to show how companies in this industry use contracts for the purchasing of natural raw materials.

4.4 Case Study: Contract management in the food processing industry

LambWeston is a multinational company that produces deep fried products made of potatoes. Potatoes are off course the main raw material that needs to be purchased. Since potatoes are a natural raw material, the quality and the amount of potatoes harvested varies per year. *LambWeston* itself is a supplier of many stores and restaurants. The buyers of *LambWeston* have contracts with *LambWeston* on the amount of products that need to be shipped to these customers every time period.

Because *LambWeston* wants to ensure it has enough raw materials and does not have to pay a too high price for the raw material, it has contracts with the farmers that supply the potatoes. Since the amount of harvested potatoes varies per year, the amount of potatoes in the contract is always lower than the expected amount that will be harvested by the farmer. For the amount of potatoes in the contract, the farmer gets a fixed price that is already predetermined. The other part of the contract is flexible. If the amount of harvested potatoes is higher, the farmer can decide to sell these potatoes also to *LambWeston* for the market price at that moment, or sell these potatoes to other buyers.

The total amount of potatoes that is bought via a contract is around 80%, which means 20% is bought for the current market price. This decision is a strategic decision: Quality is very important for *LambWeston* and its buyers. When buying potatoes in contracts, it is already known what potatoes will be bought, and so the quality of these potatoes can be tracked and adaptations can be made if needed. Also the farmers can be stimulated to use specific types of fertilizers for example. When buying potatoes on the free market, the quality cannot be controlled during the growing season of the potatoes. This means, the contract management of *LambWeston* is highly dependent on the company strategy.

Source: Joël Zwart, one of the authors of this chapter, has experienced this case example during an internship at LambWeston in 2013.

As can be seen in the case, *LambWeston* uses two types of contracts: fixed price and quantity and flexible price and quantity. This decision is related to the overall company strategy to ensure high quality products for the final customers. Purchasing and contract management are highly related to the overall company strategy in this case.

Leasing

Another form of contracting is leasing. According to the guest lecture of *Mr. Hans Bax* of the *UMCG Groningen*, leasing can prove to provide advantageous outcomes. In the case of the *UMCG Groningen* the main advantage was the possibility of working with the newest technology in a highly competitive market without high initial costs. Companies that are producing with heavy and specialized machines need a lot of financial resources to fund initial investments. Especially for less capital intensive companies, leasing can be an advantage. **Leasing contracts** can be defined as contracts where a periodically fee is paid to make use of the equipment (Koller, Goedhart and Wessels, 2010). Despite of the financial reasons, the

flexibility is high as well. In a dynamic environment with a high degree of innovations, companies are more competitive with more efficient and sophisticated machinery. Leasing will enable these companies to change their equipment when there is a new status quo of techniques on the market. Leasing contracts are contracts with a long-run while having the flexibility of a short-term contract (Koller et al., 2010)?

Performance based contracts

Performance based contracts can be defined as contracts that are based on the performance outcomes instead of directing the supplier how to achieve the desired effect with the specified inputs (like with traditional contracting). Payments are explicitly linked to the supplier successful meeting the performance. Performance based contracts are based on the performance, not on how to achieve that specific performance (Gajurel, 2014). This will give freedom to the supplier on how to achieve the specified objectives. It will enable innovation in the production process because the supplier is not focused on the 'how' of producing it but the 'what'. Because the contractor is not locked within the specified requirement of the buyer, it can produce with lower costs. It will give a lot of responsibilities to the contractor in relation to quality standards. The contracts are defined with performance criteria and not fulfilling the requirements can lead to (financial) penalties (Gajurel, 2014). According to Gajurel (2014) the use of traditional contracts is more suitable when a buyer wants more control during the procurement process while performance based contracts are more suitable when the buyer is only focusing on the outcome. In table 4.4 advantages and disadvantages of performance based contracts are summarized.

Other contracts

The contracts mentioned in this book are general points of view. However, Sluis et al. (2016) mentioned more specific contracts (Revenue sharing, wholesale price contract, quantity discount contract, quantity flexibility contract, buy-back contract and sales rebate contract) that will not be discussed in this book. A more generic view of traditional- versus performance based contracts is chosen. This enables a more in-depth investigation.

Advantages	Disadvantages
More innovation	More costly procurement process (e.g. longer)
Potential reduction in costs (e.g. economies of scale)	Not suitable in every project
Sharing risk with supplier	Less control during the process
Accountability and output are clear	

TABLE 4.4: Advantages and Disadvantages of performance based contracts (Gajurel, 2014)

4.3.3 Evaluating and control

According to the agency theory, the principal and agent have different objectives in a relationship (Eisenhardt, 1989). **Evaluation** can be defined as measuring the performance of another party (Heide et al., 2007). Contracts can help to protect the company against uncertainty during the transactions between buyer and supplier (Harmon et al., 2015). Van der Valk et al. (2011) highlighted the importance of evaluating contracts since it affects the quality. Evaluating contracts in a purchasing process has been assigned to the last step of contract management in a purchasing process by Van Weele (2014). To determine whether a project is successful, metrics are needed to measure the performance. These metrics can be outcome-based control or behavior-based control (Eisenhardt, 1985). Key performance indicators (KPIs) are quantifiable metrics which can help to evaluate the performance (Baltzan, 2012). If goals are clearly stated, the measurability becomes more convenient because during the evaluation, KPIs can be used. Alternatively, measuring behavior is often related to poorly identified goals which makes it hard to evaluate (Eisenhardt, 1985).

Evaluating has several functions. According to De Bruijn (2002) evaluating has the following functions: transparency, learning, appraising and sanctioning. He stated that benchmarking is a useful tool to analyze the development related to his found functions. Without making it to operational De Bruijn (2002) concluded that monitoring can make the organization more manageable and transparent because the organization analyses its own performance as well as the supplier's performance. Evaluating will enhance the organization to learn from itself by the use of collected data in the monitoring process. When analyzing this data, the organization can find where it is performing well and where it has to improve according to the stated goals (which can be measured by KPIs). Another strategic benefit of analyzing and evaluating is the accountability towards the suppliers because the organizations exactly know after its evaluation which departments and products had a poor performance. These suppliers are partly responsible for the delivered performance. An advantage of this accountability is that the focal company has the knowledge of the bad outcome and can cooperate with the supplier to improve the collaboration (Girth, 2014).

4.4 Summary

In the pursuit of a deeper understanding of the management of supplier relationships, several topics have been addressed. It has been shown how the selection and the evaluation of the suppliers using several selection criteria serve as a basis for the relationship management process. From there, the typification and the portfolio approach have given insight in different sorts of relations and their classification. After the relationship life-cycle has shown the way in which relationships in different stages of this cycle are to be approached, the analysis of the supplier development investigated how information integration, inventory and logistics integration, and cooperation in development can improve supplier performance. Cognitive-, Relational- and Structural Social Capital have been used in order to examine the conditions that affect the development of buyer-supplier relationships. As the overarching theme, SRM in the purchasing process (figure 4.1) has been analyzed in-depth, contract management and its different element were discussed.

After the brief introduction of contracts, their relation to SRM has been shown using an agency-theory perspective. By using the agency-theory perspective the importance of contracting has been highlighted to control misalignments. The way in which traditional-, leasing-, performance based- and other contracts affect the buyer-supplier relationship is then discussed. In the conclusion of the contract management process, the importance and application of the evaluation as a form of control has been analyzed in relation to contracting.

4.4 Discussion

Even though, a broad range of aspects regarding SRM have been discussed, several topics have not been thoroughly examined. The focus on the cooperative relationships disregards several implications of transactional (non-cooperative) relationships. Some characteristics of this type of relationship have been discussed nonetheless, though in a different context (e.g. non-cooperative relationships are typically characterized by short term contracts, which are elaborated on in contract management). In addition, the portfolio presented by Bensaou can be considered relatively outdated, although it is still used as a basis of several portfolio considerations. As this chapter serves as a comprehensive overview of SRM facets, Bensaou's portfolio still serves as a proper illustration, even though more recent portfolio models can prove to be more suited for the current organizational environment. As mentioned by Wagner and Johnson (2004), the inter- and intranet provides many opportunities for the development of relationship portfolios. In addition, this, and other technological developments can have several implications regarding SRM in general, which is a topic for further investigation. Even though literature regarding the relationships between principal and agent is widely developed within agency theory, contracting within this principal-agent relationship has not been widely investigated.

Key Terms

The key terms mentioned in this list can, with their references, be found in the main body of this chapter.

Agency Theory - The conflicting difference between tolerance between the principal and agent. Both parties have different objectives.

Contract - A mutual commitment between a principal and agent. A commitment can be developing a product or providing a service.

Contract Management - An active process which will start in the contracting phase when the formal agreements will be aligned. After the development of the contracts, the second phase is to monitor and manage the agreements.

Dyadic relationship - The relationship between one buyer and one supplier.

Evaluation - The process of measuring the performance of another party.

External chain - A relationship in which more than two companies are involved and that describes the flow of a product from supplier to customer.

Internal chain - A relationship in which no suppliers are involved.

Leasing contracts - Contracts where a periodically fee is paid to make use of the equipment.

Network - All relations between all suppliers and buyers involved in the process from raw material to the final customer.

Performance based contracts - Contracts based on the output, the performance, of the process. Performance based contracts will give more flexibility to the supplier.

Power - The ability of one partner to have an advantage over the other and it can allow one partner to coerce the other into doing something they otherwise may not do.

Relationship Management - The ability to act ethically, listen effectively, communicate, and use creative problem solving. The ability to drive relationships is critical for firms seeking to build strong integration [...] with external suppliers.

Social Capital - A valuable asset that stems from access to resources made available through social relationships.

Supplier development - The process to improve the performance of a supplier and to increase the capabilities of the supply base to ensure improvement on the selection criteria of the goods and services supplied by these suppliers.

Supplier evaluation - The process of evaluating the selected suppliers based on selection criteria.

Supplier Management - All processes and tasks related to managing the suppliers of the company by the selection of suppliers, the evaluation of suppliers and the development of suppliers.

Supplier Portfolio Management - The management of an array of supplier relationships, each having various characteristics and each serving the firm in different ways.

Supplier Relationship Management - Focused on maximizing the value of a manufacturer's supply base by providing an integrated and holistic set of management tools focused on the interaction of the manufacturer with its suppliers.

Supplier selection - The process of selecting possible suppliers in order to reduce risk, maximize value and build a long-term relationship between the buyer and the supplier.

Supplier selection criteria - The criteria to be used for the supplier selection and evaluation: the unit cost of components/service, the quality of components/service, the delivery lead-time, on-time delivery and flexibility in changing the order.

Traditional Contracts - Contracts which are based on the input. The buyer will specify how to produce its resources.

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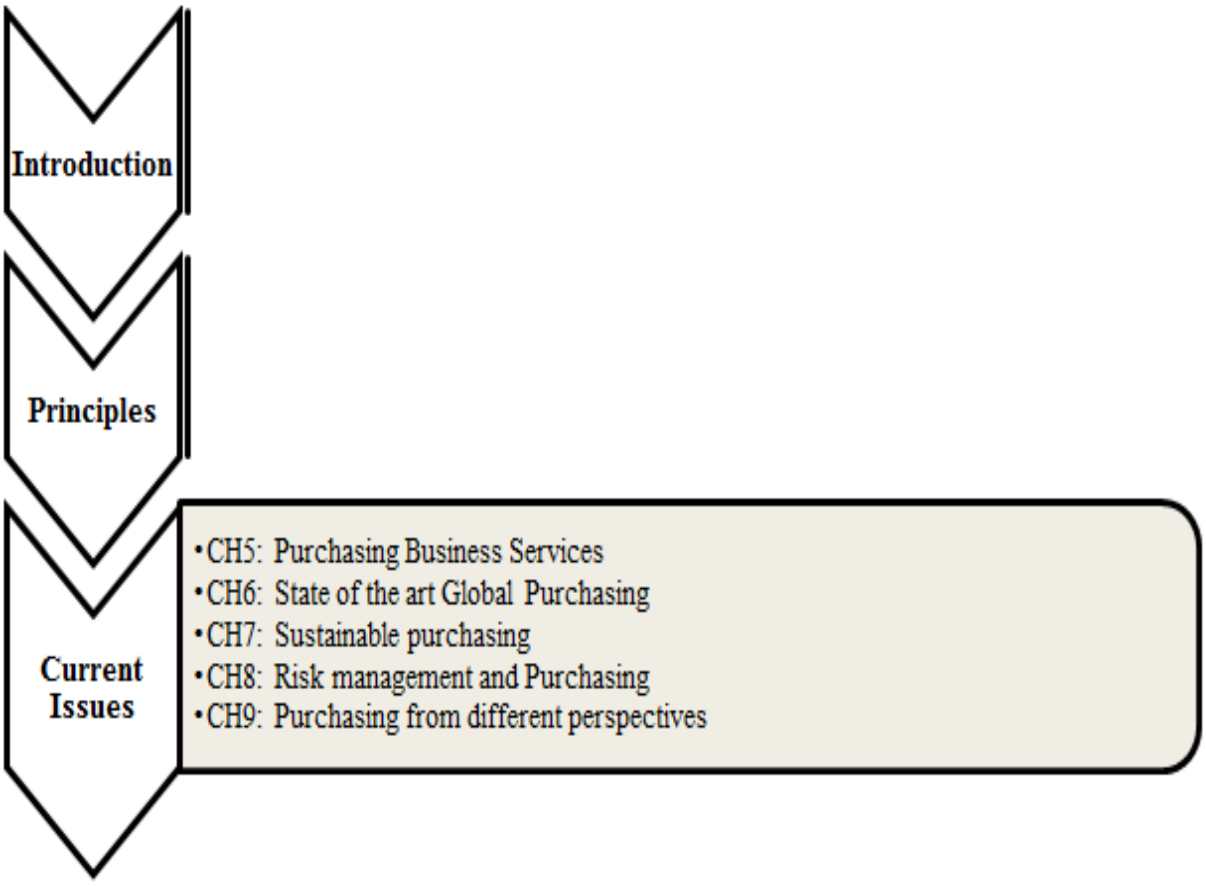
Part 2: Current Issues in Purchasing



Chapter 5: Purchasing Business Services

Authors:

Bijl, A.,
De Haan, S.J.
and, Kirchhoff, H.

Abstract

The focus of this chapter is different than the focus of the rest of the book, regarding *what* is being purchased. So far, only the purchasing of products has been covered. This chapter will give an insight into the purchasing of business services in a business-to-business context. The first subchapter will explain the importance and relevance of considering business service purchasing in the framework of this book, followed by a definition and an in-depth discussion about classifying services. Afterwards, service outsourcing is addressed, and the purchasing process of business services, including specifications (and provider involvement), selection, contracting, ordering, expediting and evaluation is discussed. This sub-chapter ends with linking the taxonomy to the purchasing process of services. Other specific issues covered within this chapter are the trends regarding servitization, which can be observed in practice as well as literature. This trend is blurring the lines between products and services which can trigger a change in the competitive environment.

Table of content

5.1 Introduction

This chapter will concentrate on **Purchasing Business Services**. The relevance of this chapter can be justified by a lot reasons. Firstly, 73.1% of the GDP of the Netherlands is generated through the provision of services, and still has not reached saturation so far (TradingEconomics, 2016). Second, approximately 50% of the total costs of many companies is accountable to services (Bals et al., 2009), which is in line with the third reason, indicated by Stradford and Tiura (2003) IN van der Valk and Rozemeijer (2009). These authors concluded by stating that in case of cost savings within organizations, 10-29% could be saved on services versus 5-17% on goods and products. Therefore, it is not surprisingly that, according to Patel (2005) IN van der Valk and Rozemeijer (2009), 70% of the directors of 30 leading companies within the service-industry worried about the purchase of professional services within their company. Besides the dominance of services in many companies, services offer a high strategic potential for companies by providing not only knowledge to the customer, through tight cooperation with the latter which facilitates the collection of customer information, but also facilitates the customization of innovations (Muller and Zenker, 2001). Additionally, a shift from pure manufacturing toward the provision of services can be observed (Lindberg and Nordin, 2008). Furthermore, the importance of purchasing business services has been considered by Vargo and Lush (2006), mentioning that the focus of marketing should shift from focusing on the purchase of goods, toward focusing on the exchange of intangible resources, hence: **services**. This shift in focus has been called **service-dominant logic**.

All these practical reasons why purchasing services, and knowledge regarding the purchase of services, is increasingly important, makes it even more remarkable that extant literature has been mainly focusing on the purchase of goods and materials. This is confirmed in the research of Carter and Ellram (2003), stating that from the 774 articles published in *The Journal of Supply Chain Management*, less than 10 articles were focusing on services. Although the authors realize that the research of Carter and Ellram (2003) is outdated and the focus of literature is more and more towards purchasing business service, this increasing attention highlights the need to incorporate a chapter on purchasing business services in a book about the current issues within strategic purchasing.

The structure of this chapter will be as follows. First, the basics of services will be explained by providing a service-definition, elaborating on specific service-characteristics and providing a service-taxonomy to classify all services. Subsequently, outsourcing will be considered within a business-service context. This section will also elaborate on the type of contract most often used when outsourcing business-services. The third section includes an in-depth description on the service-purchasing process, and its differences with the commonly acknowledged traditional purchasing process as proposed by van Weele (2010). The final section provides an in-depth analysis on the concept and relevance of servitization, which is in an outcome of the service-dominant logic proposed by Vargo and Lush (2006).

5.2 Definition and Classification of Services

Now that the relevance and importance of this chapter have been addressed, a logical next step is to start with a definition of services, since it forms the base for this chapter. Services can be defined in multiple ways. A basic definition of a service is 'a deed, act or performance'. (Berry, 1980 IN Lovelock, 1983, p.10). A somewhat more comprehensive, albeit also general definition of a service was provided by Hill (1976, p. 318): "A **service** may be defined as a change in the condition of a person, or of a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit, with the prior agreement of the former person or economic unit."

These definitions are both very broad and vague, so in order to delve more into what a service really is, it is necessary to look at what the extant literature says about services and their characteristics. According to Cloninger and Oviatt (2006), services always exhibits some degree of four characteristics. These four generic characteristics that have been related to services are: intangibility, simultaneity, heterogeneity and perishability (Cloninger and Oviatt, 2006; Lovelock, 1983; van der Valk and Rozemeijer, 2009). These characteristics are shown in table 5.1. Also, a brief impact on service purchasing is given for each characteristic.

Service Characteristics (Cloninger and Oviatt, 2006; Lovelock, 1983; Van der Valk and Rozemeijer, 2009).	**Meaning and impact on purchasing services** (Cloninger and Oviatt, 2006; Lovelock, 1983; Ellram et al., 2007)
Intangibility	Service outputs are not objects – harder to specify, difficult to examine and evaluate
Heterogeneity	Service outputs may vary widely from customer to customer – harder to measure, subjective and user dependent
Perishability	Services cannot be stored in inventory for later use – requires more communication and planning is more difficult
Simultaneity	Services are produced and consumed at the same time – increases interaction between supplier and user in B2B

TABLE 5.1: An overview of service characteristics and their impact on purchasing services. Adopted from Cloninger and Oviatt (2006), Lovelock (1983), Ellram, et al. (2007).

It is important for the purchasing department to consider these characteristics of services, since they affect the purchasing process (Smeltzer and Ogden, 2002). Because of the service characteristics, the service purchasing process is more complex than the product purchasing process. For instance, service intangibility makes it more difficult for organizational buyers to examine a service in advance of the purchase and to evaluate it after the purchase (van der Valk and Rozemeijer, 2009). The implications of service characteristics for the service purchasing process will be discussed in more depth later in this chapter.

Now that we know what characteristics services have, it makes sense to consider ways of classifying services, as classifications of services are needed for differentiating between

business service offerings (Molin, 2014). The extant literature provides many different ways of classifying services, mostly by using schemes (Liu, Wang and Lee, 2008). One of these classification schemes has been provided by Lovelock (1983). According to Lovelock, services have a direct recipient in the form of people or things, and a service is either tangible or intangible in its nature. For instance, haircutting and surgery are seen as tangible actions, while education and consulting are not. The resulting four-way scheme is shown below:

- Services directed at people's bodies (healthcare, haircutting, exercise clinics)
- Services directed at people's minds (education, training, museums)
- Services directed at people's tangible belongings (cleaning services, freight transportation, equipment repair and maintenance)
- Services directed at people's intangible assets (legal services, accounting, insurance)

This classification may help in developing more understanding with regard to the nature of the service and the core benefits that it offers. However, if a more structured and detailed picture of services is needed for strategic purchasing purposes, it is useful to look at the taxonomy of business services that was provided by Fitzsimmons et al. (1998). They have developed a classification of services which is specifically focused on business services, that is, services in a business-to-business context (figure 5.1).

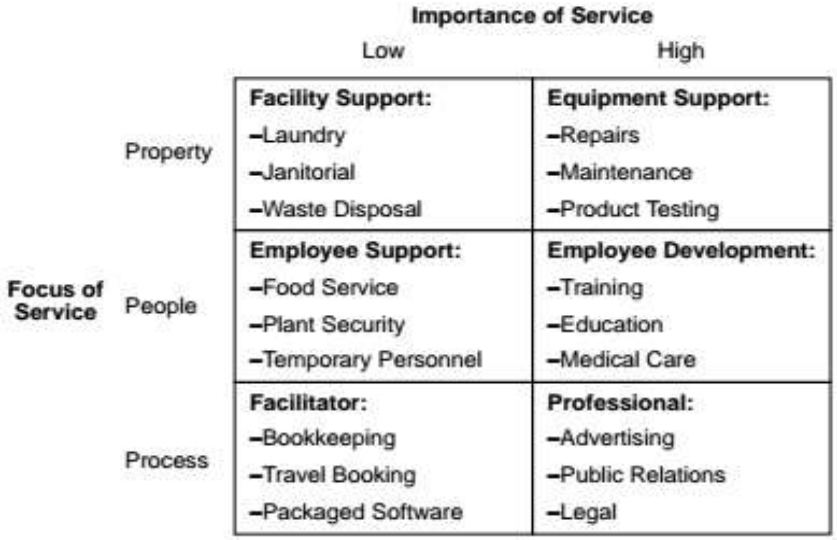


FIGURE 5.1: – A taxonomy of purchasing business services, Fitzsimmons et al. (1998)

As can be seen in Figure 1, six different business service categories are distinguished and each of these categories is given a descriptive title. The taxonomy is based on two basic assessment criteria. The principal criteria is the focus of the service. Services can be directed at three aspects of the firm, i.e. property, people or process. The second dimension is the importance of the service, which represents the criticality of the service for the buying firm. Services high in importance will generally attract more attention from management (Fitzsimmons et al., 1998). This is line with the reasoning of Hill and Neeley (1988). They

argued that professional services (e.g. accounting, consultancy) yield a higher profit potential than generic services (e.g. cleaning, catering), and thus require more attention.

The proposed taxonomy may be a helpful tool for organizations attempting to make strategic purchasing decisions. An example of this is that the taxonomy classifies services by looking at the importance of the service for the buying organization, which could influence the supplier selection process and the type of relation that is desired with the supplier (Molin, 2014). For example, for services that are relatively low in importance for the buying organization, cost considerations will be more important when selecting suppliers (Fitzsimmons et al., 1998). For services that are relatively high in importance, a supplier should be selected on other criteria. Furthermore, long term relationships with suppliers are more suitable for services which are critical for the buying organization (Lian and Laing, 2006; van der Valk and Rozemeijer, 2009).

It can be noticed that this taxonomy is an extension to Lovelock's classification, since his classification also makes a clear distinction in the recipient of the service. One major difference, however, is that Lovelock (1983) considers service tangibility to be the other main dimension of the classification, while Fitzsimmons et al. (1998) consider service tangibility merely as an attribute to be considered when making a purchase.

Existing literature agrees that classifying services can help in dealing with the inherent complexity of business service purchasing (van der Valk and Rozemeijer, 2009; Wynstra, Axelsson and van der Valk, 2006). An example in which it can do so is by helping the purchasing organization to learn across categories and build on previous purchasing experience in particular categories. (Wynstra et al., 2006). Applied to the taxonomy of Fitzsimmons et al (1998), this would mean that service purchasers can build on past knowledge that is created in each of the six distinct categories.

In general, researchers agree that the use of classifications in services is necessary for differentiating between business service offerings (Liu, Wang and Lee, 2008). However, there is no one best way of categorizing services. The different classifications all have their advantages and disadvantages depending on the goal for which they are used (Molin, 2014). Furthermore, the existing classifications of services vary considerably. Certain aspects in which they differ are the dimensions that are regarded as important, the level of detail with which services are specified and in the perspective from which they have been generated. For instance, the classification of Lovelock (1983) previously discussed, was made from a perspective to gain strategic marketing insights, and the classification of Fitzsimmons et al. (1998) was made as a helpful tool for making strategic purchasing decisions and simultaneously reducing complexity of business service purchasing.

Nowadays, firms are increasingly outsourcing its business services, managed via contracts (Molin, 2014). The next subchapter will discuss service outsourcing and how these contracts can be managed.

5.3 Outsourcing business services

In section 4.3, the concept of outsourcing has already been introduced. In this subchapter, the focus will be on outsourcing business services, as opposed to products or parts. More

specifically, the type of contract that is used to manage service outsourcing relations is discussed and thereby the contract management part is applied to this subchapter. Furthermore, a case regarding the outsourcing of maintenance at a chemical plant will be discussed.

Outsourcing has emerged in response to demands for more efficient ways to address organizational competitiveness (Jiang and Qureshi, 2006). The reason that outsourcing will be discussed in this chapter, is that the effective purchasing of outsourced business services is increasingly critical for the performance of modern organizations, being the purchasing of IT, corporate legal advice or occupational health (Lian and Laing, 2007). Outsourcing has already been discussed in section 4.3, but since this chapter only focusses on services, it should be noted that **outsourcing** here refers to the contracting-out of services that were previously performed in-house (Steane and Walker, 2000, IN: Ancarani and Capaldo, 2005, p.232).

According to Jiang and Qureshi (2005), cost efficiency is the primary reason for firms to outsource. Other than cost efficiencies, outsourcing can result in increased profits, productivity and value-creation. Depending on the type of outsourcing contract, it may result in a lot of different advantages, however, some are hard to measure, for instance know-how, R&D-capability and flexibility (Jiang and Qureshi, 2006).

However, outsourcing agreements of services are not always advantageous (Kliem, 1999). For instance, companies may cancel the agreements, demand a renegotiating of the agreements or decide to insource the services again. This might happen even after a contract has been signed. Furthermore, managing the contract may be a daunting task, especially in highly valued outsourcing agreements that have a long lifespan (Jiang and Qureshi, 2006).

Although the decision whether to outsource will not be discussed in great detail in this subchapter, it does introduce some of the issues that are inherent in service outsourcing contracts. **Transaction costs economics** is a theory that can provide insight in whether organizations should outsource certain tasks or services (Ellram et al., 2007; Garfamy, 2012). This theory may advise against outsourcing when the buying organization cannot clearly specify the desired outcomes. It may also advise against outsourcing when there is a situation of uncertainty, so that firms cannot judge whether a supplier is performing adequately (Ellram et al., 2007). This inability to adequately judge performance of the service supplier is one of the biggest current issues according to the outsourcing literature (Schoenmaker and De Bruijn, 2016) and is addressed in the **agency theory**. An agency problem arises when it is difficult or expensive for the principal (buyer of the service) to observe whether the agent (service supplier) behaves according to the principal's interest and is essentially a problem of information asymmetry (Selviaridis and Norrman, 2014). One way to deal with this issue is of course to closely monitor the service supplier to see whether the performance is on a desired level. However, this may not always be a feasible solution, since supplier behavior may not be easily observable or it may be difficult to measure (Selviaridis and Normann, 2014). Also, continuously monitoring the performance of the service provider could result in high transaction costs. **Performance-based contracts**, which have already been discussed section 4.3, offers a solution to the agency problem described as they can free the service buyer of those transaction costs (Jain et al., 2013). They focus on well-defined and measurable performance, and they are

increasingly used in the service outsourcing arena. It may offer advantages over a behavior-based contract, since the buying organization will not have to spend lots of time and resources to supervise the supplier and in evaluating the supplier performance (Jiang and Qureshi, 2006).

Also, the use of service-level agreements within a performance-based contract might tackle the problems in service outsourcing, specifically those related to the difficulty in specifying the outcomes of the service. A **service-level agreement** defines services that the vendor will provide to the client, it specifies the agreement itself and ways in which changes are to be negotiated (Beaumont, 2006). It can help an organization in precisely specifying the required outcomes, it can provide mechanisms for changing the agreement and help in monitoring the performance of the service provider (Beaumont, 2006). However, defining a service-level agreement is considered to be a major problem in service purchasing (van der Valk and Rozemeijer, 2009). This will be discussed in more detail in the next section, section 5.4.

Performance-based contracts in service outsourcing have some potential disadvantages which need to be carefully managed. For instance, when the required performance is met by the supplier, it may result in collective blindness (Schoenmaker and De Bruijn, 2016). This is when both the supplier and purchaser of the service are satisfied and are no longer challenging the performance requirements, which could result in stagnating performance. However, interaction and a good relationship between the service supplier and receiver may mitigate the potential downsides of the performance-based contracts (Schoenmaker and De Bruijn, 2016). This is also highlighted by Beaumont (2006), who argues that well-defined objectives and a good working relationship between the supplier and client are essential to fruitful outsourcing.

In the following case, an outsourcing relationship and management of the contract between a maintenance supplier and a chemical plant is discussed. In order to successfully manage the maintenance service outsourcing, there is a performance-based contract between the parties. It also clearly shows how an agency problem is present.

5.1 Case Study: Chemical plant

A big chemical plant in the northern part of the Netherlands has outsourced many services, like maintenance, security and scaffolding. One of the biggest and most important outsourcing contracts of the focal company is with the maintenance provider. Since the maintenance provider does almost all maintenance activities for the chemical plant, it is located at the chemical site.

For many types of maintenance, the chemical plant has a performance-based contract with the maintenance provider. The need for this type of contract essentially arose due to difficulties in evaluating the performance of the maintenance provider. Although the maintenance is executed on site and performance can thus be monitored, there is information asymmetry due to differences in maintenance related knowledge between the agent (maintenance provider) and principal (the focal company), since the maintenance provider has more technical expertise. Because of this agency problem, a performance-based contract with well-defined objectives is used to manage these services.

Furthermore, the contract between the chemical company and the maintenance provider is subject to frequent changes, mainly because of environmental and internal changes. In order to deal with these changes, a good relationship with the maintenance provider is described as very important. Frequent interaction is necessary to deal with changes and to come to new agreements. A lot of investments are made in order to maintain a close relationship. "Continuously interacting with service provider is needed to improve the relationship; everything must be made discussable between the parties" (G. Wolters, 09-03-2016).

G. Wolters, in an interview with the authors of this chapter, March 09, 2016.

5.4 Service Purchasing Process

Services can be considered as an increasing trend in nowadays business landscape (Selviaridis et al., 2013), and therefore, understanding how they are being purchased is crucial for an organization's success.

Purchasing business service in a B2B environment refers to the exchange of business services among organizations (van der Valk and Rozemeijer, 2009). Examples are: ICT-services, consultancy services, or legal support services. Services have become an increased element in obtaining resources from externals. Therefore, understanding how to purchase services in a proficient manner, might enhance the competitiveness of an organization (Pemer et al., 2014), resulting in reductions of costs and enhanced innovativeness of the organization (Ellram et al., 2004; Pemer et al., 2014). However, literature acknowledges that purchasing services is different than purchasing goods (van der Valk and Rozemeijer, 2009; Smeltzer and Ogden, 2002), which has to do with the service characteristics (see section 5.2). Some authors (Smeltzer and Ogdon, 2002; Fitzsimmons et al., 1998) even argue that purchasing service is more complex than purchasing goods due to these characteristics. The service characteristics and its influence on the different purchasing steps will therefore be explained in more detail in this chapter. To explore the differences between purchasing services and goods more in-depth, first the purchasing process of services will be explained, based on the traditional purchasing

process of van Weele (2010), which has been explained in Chapter 1. The purchasing process of services is perceived as being different (Jackson et al., 1995) and more difficult (Ellram et al., 2007; Smeltzer and Ogdon, 2002) in comparison with purchasing goods. This is devoted to three general problems, which are: specifying the service, defining the content of the service level agreement and the evaluation of the services (van der Valk and Rozemeijer, 2009). To address these problems, van der Valk and Rozemeijer (2009) proposed an extension on the traditional purchasing process, by including two additional steps, (1) *request for information* and (2) *detailed specification*, as is visualized in Figure 5.2.

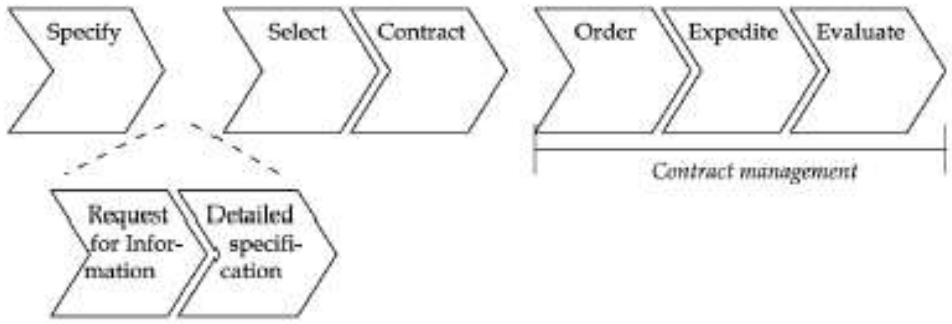


FIGURE 5.2: Service Purchasing Process, Van Weele, (2010); Van der Valk and Rozemeijer (2009)

The additional steps highlight the importance of the initial stage of the purchasing process. To fully understand this service purchasing process and its additional steps, each step will now be explained in detail, specifically referring to the service purchasing context. Within these explanations, the service characteristics will also be addressed, which result in additional complexity to the different stages.

5.4.1 Specification

Specifying or defining a service upfront is perceived to be a complex task (van der Valk and Rozemeijer, 2009; Gelderman et al., 2014). The complexity associated with purchasing services is stimulated by the intangibility of the services, which makes it hard to specify the service before, during or even after a certain purchase (van der Valk and Rozemeijer, 2009).

Pemer et al. (2014) state that three problems might occur during the specification. First, buyers do not always know what needs to be solved by service purchase (Fitzsimmons, 1998; van der Valk and Rozemeijer, 2009), which makes it difficult to specify the service upfront. This problem highlights the need for the purchaser to have a deep understanding of the true needs of the internal customer (Ellram et al., 2007). Second, due to the difficulty of specifying a service, managers often hire external experts to solve the problem, rather than using their own expertise. This might result to risks of being supplied with an inadequate service (Pemer and Werr, 2013), since the needs of the buying firm might be interpreted differently by the external expert. Finally, a client's specific expertise regarding a service makes it difficult to specify the service upfront (Day and Barksdale, 2003). This might require the need to educate the buyer about the potential achievements of the service provided, since the buyer does not have the specific knowledge to understand the required service purchase.

In order to deal with these problems, van der Valk and Rozemeijer (2009) added the two additional steps, both relating to specifying the service[1]. The request for information implies sending out a request for information to suppliers, who should be perceived as the experts within the field (Jackson et al. 1995). This is supported in practice by Mr. Wetering (22-2-2016), mentioning that: "suppliers should be considered as the experts within their field". Jointly developing a specification, thus requires collaboration of the buyers and suppliers in the specification phase which potentially enhances shared understandings of the buyer's processes and systems, and mutual fit of culture, attitudes and behavior (van der Valk and Rozemeijer, 2009). These social elements are can be considered as social capital, which has been explained in section 4.2.6. Therefore van der Valk and Rozemeijer (2009) argue that value is being co-created within the field of purchasing service, implying that the buyer has a proactive, dual role in both consuming and producing the service. This dual role of both consuming and producing the service has been neglected in literature (van der Valk and Rozemeijer, 2009), since literature has mainly emphasized on the consuming part of the service-creation. However, due to the simultaneity characteristic of services, the producing-role of the purchaser in purchasing services should also be considered, which might enhance the perceived service quality.

Based on the information obtained from the suppliers, the buying company is able to develop a complete and accurate specification, including all elements regarding the purchased service (van der Valk and Rozemeijer, 2009). From this it can be inferred that the success of purchasing in service is determined in the first stage of the purchasing process, which is supported by Smeltzer and Ogdon (2002) and van der Valk and Rozemeijer (2009). Therefore, Axelsson and Wynstra (2002) highlight the need to employ different specification strategies in this initial purchasing phase. These authors propose four different strategies to specify a service. The four strategies, its focus and an example is given in table 5.2.

Specification strategies in service purchasing *(van der Valk and Rozemeijer, 2009; Gelderman et al., 2014)*	***Focus***	***Example of purchasing management consultancy*** *(van der Valk and Rozemeijer, 2009, p.6)*
Input-oriented	the supplier's resources and capabilities	*"When the buying firm specifies the service as a consultant with a certain degree of experience for a certain period of time"*
Function-oriented	the functionality of the service and its output	*"When the buying firm specifies the service as to attain an improved purchasing strategy"*
Process-oriented	the way in which the service is being produced	*"When the buying firm specifies a process of regular meetings with the consultant aimed at redeveloping the purchasing strategy"*
Outcomes-Oriented	the economic value created by the service, often indicated in monetary terms	*"When the buyer firm specifies a service in which a quantified final objective has been defined, like a cost saving of 10% on contract with partner suppliers"*

TABLE 5.2: Specification Strategies, adapted from van der Valk and Rozemeijer (2009)

[1] The additional steps proposed might also be relevant for the purchase of complex goods and materials

However, a detailed specification is not always perceived as desirable. This is especially the case when the service-requirements change during the time the service is being consumed (Pemer et al., 2014). In service purchasing this is very often the case, as confirmed in practice by **G.Wolters** (09-03-2016), mentioning that: "it is impossible to determine and specify the service completely in advance, during the project period, the service is always performed differently than specified upfront". Changes in the service provision has mainly to do with unforeseen contingencies occurring during the service provision, related to the original specifications (Gefen et al. 2008). For instance, in case of ICT-projects, specifications agreed upon upfront, might change during the contractual period due to technological developments in providing the specific service (Pemer et al., 2014). To overcome these unforeseen events, and developing specifications which are open for changes due to occurring contingencies, literature recommends supplier involvement in these early stages of the purchasing process (Pemer et al., 2014).

Supplier involvement

From the previous section, it can be inferred that even though much literature agrees on the challenges associated with setting detailed specifications of the service (Pemer et al., 2014), yet, e.g. Ellram et al. (2007) and van der Valk and Rozemeijer (2009) highlight the need to specify detailed specifications upfront, thereby underplaying know-how limitations of the buyer (Pemer et al., 2014). Therefore, e.g. Pemer et al. (2014) highlights the need to involve the supplier in the specification phase. This need has also been acknowledged by van der Valk and Rozemeijer, (2009) and Selviaridis et al. (2013). It seems that especially for professional services (see section 5.2), which are typically accompanied by many uncertainties (Homburg and Stebel, 2009), supplier involvement is highly important. **Supplier involvement** in the specification phase of purchasing services has been defined as suppliers taking: "an active role in shaping the nature and mode of service provision" (Araujo and Spring, 2006 IN Selviaridis et al. (2013, p.1389). According to Selviaridis et al. (2013), service industries grow in complexity, which can be devoted to the fact that service providers with different business backgrounds and capabilities enter the market to offer differentiated services (Glückler and Armbrüster, 2003 IN Selviaridis et al., 2013). This results in the fact that buyers are often bounded by their knowledge in defining and specifying the requirements and needs of the service to their suppliers (Flowers, 2004). Therefore, Ellram et al. (2008); van der Valk and Rozemeijer (2009) and Selviaridis et al. (2013) highlight the need to involve suppliers in the initial stages of the purchasing process, which requires good inter-personal relationships (Terho et al., 2012).

5.4.2 Select and Contract

In the next two steps suppliers are being selected and contracted (van Weele, 2010; van der Valk and Rozemeijer, 2009; Gelderman et al., 2014). Based on the difficulties faced in the specification phase, it is important that those suppliers are selected with a high willingness to collaborate in the initial stages of the purchasing process (van der Valk and Rozemeijer, 2009). Furthermore, the specification should be open for improvements, rather than being fixed after the specification phase. Gelderman et al. (2014) argue that in the traditional purchasing process, van Weele (2010) is making a clear distinction between the specification phase and the selection

phase. This implies that once the supplier has been selected, the specification does not change anymore after the specification phase. From this it can be inferred that the specification is more or less fixed after the specification phase, where fixed in this case means "[…] not open for discussion, but accepted by the parties involved" (Gelderman et al., 2014, p.222). This means that only those specifications necessary for selecting a supplier, will be included in the contract. However, buying firms may be unable to come with this detailed specification upfront (Ellram et al., 2008), implying that these firms will be restricted by potentially un-detailed specification when selecting and contracting suppliers. In addition, in cases where firms need to collaborate to come up with certain specification, as proposed in section 5.4.1, certain suppliers first need to be pre-selected. Gelderman et al. (2014, p. 275) confirms this pre-selection, by arguing that "certain aspects of the service specification can only be meaningfully addressed after the selection of the service provider". Therefore, the initial stages of the purchasing process of van Weele (2010), should be considered as iterative, rather than sequential.

5.4.3 Order and Expedite

These activities relate to the delivery and use of the services (van der Valk and Rozemeijer, 2009). Due to the inseparability of the services, meaning that they are produced and consumed at the same time, it becomes difficult to define and measure those (Gelderman et al., 2014). This is especially the case for professional services, which will be treated later in this chapter. This difficulty requires close and trustful buyer-seller relationships to overcome information asymmetries and opportunisms (Glückler and Armbrüster, 2003). Specific relational requirements vary among different situations. For example, in some cases close, informal and trustful relationships are required, wherein other situations, distanced, formal and distrustful relationships are more dominant (Werr and Pemer, 2007; Gelderman et al., 2014) (see Chapter 4).

5.4.4 Evaluation

Evaluation is the final, stage in the process, and due to the intangible nature of the service, this phase is difficult to perform (Smeltzer and Ogon, 2002). According to van der Valk and Rozemeijer (2009) this stage is influenced by the initial stages of the purchasing process and includes tasks like: comparing results of the service against the specifications, settling penalties (van Weele, 2010). Many buyers lack to perform a thorough evaluation on the performance of the supplier (Pemer et al., 2014), which makes the perceptions of the buyer on the service quality important. As noted by Parasuraman et al. (1985), service quality has many different dimensions, like: reliability, responsiveness, assurance, etc. Therefore, evaluating the service quality is influenced by the way in which the service specification was defined, moreover what the specific needs of the internal customer are.

5.4.5 Taxonomy and Purchasing Business Services

The specific purchasing steps indicate that the purchase of a service is different than the purchase of goods. The most important service characteristic is considered to be intangibility (Lindberg and Nordin, 2008; van der Valk and Rozemeijer, 2009). This has also implications for the taxonomy of business services (Fitzsimmons et al., 1998) provided in section 5.2. The more intangible the service is, the more complex it is perceived (Lindberg and Nordin, 2008).

This is for example the case in professional services like consultancy, trainings and ICT-services. These are difficult to specify before the purchase has been completed, because they consist of dimensions which are not readily visible. Additionally, they contain a high level of inseparability in production and consumption, meaning that the service is produced in close interaction between the buyer and the supplier, and thus requires a high level of collaboration. Because van der Valk and Rozemeijer (2009) indicated that a successful service purchase lies in the beginning phases of the purchasing process, these phases will be considered in example 5.2. This example explicitly emphasizes the need for a detailed and thorough process in the initial stages in the purchasing process, often referred to as the **sourcing phase**. This example is about purchasing an ICT-service. First the old situation is discussed, in which the company was unsatisfactory with the performance of the supplier devoted to a lack of knowledge within the specification phase. In the new situation, the company acknowledged its lack of knowledge and created a new specification in close collaboration with the suppliers.

5.2 Case study: ProRail

ProRail is a Dutch railway company. The current supplier of its ICT-services performed unsatisfactory, resulting in poor performance of the ICT-supplier at that time. The contract with the old ICT-service provider was flexible, the specifications were not fixed before the actual service delivery. This flexibility within the specification was created "with an eye to see the needs of tomorrow". However, the contract included intrinsic mechanisms, resulting in inappropriate behavior of the supplier. For example, the supplier was paid for the number of problems solved, meaning that the supplier did not have any financial incentives to solve common problems in a definitive way, hence, this would result in a loss of income. Therefore, only a small number of problems were thoroughly solved. This way of working was considered to be highly inefficient, and therefore the contract was terminated.

By that time, ProRail realized that they lacked expert knowledge during the specification phase and realized that due to the immature nature of the ICT-services markets, contracts cannot be closed only based on performance aspects. In addition, the ICT-market are typically characterized by rapid developments. Therefore, the next contractual setup would benefit from supplier's expertise knowledge, aiming to develop a long-term relationship with a supplier willing to deliver conform market-prices. They created an initial specification list and asked suppliers to respond to these. This made clear what could be demanded from suppliers, and also helped to exclude suppliers not capable to perform, conforming to the initial specifications. The obtained information was incorporated into the new specification, resulting in a highly detailed specification. Where the specification of the first contract included 440 lines, the new contract contained 1455, indicating the high level of detail.

After the pre-selection of the suppliers, the project team carried out rewriting and redefining the initial specifications. Only two suppliers were capable of delivering the service, and were invited to deliver the tender, after which the specifications were adjusted again to make them more detailed. Once all details were included in the specification, a supplier was selected based on quality, rather than price. Even after the contracting phase, the specifications were changed, based on differences in interpretations and new emerging developments within the ICT-market. This contract and specifications enabled adjustments and flexibility, as was highly demanded by ProRail. To indicate the level of detail with which each purchasing phase had been executed: the specification phase lasted for 12 months, the selecting phase for 7 months and the contracting phase for 1 month.

Source: Gelderman et al. (2014)

5.5 Servitization

In previous chapters, products and services where discussed as opposites without overlaps. The concept of servitization constitutes a challenge to this approach, thus, leading to a revision of previously performed purchasing strategies. This chapter will first elaborate on Servitization, followed by a discussion if its advantages and disadvantages for the company as well as its customers. At the end, an example on Cloud Computing is provided.

The trend of **Servitization** can be described as a company's change of direction from purely providing products towards supplying a variety of offerings including the combination of products and services in order to generate value (Vendrell-Herrero et al., 2014; Barnett et al.,

2013; Baines et al., 2010; Vandermerwe and Rada, 1988). This merging between products and services impacts the purchasing process as it was traditionally performed. Vandermerwe and Rada (1988) introduced the issue of Servitization in their research, stressing the importance of the change and it has been discussed in the literature ever since. Still, it is gaining interest and increasing in relevance in academia (Barnett et al., 2013; Bustinza et al., 2013; in Vendrell-Herrero, 2014) and will be of significance the next years (Vendrell-Herrero, 2014). Three main drivers for manufacturers to implement a Servitization strategy have been determined, namely marketing, strategic and financial (Oliva and Kallenberg, 2003). The marketing aspect is the consumer's essential role in the approach (Mathieu, 2001a), the strategic aspect stresses the emerging of a competitive advantage through the coupled services (Myrthianos et al., 2014) and the financial aspect concentrates on generating substantial profit margins and steady cash flows (Neely, 2008; Gebauer et al., 2005). An estimation states, that revenues originating from service offers can be up to 1 to 2 orders of magnitudes greater in comparison to sales generated from newly launched products (Wise and Baumgartner, 1999; in: Baines et al., 2010). The importance of the topic can be attributed to the multiple benefits brought about by the change of offerings (Vandermerwe and Rada, 1988; Neely, 2008; Myrthianos et al. 2014).

In the first entry of Servitization, by Vandermerwe and Rada (1988), several advantages were named. The authors approached the topic from different perspectives. Starting with the distancing from competitors by strengthening the interactions as well as relationships with the customers and thus building customer loyalty (ibid). This means consequently, that the danger of customer churn is decreasing (ibid). Customers can not only migrate to rivals, but also decide to carry out some services themselves. An integrated Servitization approach can change this behavior by offering product-service bundles making it unneeded and unprofitable to perform the duties themselves (ibid). Even though this initial exploration of Servitization dates back as far as 1988, it remains the basis of the current literature on this issue (Myrthianos et al., 2014; Nenonen et al., 2014; Sultan, 2014; Barnett et al., 2013; Grubic, 2012; Baines et al., 2010).

Moreover, the Servitization approach can generate new possibilities for companies, by constituting a new way of a differentiating a company's manufactured goods from its competitors, which can lead to the generation of a competitive advantage (Vandermerwe and Rada, 1988). The additional offering of services accompanying the manufactured products is a way to create benefits for the consumer during a long-term relationship, resulting in a higher differentiation from competing companies (Vandermerwe and Rada, 1988; Neely, 2008). This differentiation strategy is an effective tool to prevent a competition primarily based on costs and prices (Wise and Baumgartner, 1999; Vandermerwe and Rada, 1988). Moreover, Servitization allows the company to collect large amounts of data during the close collaboration with its consumers, which can increase the company's ability to develop and launch successful innovations generating customer-value (Visnjic and van Looy, 2013). Also the dissemination of newly developed products can be facilitated through the Servitization approach (Vandermerwe and Rada, 1988). In conclusion it can be said that a Servitization approach is a foundation of a company's competitive strategy (Baines et al., 2010).

A manufacturer's Servitization approach leads for the customer to a mitigating of the total costs of ownership which are associated with the purchase of a product rather than a service

(Baines et al., 2010). Since the focus is directed towards the purchase of a service, the customer's risks and costs are being reduced (ibid.) and are consequently increasing on the side of the manufacturer (Grubic, 2014). The manufacturer has to deal with challenges such as lacking availability and substandard performance (Grubic, 2014). These risks can be decreased by applying remote monitoring technologies, through the access to real time product information regarding location, performance and use, facilitating a proactive maintenance approach (ibid).

Besides these numerous advantages, Servitization can also come along with some drawbacks. Even though the offering of services coupled with products can lead to competitive advantages, which consequently strengthen a company's position in the competitive environment, it can also trigger a change of the latter (Vandermerwe and Rada, 1988). Not only are manufacturers now competing with service providers, but also novel rivals can emerge (Vandermerwe and Rada, 1988). Examples for a change of the competitive environment is the facing of competition with oneself, since former individual offered products are being replaced by combined offers, the competition with customers, since the Servitization approach is replacing the services previously conducted by the customer, competition with suppliers, other industries and families of industries (Vandermerwe and Rada, 1988).

Nenonen et al. (2014) address the risk of Servitization having a negative impact on the company's image. A **company image** is a construct constituting of an individual's attitudes, perceptions and past experiences towards a company (Barich and Kotler, 1991). A company's image is especially important in case the provided services are hard to differentiate on the basis of other determinants (Lovelock, 1983; in Nenonen et al., 2014). The threat impacting the image originates from the misunderstanding of the company's image by its supplies and involved third parties (Nenonen et al., 2014; Martinez et al., 2010) and could therefore lead to an undermining of the company's positive image. Moreover, in case of failing service offering the manufacturer's image could suffer damages (Kindström, 2010; in Nenonen et al., 2014). The importance of maintaining a good image is stressed by the fact that a service company lacking reputation is more likely to be affected by bankruptcy than a company focusing solely on manufacturing (Oliva and Kallenberg, 2003). In order to decrease the threat resulting from damaged reputation, a firm should focus on branding efforts especially targeting the connection between services and products which can lead to increasing credibility (Shankar et al., 2009). Particularly during problems in the beginning of the coupling of services and products a company may face damages to its image, resulting from disappointment and unclear images (Nenonen et al., 2014).

Additionally to the aforementioned drawbacks, a company might perform substation changes in its organizational culture, affecting the management as well as the applied business model (Barnett et al., 2013; Johnstone et al., 2009; in: Matthyssens and Vandenbempt, 2010). The change from purely providing manufactured goods to offering services can be challenging and is not always as fast as expected (Oliva and Kallenberg, 2003). The development of the needed competences will challenge the division of managerial and monetary resources between the manufacturing of products and the establishment of services (ibid.). On the other hand,

Baines and colleagues (2010) state, that the needed shift in the company's organizational structure is minor that previously expected.

Grubic (2012) is convinced, that the issue of Servitization will remain important in the next years regarding the comprehension of its challenges and advice in forming such strategies.

5.3 Case study: Cloud Computing

An example for a Servitization of a former product is Cloud Computing. This example bases on the research of Sultan (2014) who makes the Cloud Phenomenon an issue in his publication. The Cloud portrays a type of Servitization, by giving companies as well as customers the opportunity to use memory in a Cloud, such as Apple iCloud, Microsoft OneDrive, Google Drive, Dropbox or several solutions provided by IBM. Thus, the company's need for purchasing hardware in order to store data is eliminated and replaced by the mere purchasing of the needed service – additional memory. The customer can then access another hardware memory located externally by means of the Internet. Notable advantages of utilizing Cloud services are amongst others: cost flexibility, efficiency, scalability (Sultan, 2014) as well as allowing the providing company to collect customer data, increased market adaptability, the possibility to adapt the displayed context and information exchange with interested parties (Forbes, 2012). These are just the basic benefits originating from Cloud Computing. Dropbox, who has recently been ranked as leader of "The Forrester Wave™: Enterprise File Sync and Share Platforms, Cloud Solutions, Q1 2016" report conducted by Forrester Research (Dropbox, 2016), is enhancing a company's possibilities and facilitating its business processes even further. The company has competences regarding Application Program Interfaces (API), the integration of programs of Microsoft and Adobe and security systems. Moreover, Dropbox does not fail in satisfying its customers through the provision of mobility and effortless learning (Dropbox, 2016).

Dropbox can be classified as a Software as a Service (SaaS) approach, which allows customers to access the service through the Internet, eliminating the need of installing the software locally (Sultan, 2014). Also the maintenance responsibilities lie with the software provider instead of the purchaser, constituting another benefit of Servitization from a customer's perspective.

Source: Sultan (2014)

In contrast to the Servitization approach, a productization trend can be observed. **Productization** means the transformation of a service into a product (Baines et al., 2007). In the literature, this trend can also be described as Objectification (Lindberg and Nordin, 2008). Besides the trend towards offering products instead of services, it can be argued that an objectification of a service, regardless of its strategy, has to be objectified eventually, in order to allow an exchange process (Lindberg and Nordin, 2008). This approach allows the customer an easier comparison between two offerings as well as anticipating the result (ibid.). It is important to recognize, that Servitization and Objectification are not mutually exclusive and can therefore exist simultaneously (Nordin, 2005; Sundbo, 2002; in: Lindenberg and Nordin, 2008). Next to the two aforementioned contrasting strategies, **Product Service-Systems** (PSS) are emerging. A **PSS** is a combined offer between a product and a service that generates value

during the use (Baines et al., 2007). Baines et al. (2007) classify three orientations of PSS: *Product*, *use* and *result*. The former is, as the name suggest, mainly focusing on products and offering services only in addition to that, the use-oriented PSS is the offering a customer to use, but not owning of a product, and the latter is the providing of results without any products (Baines et al., 2007). The following example will provide an insight in the Productization of a consulting service.

5.4 Case study: Custora

The online platform Custora is an example of a successful Productization approach. Corey Pierson and John Pospischil created a platform which can be used by online retailers to conduct customer analytics such as customer lifetime value, behavioral segmentation, cohort analysis, trend analysis and mobile customers as well as offering support for lifecycle marketing (Custora, 2016). These services replace the offer of traditional consulting companies. This form of productization can be seen as a tailored consulting solution for a given problem (Converted Consultant, 2015). Custora's approach is different from consultancy services offered by employees of a consultancy agency in several ways. Firstly, it is systematically abbreviating the stage of the proposal request. Thus, the customer can skip the steps of writing request for proposals, which is often difficult due to un-clarity of the customer's wishes, shortening the sales cycle and limiting the scope of the project in advance to the agreed conditions (ibid.). In practice, it is difficult to stay within the agreed limits, since the client is often adding throughout the consulting process. Moreover, the time-consuming proposal development is no longer necessary. In the case of Custora, the aforementioned services are offered in a fixed bundle. The customer can decide on which measurements are to be conducted. Custora conducts the chosen metrics and offers the client suggestions on how to optimize the pursued outcomes. This concept is an example of a result-oriented PSS.

Source: Custora (2016)

5.6 Summary

This chapter started by introducing the characteristics of services: Intangibility, Heterogeneity, Perishability and Simultaneity (Cloninger and Oviatt, 2006; Lovelock, 1983), followed by a discussion of classifications and a detailed taxonomy of Fitzsimmons et al. (1998). According to this taxonomy, business services can be divided into six distinctive categories (Lovelock, 1983). This approach can be used for developing strategic purchasing strategies. After the basics of services have been established, several strategies for outsourcing those business services were elaborated. The concept of outsourcing services is a critical factor for the performance of modern organizations and is increasing in importance (Lian and Laing, 2007). On the one hand, several benefits of outsourcing are cost efficiencies, increasing profits and productivity as well as value creation (Jiang and Qureshi, 2006). On the other hand, outsourcing services may be complex due to their characteristics, and companies face possible drawbacks connected to steps of outsourcing, such as renegotiation or cancelling of contracts, even after they have been agreed upon (Kliem, 1999). Moreover, the outsourcing company might face agency problems (Selviaridis and Norman, 2014). A solution for this problem was provided by Jain et al. (2013), being the performance-based contracts which include well defined and

measurable performance. Besides these contracts, a company can decide to set up service-level agreements (Beaumont, 2006) which specify the needed outcomes and provide techniques for changes in the agreement as well as supporting to monitor the performance of the service provider.

After this subchapter, an elaboration of the purchasing process followed by its advantages is given. Possible advantages include enhancing of a company's competitiveness in case the process in conducted in a proficient manner (Pemer et al., 2014) as well as reducing the company's costs and increasing its innovativeness. The process of purchasing services is rather different from the process of purchasing products (Jackson et al., 1995) and is also rated as being more difficult (Ellram et al., 2007; Smeltzer and Ogdon, 2002). The chapter on the Purchasing Process not only explains the process as a whole, but also every individual step in the purchasing context. Moreover, it focusses on the beforehand defined service characteristics in terms of their impact on the increase in complexity in the different steps. Lastly, the issue of Servitization is introduced, which is bridging the gap between pure services and exclusive product offerings by companies not only providing products but also services in combination or eliminating the purchase of a product, since the required service can be purchased instead (Vendrell-Herrero et al., 2014, Barnett et al., 2013; Baines et al., 2010, Vandermerwe and Rada, 1988). Several advantages of Servitization were mentioned, such as the differentiation to competitors, increasing customer loyalty and a strengthening of their relationship, as well as a reduction of risks on the side of the customers (Vandermerwe and Rada, 1988). On the other hand, some drawbacks are arising due to changes in the company's competitive environment (Vandermerwe and Rada, 1988), threats to the firm's image (Nenonen et al., 2014) and the need of changes in the organizational culture (Barnett et al., 2012; Johnstone et al., 2009; in Matthyssens and Vandenbempt, 2010).

As a contrast to Servitization, the trend of Productization was discussed, including the definition as a transformation of a service into a product (Baines et al., 2007) and the notion, that Servitization and Productization are not mutually exclusive (Nordin, 2005; Sundbo, 2002; in: Lindeberg and Nordin, 2008). Moreover, PSS were explained as a combination between a product and a service that generates value during its use, and its classification into product-, use-, and result-oriented PSS (Baines et al., 2007).

5.7 Discussion

Due to the growing importance of services and their complex character, it is important that companies find ways to successfully classify them in order to differentiate between (business) services (Liu et al., 2008). Since many companies are increasingly focusing on their core-competences, there is a rapid rise in outsourcing of these services. According to Ellram et al. (2007), outsourcing of professional services is especially expected to accelerate rapidly in the future. As discussed in this chapter, these arrangements are increasingly managed by performance-based contracts (Beaumont, 2006; Jain, Hasija and Popescu, 2013). However, for certain sectors, the actual achievements of these contracts and the question how they are to be used effectively have not yet been demonstrated in the extant literature (Schoenmaker and De Bruijn, 2016). According to Beaumont (2006), the same holds true for the effect of using

service-level agreements in outsourcing arrangements. These issues provide interesting directions for future research. Furthermore, large part of the extant literature focuses on dyadic contractual relationships in outsourcing services (Jain, Hasija and Popescu, 2013). Future research should also address other forms, for instance a many-to-one relationship, since these require a different approach to managing the contracts and the relationship.

It has been widely acknowledged that there are some differences between the purchase of goods and services (e.g. Smeltzer and Ogdon, 2002). These are mainly due to the service characteristics. Therefore, services require a different purchasing process than goods. It has been considered that the success of the purchasing process largely depends on the extensiveness and quality with which the initial stages of the purchasing process are executed, hence the sourcing phase (van Weele, 2010). However, van der Valk and Rozemeijer (2009) and van Weele (2010) consider this process as a sequential process, implying that when one phase is done, the purchaser can proceed to the next stage. This has been argued by Gelderman et al. (2014), especially when purchasing services. These authors indicate that purchasing services requires supplier involvement in the specification phase, which implies that these already need to be pre-selected before the specification. To the best of the knowledge of the authors, this view on the initial stages of the service purchasing process as iterative rather than sequential has not yet been considered within literature. In addition, it should be noted that having a detailed specification is not always considered as desirable (Pemer et al., 2014), since changes during the service provision period are likely. Too detailed specifications also limits to innovativeness of the supplier, as confirmed in practice by G.Wolters (09-03-2016). The dual role of the purchaser requires further research (van der Valk and Rozemeijer, 2009), since this is highly influential on the perceived service quality.

Even though, the issue of Servitization dates back as far as 1988, many impacts are still unexplored. In a global context, Turunen and Finne (2014) suggest further research on the comparison of manufacturer's Servitization in distinctive industries as well as geographical areas, since their research proposed differences of Servitization in geographical industries. One industry with companies increasingly making use of Servitization is the IT Industry (Sultan, 2014). Moreover, the connections within Servitization processes have to be examined in the future. One example could be the vertical integration, where a manufacturer is integrating the next step in the supply chain, being the management of operations concerning their customers (Lightfoot et al., 2012). Lastly, as previously mentioned, further studies regarding risks concerning a company's image and other spillover effects triggered by Servitization have to be examined (Nenonen et al., 2014).

Key terms

The key terms mentioned in this list can, with their references, be found in the main body of this chapter.

Agency theory – The conflicting difference between tolerance between the principal and agent. Both parties have different objectives

Company image - A company image is a construct constituting of an individual's attitudes, perceptions and past experiences towards a company

Outsourcing services - the contracting-out of services that were previously performed in-house

Performance-based Contracts - Contracts based on the output of the process. PBC will give more flexibility to the supplier

Product Service-Systems (PSS) - a combined offer between a product and a service that generates value during the use

Productization - means the transformation of a service into a product

Purchasing business service - the exchange of business services among organizations

Service - A change in the condition of a person, or of a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit, with the prior agreement of the former person or economic unit

Service Purchasing Process - the process of purchasing a service, consisting out of: specifying (request for information and detailed specification); selecting; contracting; ordering; expediting and evaluating

Service-dominant logic - the shift in focus from goods and materials towards intangible resources, hence: services

Service-level agreement - a contract that defines services that the vendor will provide to the client and specifies: information about the agreement itself, such as its term, the parties, and ways in which disagreements or changes are to be negotiated

Servitization - can be described as a company's change of direction from purely providing products towards supplying a variety of offerings including the combination of products and services in order to generate value

Sourcing phase - The initial stages of the purchasing process, as depicted by van Weele (2010). It includes: specification; selection; contracting

Supplier involvement - suppliers taking an active role in shaping the nature and mode of service provision

Transaction Cost Economics - Transaction Cost Economics (TCE) is an economic theory that provides an analytical framework for investigating the governance structure of contractual relations within a supply chain

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Chapter 6: State of the art Global Purchasing

Authors:

Kramer, J.,
Oost, H.
and, Van de Breemen, S.C.

Abstract

The purpose of chapter 6 is to introduce global purchasing. Both an in-depth analysis of global purchasing, as well as a part about the relevance of global purchasing these days is provided. An attempt is made to fill a gap in the literature by linking the Total Cost of Ownership approach to the CAGE framework of Ghemawat to shed light on purchasing in a global perspective. Furthermore, the effects of globalization on the aspects internal alignment, supplier relationship management and purchasing services are discussed. The main finding is that for a successful adventure in global purchasing a clear strategy is necessary that takes into account inter alia the structure and culture of the firm.

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6.1 Introduction

To add value to the state of the art purchasing, this chapter takes the topic to a new dimension; namely, a worldwide perspective on purchasing. In academic literature there are several phases that show a shift in the discussion of globalization. The early phases of globalization provides an overview of the growth in interdependencies and integration of trade and investments, whereas the more recent phases discuss issues around global standardizations and organizational integration (Hirst et al., 2015). In a survey of CEOs by the Foundation for the Malcolm Baldrige National Quality Award the results showed that nearly 95 percent of CEOs has the ambition to become more global (Trent and Monczka, 2003). Therefore, a relevant aspect for current issues in purchasing is the globalization of purchasing.

Initially **global purchasing** has been driven by the pursuit for cost reduction (Holweg et al., 2011; Trent and Monczka, 2003). A reduction in transportation costs leads to opportunities to build relationships with suppliers in low-wage countries. However, ambition towards the reduction of costs is currently followed by the aim of companies to acquire technology and knowledge from foreign companies, better quality, ensuring resource availability, and enhancing the speed and flexibility of sourcing activities (Christopher et al., 2011; Henke Jr. and Zhang, 2010; Schoenherr and Modi, 2012). The development of complex products becomes an inter-organizational process(Contractor et al., 2010). In order to facilitate this trend, Kauppi et al. (2013) argue that a well-developed purchasing department is a necessity.

Furthermore, up until now studies on geographical distance and the rate of innovation within a company lack a purchasing perspective (von Haartman and Bengtsson, 2015), while the supplier integration has more effect on the success of global new product development than any other process capability (Kleinschmidt and Brentani, 2007). Another study from Gonzalez-Benito (2007) confirms the importance of the purchasing department to achieve superior performance in, inter alia, innovation (Gonzalez-Benito, 2007).

Elaborating on the fact that a well-developed purchasing department is a necessity in global purchasing to achieve a sustainable competitive advantage, one of the most used approaches is the IPO solution (Nassimbeni and Sartor, 2006; Trent and Monczka, 2005). The IPO solution contains the establishment of an International Purchasing Office (IPO). Based on the observations of Santor et al. (2013), IPOs are specified as a department within the parent-company, stationed alone or within a foreign subsidiary, which has the aim of managing sourcing and supply chain management activities (Sartor et al., 2014). The increased awareness in both literature and practice for IPOs has offered opportunities for the purchasing department to renew its relevance and importance within top management.

In addition to revealing the current issues regarding global purchasing, the authors provide an in-depth view by first, presenting the different drivers, facilitators and barriers of global purchasing and second, by linking the topic of **Total Cost of Ownership** (TCO) to the CAGE framework of Ghemawat. A thorough analysis of global purchasing is provided by using the TCO as a purchasing tool and the CAGE framework as a globalization tool.

Finally, when the relevance and the meaning of global purchasing is clear the next step is to take internal alignment, the supplier relationship management and service purchasing to a global perspective. The three aspects of purchasing are thoroughly explained in the previous chapters; however, an international perspective is not included.

To conclude, in this chapter the following aspects will be discussed:

- Global purchasing as a current issue
- Drivers, facilitators and barriers of global purchasing
- TCO approach in a global purchasing perspective by using the CAGE framework
- Internal alignment in a global context
- Global Supplier relationship management
- Global service purchasing

6.1.1 Global purchasing: a current issue

Global purchasing is used in relation with international, or multinational sourcing, offshore sourcing, or outsourcing (Mol and Brewster, 2014). Also, there is a difference in international purchasing and global purchasing. The latter is a broader concept and includes coordinating materials, processes, designs and technologies and suppliers across a company's global locations (Trent and Monczka, 2003). Figure 6.1 depicts a general overview of the different aspects within global purchasing. Also, it reveals the plans of companies about developing their global purchasing activities. The figure is based on the collection of data from executives within their company responsible for the global activities of the firm. As can be concluded from the figure, the executives expect a large increase in global purchasing strategies that integrate the global subsidiaries and functional groups.

FIGURE 6.1: An overview of the different scopes of purchasing, Trent and Monczka (2005)

In this book, global purchasing is defined as "the activity of searching and obtaining goods, services and other resources on a worldwide scale, to comply with the needs of the company" (Quintens et al., 2006 p. 171). The definition is rather broad, which offers the opportunity to discuss both specific issues like international sourcing as the degree of integration of the purchasing department within a global company.

As touched upon in the introduction, global purchasing is a current issue due to the fact that there is a shift from cost reduction to other aspects that change the views of firms and make them reassess their need for a global purchasing strategy (Trent and Monczka, 2003). One of the general aspects that currently drive the step towards global purchasing is innovation (von Haartman and Bengtsson, 2015). Suppliers are considered to have a large potential for innovation. A supplier can be involved in the product development. Also, there is potential for long-term relationships, which can result in the willingness to invest or share new technologies or knowledge (Henke Jr. and Zhang, 2010). Although suppliers often lack a broad knowledge base, the ease of access for the buyer makes the supplier to still have the largest impact on product innovation (Yu, 2008). To prevent a too narrow perspective on the drivers of global purchasing, in the next part of this chapter a general overview of drivers, facilitators and barriers is presented.

6.1.2 Drivers, facilitators, barriers of global purchasing

In table 6.1 drivers, facilitators and barriers are identified based on the literature (Giunipero et al., 2012; Kotabe and Murray, 2004; Quintens et al., 2006b). A distinction is made between products, firm management and industry. Drivers stimulate the implementation of a global purchasing strategy. Facilitators are conditions that support more global purchasing approach. Barriers are diminishing the global purchasing opportunities of a company. Table 6.1 presents an overview of the different antecedents that influence the global purchasing activities such as expanding or withdrawing from particular purchase markets.

	Drivers	Facilitators	Barriers
Product	Lower price	Top management support	Regular design changes
	Higher quality	Product type	High level of customization
	Improved delivery performance	Supplier certification	Knowledge sharing
			Delivery delays
Firm management	Increasing supply base	Communication skills	Lack of resources
	Legitimize or develop a foreign market outlet	Experience with foreign businesses	Travel expenses
	Obtaining organizational flexibility	Long-term relationship prospects	Increased bureaucracy
	Tools (e.g. ERP system, web-based meetings)		
Industry	Acquire technology and competencies	Type of industry	Intensity of foreign competition
	Specialized components or expertise is only available in certain locations		Diverse business practices
			Limited market information

TABLE 6.1: Drivers, facilitators and barriers, Giunipero et al. (2012); Kotabe and Murray (2004); Mol et al. (2004; Quintens et al. (2006b)

As can be found in table 6.1 a driver like improved delivery performance, is also mentioned as a barrier but then as ‘delivery delays’. Another example is product quality, because some products in a home country are state of the art and in other countries not necessarily. In this case a trade-off has to be made between cost reduction as a driver and quality as a barrier. The major barrier for global sourcing is a lack of quality assurances and ability to control (Zeng and Rossetti, 2003). A case study in Australia confirmed that this trade-off in product quality, together with product characteristics, prices and timely delivery variables are the most important factors for global sourcing activities (Ghymn et al., 1999). However, this can relate to the perception of the input and also the question is what the effect of industry standards are on the driver product quality (Quintens et al., 2006b).

Another frequently mentioned driver of global purchasing is cost reduction. However, this is a complex driver, because one can differentiate in the type of costs. A distinction can be

made between direct procurement cost and transaction costs (Park, 2000). An even more elaborated distinction is made by Zeng and Rossetti (2003), who discern six types of transportation costs: transportation, inventory holding, administration, customs, risk and damage. This is related to the frameworks of Total Cost of Ownership and Ghemawat, as discussed further on in this chapter.

Currently, the aspect that is gaining importance as a driver for global purchasing is the acquiring of technologies and competences. The global purchasing strategies focus on the basis of the interplay between the firm's competitive advantage and the comparative advantages of several sourcing locations for long-term benefits. Although suppliers often lack a broad knowledge base, the ease of access for the buyer makes the supplier to still have the largest impact on product innovation (Yu, 2008).

Based on the first part a general insight into global purchasing has been presented. Global purchasing is a current issue since there is a shift from the aspects that drive global purchasing. Also, the different drivers, facilitators and barriers are presented. Therefore, the following part provides a more in-depth analysis of global purchasing.

6.2 Total Cost of Ownership, an international perspective

Instead of only the purchase price, many other direct and indirect costs exist by purchasing a product or service. In this part the total cost of ownership (TCO) framework will be introduced for analyzing these additional costs. Since this chapter is on global purchasing, an attempt will be made to put the TCO approach in an international perspective. This will be done by introducing the concept of institutions, using the CAGE framework of Ghemawat. Both frameworks will be combined with each other and further analyzed.

6.2.1 Total Cost of Ownership (TCO) framework

Already in 1993, Ellram and Siferd mentioned the concept of Total Cost of Ownership (TCO) on a purchasing perspective by introducing a model relating key purchasing activities to the TCO concept, which is introduced in section 3.3.2.

The total cost of ownership concept is a tool for understanding the true cost of buying products or services (Ellram et al., 1995). It can be applied by making the decision to make or buy a product or service (Ellram et al., 1995; Li et al., 2010). According to Ellram and Siferd (1993) the TCO concept includes six purchasing activities which influence costs: management, delivery, service, communication, price, and quality as can be found in figure 6.2.

FIGURE 6.2: Total cost of Ownership, Ellram and Siferd (1993)

6.2.2 Institutional distances

Li et al. (2010) mentioned that traditional literature has generally adopted transaction costs ownership but that there is less attention for an institutional view and social network theory. It is important to explain institutional distance in this chapter since it has a lot of influence on the way companies purchase globally. **Institutions** are "humanly devised constraints that structure political, economic, and social interaction and that provide the incentive structure of an economy" (North, 1992 p.97; Bae & Salomon, 2010). Hereby both formal as informal institutions should be taken into account (Scott, 1995; Bae & Salomon, 2010). In 2001, Ghemawat wrote his paper *Distance still matters* referring to the still existing differences between countries and that firms should take these distances into account when doing business abroad (Ghemawat, 2001). Ghemawat (2001) introduced the CAGE framework to separate four categories of distance which are cultural, administrative, geographic, and economic distance. In table 6.2 an overview is provided of the different types of distances.

Cultural distance	Administrative distance	Geographic distance	Economic distance
Different languages	Absence of colonial ties	Physical remoteness	Differences in consumer income
Different ethnicities; lack of connective ethnic or social networks	Absence of shared monetary or political association	Lack of a common border	Differences in costs and quality of
Different religions	Political hostility	Lack of sea or river access	Natural resources Financial resources
Different social norms	Government policies	Size of country	Human resources
	Institutional weakness	Weak transportation or communication links	Infrastructure
		Differences in climates	Intermediate inputs
			Information or knowledge

TABLE 6.2: CAGE framework, Ghemawat (2001)

Firms should take above distances into account when they consider suppliers and going abroad. In practice not all distances will have the same weight for a firm and therefore firms should make an in-depth analysis for their own business (see table 6.3).

Cultural distance	Administrative distance	Geographic distance	Economic distance
Products have high linguistic content	Government involvement is high in industries that are:	Products have a low value-to-weight or bulk ration (cement)	Nature of demand varies with income level (cars)
Products affect cultural or national identity of consumers (foods)	Producers of staple goods (electricity) Producers of other "entitlements" (drugs)	Products are fragile or perishable (glass, fruit)	Economies of standardization or scale are important (mobile phones)
Product features vary in terms of: Size (cars) Standards (electrical appliances) Packaging	Large employers (farmers) Large suppliers to government (mass transportation) National champions (aerospace)	Communications and connectivity are important (financial services)	Labor and other factor cost differences are salient (garments)
Products carry country specific quality associations (wines)	Vital to national security (telecommunications) Exploiters of natural resources (oil, mining) Subject to high sunk costs (infrastructure)	Local supervision and operational requirements are high (many services)	Distribution or business systems are different (insurance) Companies need to be responsive and agile (home appliances)

TABLE 6.3: Weights of distances in different industries, Ghemawat (2001)

6.2.3 Total cost of ownership for the purchasing department

Purchasing decisions on an international perspective is not only about low prices of products in emerging markets like China or Vietnam. Firms have to deal with management alignment, delivery conditions, service problems, communication, and quality which can affect prices more than only selling price.

Delivery

Geographic distance plays an important role in the attractiveness to buy or not to buy in a foreign country. In general, geographic distance has been measured with the psychical distance between two countries, i.e. the distance in kilometers between home and host market (e.g. Berry et al., 2010; Håkanson and Ambos, 2010). Next to the psychical distance, other types of distances are likely to influence the total cost of ownership (Ghemawat, 2001). For example the access to ports, airports or railroads can shorten delivery time. With the choice of another way of transportation, other rules and activities has to be deal with. The purchasing department has to arrange Incoterms conditions with the supplier when the products or materials are transported

internationally (e.g. International Chamber of Commerce, 2010). Furthermore, it can be helpful when countries have a common border because the absence of a common border means that a third party have to be in between and can influence the delivery of products. An example of problems is given in case study 6.1.

6.1 Case Study: The absence of a common border

European countries are importing large amounts of gas. From the total consumption of gas in Europe, a quarter comes from Russia. Of this part, 80 percent flows through Ukraine (BBC, 2009; Telegraaf, 2009) and therefore Ukraine has a large indirect influence on the gas supply to Europe.
Several times Russia has had a conflict with Ukraine, which was not paying their bills to Gazprom, the Russian gas supplier. For example in 2006, Russia stopped the delivering of gas due to political reasons.
At the end of 2008, Russia and Ukraine became in conflict again. This time is was about 1.9 Billion euros Ukraine had to pay to Russia. After paying the first half at December 2008, Russia and Ukraine start their negotiations for the price of 2009. Due to higher cost of transportation Russia asks a higher price for the gas than a year before. Both countries troubling with each other about the higher prices and the not paid bills of gas already delivered. On January 1, 2009, Russia decided to stop the delivery of gas to Ukraine, but promise that it would not affect the supply of gas to West-Europe. Partly by draining of gas from the European gas pipe by Ukraine, Russia stops the gas flow through Ukraine. Several European countries reported that they face gas shortages or disruption of their gas consumption coming from Ukraine, supplied by Russia. For example, Romania faced a 30 to 40 percent decrease of gas supply, and Poland a six percent decrease.
In the following days, ten thousands of people in Europe had power shortages and factories were closed. Finally at January 12, Russia, Ukraine and Europe sign a contract to secure the supply of gas to Europe.
Though this is an extreme example, the absence of a common border influences the supply of a good from the supplier to the buyer. When a product has to be supplied through another country there is an increased risk that the products will face delivery problems. This can also be the case when a product has to be delivered through another country because the country of supplier has no local access to ports or airports in the neighbor.
It will be hard for a purchasing department to analyze which countries will have transport restrictions or boycotts, but they will have an advantage when they know. Further countries with free trade agreements will have an advantage compared to those that not have (for example see the Global Preferential Trade Agreements Database GPTAD).

Sources: NRC, 2009; BBC, 2009; Telegraaf, 2009, World Integrated Trade Solution, 2016

In this example there was a political conflict between Russia and Ukraine with result that parts of Europe were threatened with gas shortages. Because the gas line flows through a third party, direct delivering became harder. Also other political conflicts can cause problems for the purchasing department. Again looking to Russia, import restrictions on vegetables from the Netherlands due to not complying with health regulations will bring problems for Russian purchasers (Nu.nl, 2014).

Service

Many products that are purchased are delivered with services. As already mentioned in section 5.5 **servitization** is a move of suppliers from delivering only products to a combination of products with services (Vendrell-Herrero et al., 2014). The definition given in section 5.5 is "a company's change of direction from purely providing products towards supplying a variety of offerings including the combination of products and services in order to generate value" (Barnett et al., 2013; Vandermerwe and Rada, 1988; Vendrell-Herrero et al., 2014). For example, machinery is delivered with a maintenance contract, suppliers can do special treatments before delivering, and IT firms can help buying firms with implementing a system. From a TCO perspective these are value added services for the purchaser. Though, the purchaser has to take into account institutional distances. For example, a company needs to be able to answer to complaints. This can lead to delay of a production process when those parts have to be purchased and produced in a foreign country. If the part or product is really fast needed, it has to be replaced by a more expensive part that is purchased locally, if possible. In this way, a competitive advantage will be moved to a competitive disadvantage. Buying from locally firms seems to be favorable. The buying firm can respond on this by buying reserve parts but this will increase the need for stock space.

Last, the purchasing department has to take into account that differences in servitization exist across the world. In the manufacturing of products, servitization is highly integrated in the US while it is least prevalent in China (Neely, 2007).

The question for the purchaser is a management question: does the firm have the knowledge and capabilities inside the firm for maintenance or reparations. If this is the case, the purchasing department will not benefit extra services from the supplier for a product.

Communication

Language differences can cause for problems between buyer and supplier in their relationship. During negotiations between buyer and supplier communication is the main activity (Lai et al., 2010). In general, countries who share a common language have 300 percent larger trade than countries that does not share a common language (Ghemawat, 2001). Distance in language can be solved by using a third partner who speaks both languages but this brings additional costs. When purchasing has to sign a contract it must trust the translator that there are no interpretation mistakes made. Another limitation is the possible loss of private firm information via the translator. To solve this language problem, the buying firm can hire new personnel who are skilled in this specific language (Ellram and Siferd, 1993). Like the translator, hiring new personnel brings extra costs and the purchasing department should consider of hiring new personnel add more value to the company in terms of supplier dependency or quality of products.

Lai et al. (2010) found that negotiators in a familiar language environment are more active in e-negotiations than negotiators negotiating in non-family language, but that the negotiation outcome not significantly differ between these negotiators. Therefore they suggest

that other negotiation skills affect the interaction process. In paragraph 6.6 a more in depth analysis will be provided among supplier relationship management.

Quality

If a company is doing all the manufacturing and production in house, they are aware of the quality of their products or services. If manufacturing is, partly or completely, outsourced, the company does not have the same awareness about the quality. If something goes wrong at the supplier's side, and it is not found before it is sold on to the market or put into a product as a part, this will lead to problems. Creating relationships with key suppliers, and therefore come up with long-term relationships will face both direct and indirect positive financial performance (Carr and Pearson, 1999). Yeung et al. (2015) found that buyer-supplier relationship mediate quality performance relationships. From institutional theory, several distances are affecting the quality delivered by suppliers.

The first distance is cultural distance. Quality differs across the world and in products. People in the Netherlands get used to their products, while people in other countries have their specific quality of products. This difference in culture will affect the availability of products. See example 6.4 about Koopmans. Looking at quality on a regulatory perspective should increase purchasing activities with respect to certificates like a CE marking or ISO norms. In the quality process, communications will play an important role during negotiations (Lai et al., 2010). Not speaking the same language makes it difficult to clarify what is expected by the buyer. As can be seen in figure 6.2, geographical distance will become a problem when a delivered batch is wrong and the product has to be reproduced. Focusing only on a lower price, with the result of delivering low quality products might at the end not be beneficial to the firm because of buying, again, more expensive local products to solve the quality problem (Degraeve and Roodhooft, 1999; Horn et al., 2013).

Price

Most papers focused on the lower prices as main reason for firms for going abroad (Jia et al., 2014). Hereby it has been called an automatic expectation of firms to respond to competition (Carter, et al., 2008; IN Horn et al., 2013). Despite, in a research in the automobile industry, Horn et al. (2013) found that more than three quarters do not reap the benefits expected before. This was due to they were not able at all to generate savings, the savings were not above the annual average of the domestic industry, or because the products were not delivered following the agreed quality conditions. Next to price, other reasons are adduced why firms seek to buy abroad (e.g. access to unavailable products, technology, scarce or distinctive resources, higher quality, increase of the supply base, or developing foreign market outlet) (Jia et al., 2014). Purchasing activities in delivery, service, communication, and quality will influence the price of the total cost. Therefore, it seems that there is a tradeoff between price and the other four categories of activities. The price will in many case acts as a contra weight with value adding activities.

Next to these dimensions, already mentioned in subparagraphs before, dealing with price is affected by another type of distance. Economic distance plays an important role for the purchasing department, since it is partly influenced by exchange risk. Buying products outside Europe at a foreign currency can create (dis)advantages when the rate changes. It is therefore possible to hedge the risk. A second type of economic distance is different tax rules. This might bring extra costs.

Management

Purchasing, together with management, needs to define the purchasing strategy which is in line with the corporate strategy. The extent to which a purchasing department is able to implement the total cost of ownership concept depends on the maturity level of the purchasing department (Holweg et al., 2011; Horn et al., 2013). In setting up the strategy, the purchasing department has to think about the quality and skills of their employees. For example, have the employees of the department understanding of another language or experiences in another country. If not, the question is if the firm should train its own employees or hire new skilled people. An overview of the foreign experiences within the purchasing department on the perspectives of culture, political institutions and economic rules should be available.

A whole process within a purchasing department goes before the actual purchase. Management has to develop a purchasing strategy that aligns with the corporate strategy. Also, they select the employees in the purchasing department (PD). Activities related to delivery need to be taken into account as well. Late or incorrect orders lead to higher TCO. Service activities include inter alia maintenance, installation of equipment and respond to complaints. For communications, the activities related are maintenance of purchasing information system and keep up with the developments within the information systems. Within the framework there is also the aspect quality. Its activities are focused on selection, assessment and maintaining the relation with suppliers (Ellram and Siferd, 1993). Price related activities include negotiating about the quantity, quality and delivery conditions.

In line with the TCO, a company can adapt a best value approach for the purchasing department. As discussed in section 2.6.1, best-value aims at improving the supplier's performance not only looking at the price; however, taking other factors into account as well. Factors that are often included are technical and managerial advantages of the suppliers, financial health, and past performance (Gransberg and Senadheera, 1999; Gransberg and Ellicott, 1996). The TCO approach can be used to identify the total costs. In the next part, the internal alignment of a firm in a global context will be further explored.

6.3 Internal Alignment in a Global Context

Regarding global purchasing, internal alignment is a factor that is not about the way purchasing is executed; however, it refers to the organizational alignment. **Internal alignment** is defined in section 3.1 as "a configuration of competences for each strategy alternative" (Vanderstraeten and Matthyssens, 2012 p. 658). To have a clear internal alignment on a global level, Quintens et al (2006a) recommends a global purchasing strategy (GPS) that focuses on two aspects; namely, the configuration and standardization of purchasing. A global purchasing strategy may create competitive advantages of the company and its suppliers (Kotabe and Murray, 2004).

That successful implementation of a global sourcing strategy can stimulate the growth of a firm is confirmed by the case study of Chung et al (2004). To elaborate on the GPS, the two main aspects are discussed. Configuration of purchasing is the degree to which global purchasing takes place in a (de)centralized way (Quintens et al., 2006a). Although fully decentralized or centralized structures exist, the hybrid structures are most common. Hybrid strategies are not thoroughly grounded in literature yet. To manage a hybrid structure, coordination mechanisms should be in place. Second, standardization of purchasing consist out of purchasing personnel standardization, product standardization and purchasing process standardization (Quintens et al., 2006a).

1. Standardization of the global purchasing process is defined as the degree to which global purchasing takes place in a standardized way.
2. Standardization of product is defined as the degree to which characteristics of the product that is bought are standardized in the same way throughout the organization
3. Standardization of personnel is about how a company standardizes purchasing staff of the organization and to what extent.

In line with the standardization of processes, products and personnel, the case study of Trautmann et al. (2009) provides insights in the different degrees of the above mentioned standardizations.

In literature global integration for departments like research and development, marketing or manufacturing is available (Kim et al., 2003; Sheth and Parvatiyar, 2001; Xu et al., 2006); however, for the purchasing department it is scarce. Although the importance of a hybrid purchasing structure has been emphasized for balancing the global integration and local responsiveness (Faes et al., 2000; Quintens et al., 2006a), Gelderman and Semeijn (2006) are one of the earliest addressers of the portfolio decisions as an antecedent of successful global purchasing.

Both Mol et al. (2004) and Gelderman and Semeijn (2006) discovered that a higher level of integration between purchasing and other departments is positively correlated with the degree of global purchasing. The integration is stimulated by using purchasing portfolio tools. The portfolio tools like Kraljic are used to transfer knowledge from one department to another. According to Gelderman and Semeijn (2006), a tool such as the Kraljic matrix facilitates cross-functional teamwork, which improves internal coordination within business units. However, it does not show a clear increase in cross-business unit teamwork (Gelderman and Semeijn, 2006).

Recently, an increase in International Purchasing Offices (IPOs) is seen for managing the integration of global sourcing (Monczka et al., 2008; IN Sartor et al., 2014). Nowadays, it is even one of the most used approaches for sourcing strategies (Jia et al., 2013). An **International Purchasing Office (IPO)** is defined by Goh and Lau (1998) as "an offshore buying office or buying house to procure components, parts, materials and other industrial inputs to be used by manufacturing plants globally" (Goh and Lau, 1998; IN Sartor et al., 2014 p. 4).

When purchasing globally, more strategic choices need to be made. As figure 6.3 depicts the firm can purchase directly from the domestic firm, via an agent or by setting up an IPO. By setting up an IPO the border between the internal and external environment of the company shifts. Also, one should decide if it wants a standalone IPO or an IPO that is fully integrated with the supplier (Sartor et al., 2014). This depends on the strategy of the firm to decrease, inter alia, the cultural distance. Since more integration leads to a lower level of cultural distance (Sartor et al., 2014).

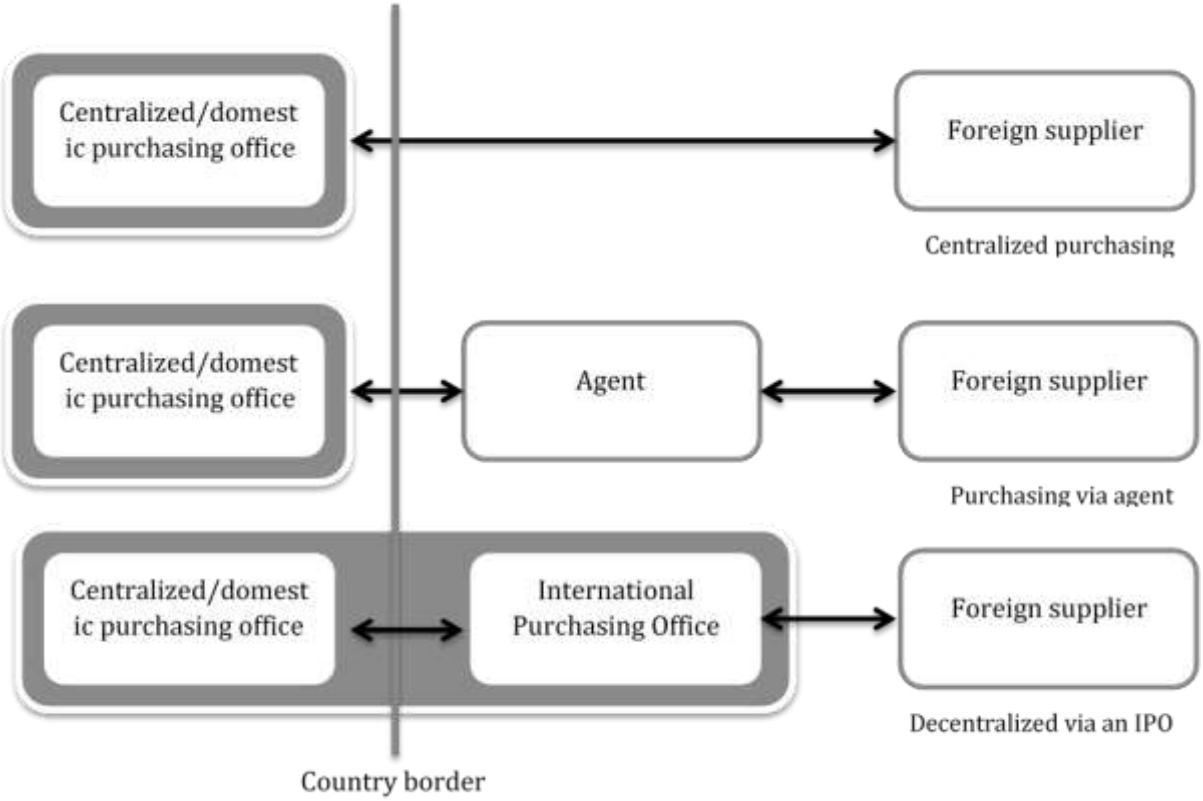

FIGURE 6.3: International purchasing strategies and relationships (Sartor et al., 2014).

6.2 Case Study: Akzo Nobel Coatings

Akzo Nobel Coatings is a decentralized company that operates on a global scale. A large part of the ingredients for coatings can only be purchased internationally. The company faces a challenge in balancing centralization and decentralization. For acquiring raw materials three buying systems are used; namely, lead buying, main buying and local buying. By introducing the buying systems, the (de)centralization issues are addressed.
The lead buyers have the responsibility to develop and implement an overall purchasing strategy for a certain raw material. When a user in a certain business unit is buying from a supplier that the lead buyers wants to use, then the lead buyer has priority. In this case, the local buyer has to find another supplier. The main buying system operates at the business unit level and is responsible for purchasing a product (group) within the business unit. Every business unit has one main buyer that cooperates with other main buyers of other business units. Local buyers are dealing with all other small volume product categories on a local level.
To manage the different systems, Akzo Nobel implemented an advanced IT system that records all purchasing requirements of all business units. In addition, to determine the importance of a raw material and its suppliers an adjusted version of the Kraljic portfolio model is used. Four categories are identified based on the two axes; namely, the value of purchases and the number of suppliers. Where the demarcation line between high and low is based on an 80-20 rule. This implies that the upper half of the matrix counts for 80 percent of the total purchase value and the lower half counts for 20 percent. Important aspect is the relative concept that is in place. The purchase of 1000 tons for a small local unit can be positioned as a 'high value purchase', while 5000 tons for a large unit can be positioned as a 'low value purchase'. This is implemented to prevent that a smaller business unit will always be in the lower part of the matrix.

Source: Gelderman and Semeijn (2006)

6.4 International Supplier Relationship Management

International purchasing brings supplier relationship management to a new level because cultural distance has to be taken into account. **Cultural distance** is defined by Ghemawat as **"**A country's cultural attributes determine how people interact with one another and with companies and institutions. Differences … are all capable of creating distance between two countries" (Ghemawat, 2001 p. 140). **Relationship managemen**t is defined in section 4.2 as "...The ability to act ethically, listen effectively, communicate, and use creative problem solving. The ability to drive relationships is critical for firms seeking to build strong integration [...] with external suppliers" (Monczka et al., 2015 p. 119-120). Buying abroad means that this has to be put in an international perspective, since managers that grew up in different cultures, use different perspectives which can lead to conflicts between partners. It is suggested that if cultural distance is high, both parties have different expectations from the alliance (Gammelgaard et al., 2013).

Focusing on long-term-supplier relationship, firms have to control the relationship. This can be done by two mechanisms: formal control and informal control. Formal control mainly relies on contract while informal control mainly relies on informal means and trust (Dyer & Singh, 1998; Uzzi, 1997; IN Li et al., 2010).

In order to increase the relative success of a buyer-supplier relationship it would be helpful to understand cultural values and norms which focus on trusting relationships and, or, supplier performance. This could help both, buyers and suppliers, to develop or improve the relations they have (Cannon et al., 2010). For example social relationship may have an important role in relationships between firms in emerging countries like China, because of the level of uncertainty in this countries is relatively high (Peng and Heath, 1996). Domestic relationships in these countries, social relationships back up the use of contracts if the length of the cooperation is taken into account. In an international context, there is insignificant result (Li et al., 2010). This might be because of the difference between the Guanxi culture, which is based on trust and reputation, versus a western culture where business relations are made using contracts (Lovett Steve, 1999). Hofstede classified China as a collectivist country, and western countries like the US are classified as individualist countries. Individualistic purchasers expect quality and based on this they start a relationship, while collectivistic purchasers prefer to establish a relationship first and then evaluate the performance (Cannon et al., 2010); this will also become clearer in the example that is given in example 6.3.

Another distance to take into account is administrative distance. Due to globalization it would be possible for companies to exploit the suppliers that are in countries which have different rules and regulations. Due to the case that barriers are decreased and countries are able to source globally relatively easy. However, things can also go wrong due to incomplete and vague regulations (Korten, 1995; Vernon, 1998; IN Christmann and Taylor, 2006). In chapter 7 will be discussed how sustainability can be secured in supplier relationships. The next distance is geographical distance. It is argued that the geographical distance affects the choice on how involved companies are with suppliers, based on a research in technology alliances (van Kranenburg et al., 2014). This last one can be a limitation, but there does not seem to be more research about this specific topic. Last distance is economic distance. Companies tend to go to countries that have lower wages (Carter, 2000). This could be linked to chapter 7, sustainability. Especially in chapter 7.4, it will be explained and elaborated on how this could be managed.

6.3 Case Study: The effect of Culture on Purchasing Relationship Management in a Global perspective

To see what the effect of culture on purchasing is, Cannon et al. (2010) have performed a case study that compared Collectivist and Individualist countries. Further they looked at the effects on supplier performance. The outcomes were that in Individualistic countries supplier performance is used to build up long term relationship, while in Collectivist Countries other measures, like relative price, quality and delivery are important. In collectivist countries they value relationship over performance (Cannon et al., 2010).
This is also shown in practice by Toyota. Toyota is a well-known Japanese automotive company. It has to deal with suppliers from other countries, since of the 250 suppliers that are located in Europe, about half are non-Japanese companies. Purchasing is always in favor of supplier relationship management (SRM), but other divisions may have other views. Examples are given of the Quality department that would want to have the best quality in the industry, while R&D would prefer to choose for the suppliers which have high innovation capabilities. The task for Purchasing is to find the best solution for all parties.
A way of collectivistic purchasing is given by Toyota. Toyota manages the supplier relationship is by sharing the savings made due to the solutions provided by their supplier. This to keep their suppliers motivated. As expected based on literature, Toyota makes clear that doing business using a long-term, non-opportunistic philosophy, is an activity that takes place between human beings at the end of the day. This makes it possible to even accept bad news, if the reason behind it is explained, and time is taken to discuss this among each other. They also want to makes sure that all the parties are satisfied with how the relationship is going, and not that one company would have the feeling that they are left behind, while the other company is maximizing their own benefit. This does mean that the company should already have a good relationship and mutual trust, and the relationship is not expected to end at all. In order to be able to satisfy their suppliers, Toyota wants to become a strategic customer, as they expect their suppliers to be strategic suppliers. Therefor loyalty and reliability are key concepts for Toyota.

Source: Cannon et al (2010); Stateofflux (2016)

6.5 Purchasing of International Services

Buying services internationally can affect the purchasing department more than nationally. Further purchasing global services might differ from purchasing global products. In this part, the authors will elaborate on what services are purchased, and how they are purchased. In section 5.2 the differences between products and services are explained. **Service** has been defined in section 5.2 as "a change in the condition of a person, or of a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit, with the prior agreement of the former person or economic unit" (Hill, 1976 p. 318).

Purchasing services internationally really took off after the ICT revolution. Before this revolution it was more expensive to hire external firms to perform tasks like working in helpdesks and call centers, but grew over time and included more and more services (Palugod and Palugod, 2011). If complex tasks are outsourced, it would be good for managers to evaluate if these tasks can be outsourced. If this is not evaluated, this could have negative effects on the

quality of the service, and to a lower extend, to cost reduction (Elia et al., 2014). Geographic distance is relevant, because the issues mentioned in this paragraph are less applicable to most services that are outsourced. Economic distance because a reason to outsource is to go to companies with lower wages (Carter, 2000).

These studies show that the way the service is specified and agreements that are used are in a process that is still not completed in which the definition of services changes because of interactions between buyer-service providers (Gelderman et al., 2015). How a certain service is defined follows a cyclical process. Within this cyclical process they are becoming destabilized and are stabilized again later (Lindberg and Nordin, 2008). Selviaridis et al. (2011) did a research about when, how, and why service definitions are in this cyclical process of destabilizing and stabilizing. This research was performed in the logistics service industry.

It is clear that service purchasing is different from the purchasing of products. This is already shown in the way research is performed. If the research is on professional service purchasing it is likely to take an approach that culture is universal, by doing this they assume that research findings and normative models are generalizable in different cultures. In the most other research disciplines, influence of national cultures on the decisions of managers is taken into account. So this is questioning the fact that in service purchasing the cultures are generalized (Pemer et al., 2014).

This paragraph will explain what the relation is between cultural distance and service purchasing. In section 5.4 the **service purchasing process** is introduced and defined as "the process of purchasing a service, consisting out: specifying (request for information and detailed specification); selecting; contracting; ordering; expediting and evaluating" (Valk and Rozemeijer, 2009 p. 7). These steps in the purchasing process could all be linked to the cultural dimensions, mentioned earlier. In this part there are examples of Uncertainty avoidance and Masculinity/Femininity. Previous studies have indicated that organizations in cultures that have high uncertainty avoidance are more likely to use higher degrees of centralization and formalization is comparison to organizations in cultures that score low on uncertainty avoidance. It is found that in cultures with high level uncertainty avoidance trust is less important as in countries that have a low level of uncertainty avoidance. If the company works on trust it means that they have to accept uncertainty (Homburg et al., 2009). In the study performed in Germany and Sweden, showed that indeed in contracting and selecting this was the case. This same study showed that Germans and Swedes have different views on buyer supplier relationship. This could be linked to the fourth and fifth step of the purchasing process (ordering and expediting) (Pemer et al., 2014). This fact backs up the earlier theory of Hofstede that the cultural dimensions, and especially the degree of masculinity–femininity, affect leadership styles in a country directly (Hofstede, 1999). A manager in a more feminine country would be expected to use feminine values if he is purchasing a product or service, while a manager from a masculine orientated country would be like expected from a masculine perspective if he is purchasing something (Pemer et al., 2014). Cultural, geographic and economic distance has been discussed. Unfortunately there is no clear link between administrative distance and service purchasing. That is mainly because linking this CAGE framework to purchasing was not done before, and is a very new idea.

6.6 Summary

Chapter 6 provides an in-depth analysis on global purchasing. The most relevant current issues are mentioned, as well as the drivers, facilitators and barriers. After which, a gap in the literature is filled by linking the CAGE framework to the TCO approach. Delivery, service, communication, quality, price and management are aspects of TCO. Cultural, administrative, geographic and economic distances of the CAGE framework are used to shed a global light on the TCO aspects. Research shows that three quarter of firms purchasing abroad for low prices, do not reap their savings as expected before, often because other factors have to be taken into account. One can conclude that there is uncertainty in global business. The case about the absence of a common border describes it well.

6.7 Discussion

Empirical data is lacking in the field of global purchasing. Future research can take the basis of this chapter to extend the linkage between both frameworks.

Moreover, internal alignment, supplier relationship management and services are put into a global perspective. Culture is an often returning aspect within these subjects. In a very diverse world, it is hard to understand and/or integrate different cultures. A new subject within purchasing can be how to structure the way of dealing with cross-cultural aspects. There is a large base of literature; however, an ideal way of handling the different cultures is still lacking. Another factor that is recurring in this chapter is structure. One can conclude that companies should recognize when standardization is applicable and when it is not. Also, there is a certain degree in standardization. Current literature is already finding a way by integrating category management. In this way suppliers can be evaluated. However, further research is necessary to really identify when firms to what extent should structure their processes, products and personnel.

Two aspects are not considered in this chapter, which are risk management and sustainability. The following chapters include a global perspective on both issues.

Key terms

The key terms mentioned in this list can, with their references, be found in the main body of this chapter.

Global purchasing – The activity of searching and obtaining goods, services and other resources on a worldwide scale, to comply with the needs of the company

Institutions – Humanly devised constraints that structure political, economic, and social interaction and that provide the incentive structure of an economy

Total Cost of Ownership - All costs associated with the acquisition, use, and maintenance of an item be considered in evaluating that item and not just the purchase price.

International Purchasing Office (IPO) – An offshore buying office or buying house to procure components, parts, materials and other industrial inputs to be used by manufacturing plants globally.

Cultural distance – A country's cultural attributes determine how people interact with one another and with companies and institutions. Differences are all capable of creating distance between two countries.

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Chapter 7: Sustainable purchasing

Authors:

Blanke, T.,
Deng, K.
and, Frericks, A.J.

Abstract

In this chapter, several important theories of the sustainability literature are introduced. First, the importance of sustainability will be explained. This will be followed by a definition of sustainable purchasing. Next, there will be a short recap of previous chapters. The main focus of this chapter is sustainability. Therefore, in this chapter drivers and barriers of sustainability practices implementation will be addressed and the portfolio of Kraljic (1983) will be discussed. Also, measurements of sustainability to assess suppliers will be introduced and the supplier development process will be extended. Finally, this chapter will conclude with a future vision sustainability provides. This chapter builds on the fact that theories like the Triple Bottom Line (TBL) influence the subject of purchasing. This chapter adds knowledge on previous chapters by extending this with sustainability theory implications. Theories and strategies of previous chapters are briefly recapped and then extended with sustainability knowledge. The implications are briefly discussed.

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7.1. Introduction

Sustainable development cannot be achieved without the help of firms (Dunphy et al., 2007). Therefore nowadays, organizations operate in a business environment where sustainability as the utmost issue gained growing attention from different stakeholders in the society (Schneider & Wallenburg, 2012a). Therefore, sustainability factors play an important role in the evaluation of suppliers because the focal company is responsible for the reputation of the whole supply chain (Koplin et al., 2007). Organizations are required by the governmental body and other stakeholders, such as customers and non-governmental organizations, to act responsibly and accountably to the society (Schneider & Wallenburg, 2012a). As a result of various pressures, organizations need to have sustainability in the corporate strategy (Carter & Rogers, 2008).

Sustainability practices can also lead to market success. Companies can be rewarded based on their engagement in **sustainable development** practices through their purchasing and investment decisions (Miles & Covin, 2000; Beloe et al., 2004; Dunphy et al., 2007; Babiak & Trendafilova, 2011; Ditlev-Simonsen & Midttun, 2011; in Windolph, Harms & Schaltegger, 2014). Next to this, success in sustainability practices can increase employee motivation and employer attractiveness (Daily & Huang, 2001; Moon, 2007).

As a strategic function in an organization, purchasing is proved to have a positive impact on the sustainable strategy in an organization (Gimenez & Tachizawa, 2012). Purchasing has lifted up to from a purely clerical and transactional function attributed to the cost reduction that purchasing can bring to organization as whole (Johnsen et al., 2014). In a similar pattern, with the growing concerns over sustainable issues, purchasing is considered as an operational function to assist in undertaking sustainable strategy (Giunipero et al., 2012).

Moreover, the fundamental role of purchasing is to buy products and services externally, this provides purchasing opportunities as a gatekeeper to source the potential, and connecting the demand of internal customer, or even external customers (due to integration with marketing mentioned in section 3.3.3) with the first, second tier suppliers (Lysons & Farrington, 2012). In addition, with the increasing number of outsourcing activities: “a company is no more sustainable than the suppliers from which it sources” (Miemczyk, Johnsen, & Macquet, 2012). Standing at the intersection of customers and suppliers as well as the strategic role in an organization, effectively managing purchasing is imperative for a purpose of achieving the goal of sustainability (Giunipero et al., 2012; Miemczyk et al., 2012).

Because of the increased importance of the purchasing role as gatekeeper for the company, the increased pressure for implementing sustainability from stakeholders (governments and customers) and the greater responsibility for the focal company this chapter is included in the book. In this chapter, the fundamentals of strategic sustainable purchasing are included by the model of Pagell, Wu and Wasserman (2010). Companies can use this model to assess which product categories are critical in their sustainability strategies. Thereafter the selection and evaluation processes of suppliers are discussed, this because a company can never be more sustainable than the suppliers from which they source (Miemczyk, Johnsen & Macquet, 2012). For the same reason sustainable supplier development is discussed in this chapter. As an extension on supplier development different supplier governance perspectives of Jiang (2009)

are introduced. In order to show that sustainability practices can be innovative an exciting as well some new business opportunities are introduced in the end of the chapter.

7.1.2 Importance of sustainability

Sustainable development cannot be achieved without the help of firms (Dunphy et al., 2007). Therefore nowadays, organizations operate in a business environment where sustainability as the upmost issue gained growing attention from different stakeholders in the society (Schneider & Wallenburg, 2012a). Increasing number of organization emphasize the importance of sustainability and undertakes sustainability programs. To name a few, Wal-Mart made a commitment in 2005: a hundred percent use of renewable energy, to create zero pollution, products sold in Wal-Mart's support resources and the environment; Starbucks adhere to responsible sourcing, committed to improving the living standards of farmers, protect the environment as well as coffee growing coffee growing areas of sustainable development.

Even though growing awareness of importance of sustainability, scandal of using child labor, expired raw material in food industry, sweatshop, fraud and corruption have been kept revealing. Some of them may result from the suppliers and/or subcontractor, which will make the focal company suffer from immeasurable reputation and image damage. Therefore, sustainability factors play an important role in the evaluation of suppliers because the focal company is responsible for the reputation of the whole supply chain (Koplin et al., 2007). Organizations are required by the governmental body and other stakeholders, such as customers and NGOs, to act responsibly and accountably to the society (Schneider & Wallenburg, 2012a). As a result of various pressures, organizations need to have sustainability in the corporate strategy (Carter & Rogers, 2008).

Sustainability practices can also lead to market success. Companies can be rewarded based on their engagement in sustainable development practices through their purchasing and investment decisions (Miles & Covin, 2000; Beloe et al., 2004; Dunphy et al., 2007; Babiak & Trendafilova, 2011; Ditlev-Simonsen & Midttun, 2011; in Windolph, Harms & Schaltegger, 2014). Next to this, success in sustainability practices can increase employee motivation and employer attractiveness (Daily & Huang, 2001; Moon, 2007).

As a strategic function in an organization, purchasing is having a positive impact on the sustainable strategy in an organization (Gimenez & Tachizawa, 2012). Purchasing has lifted up to from a purely clerical and transactional function attributed to the cost reduction that purchasing can bring to organization as whole (Johnsen et al., 2014). In a similar pattern, with the growing concerns over sustainable issues, purchasing is considered as an operational function to assist in undertaking sustainable strategy (Giunipero et al., 2012).

Moreover, the fundamental role of purchasing is to buy products and services externally, this provides purchasing opportunities as a gatekeeper to source the potential, and connecting the demand of internal customer, or even external customers (due to integration with marketing mentioned in section 3.3.3) with the first, second tier suppliers (Lysons & Farrington, 2012). In addition, with the increasing number of outsourcing activities: “a company is no more sustainable than the suppliers from which it sources” (Miemczyk, Johnsen, & Macquet, 2012).

Standing at the intersection of customers and suppliers as well as the strategic role in an organization, effectively managing purchasing is imperative in purpose of achieving the goal of sustainability (Giunipero et al., 2012; Miemczyk et al., 2012).

7.1 Case Study: Importance of sustainability within purchasing

In September 2015 the news came to light that car fabricator Volkswagen has by means of their software, been committing fraud with the emission values of their diesel cars. They made it look like that their cars where driving much more environmental friendly, than they actually were. To make them look more attractive for their consumers.

This scandal had huge financial consequences for Volkswagen. They were demanded by the government and consumers 'unions to take the cars with the wrong software back to the garage for new software. This software replacement had to pay by Volkswagen. In addition, they had to pay large legal fines. For example, they were legally fined with 16 billion euros by the United States. Furthermore, a stock price of a share of Volkswagen sank in a period of three days after the scandal with more than 35 percent.

Next to the financial consequences, the good reputation of Volkswagen was also damaged. But, not only the reputation of Volkswagen, the reputation of the whole supply chain.
This Volkswagen case is an example of a sustainability disaster. Which resulted in major financial and reputation consequences for the whole supply chain of Volkswagen. Thereby, it shows the importance of sustainability and sustainable supplier relationships for organizations.

Sources: Nu.nl (2016) and Algemeen Dagblad (2015a,b)

The subject of supplier relationship management has been discussed earlier in chapter 4. In this chapter the sustainability concept will be added to those discussions. Section 4.2.1. also gave insights in the supplier selection process. According to the model of Chen (2011), there are three phases in the selection process: (1) Requirement and Strategy Analysis, (2) Supplier evaluation and (3) Assessment of Supplier Performance. Also the five supplier evaluation criteria of Verma & Pullman (1998) were also elaborated. These criteria were unit cost of components/service, the quality of components/service, the delivery lead-time, on-time delivery and flexibility in changing the order (Verma & Pullman 1998). The model of Krause, Handfield and Scannel (1998) for supplier development was also discussed. In this chapter sustainability criteria will be added to these models so suppliers could also be evaluated, selected and developed on their sustainability performance.

This chapter also looks at the impact of sustainability on the traditional concept supplier relationship management, in which sustainability is looked at from the triple bottom line (TBL) concept. The by Elkington (1997) developed concept of triple bottom line (TBL) for sustainability, defines sustainability into the three dimensions: economic, environmental and social.

7.2 Strategic sustainable purchasing

7.2.1 The drivers and barriers of sustainable purchasing

How to truly embrace sustainability remains a tough question to practitioners regarding purchasing and supply management (Pagell & Shevchenko, 2014). This may require purchasing manager and practitioners stepping back to rethink the source that enabling and disabling the implementation of **sustainable purchasing**. Gaining an understanding of what drives and hamper sustainability implementation is likely to eliminate the resistance on the way to sustainability.

When the enablers and barriers of sustainable development are considered, a stakeholder view should be taken into account. Stakeholder view means "*people who have an interest, claim, or stake in an organization, in what it does, and in how well it performs*" (Jones, 2011). When looking at purchasing function, the stakeholders (from internal to external) can be identified, including top management within and outside purchasing department, other business function (R&D, Marketing and etc.), and suppliers and third parties.

By comparing eight private and public companies Walker et al., (2008) found out that the critical drivers are, regarding organizational factors, cost reduction and employee involvement, competitor's activities. These internal drivers can be further expanded by adding top management involvement, increased utilization of resources (Giunipero et al., 2012).To larger extend, According to Walker et al (2008) and Giunipero et al. (2012)'s findings, most sustainable program are driven by the law and regulation, and top management initiatives. This finding implies that gaining the top management support is critical to any sustainable purchasing programs, which is also in line with the importance of corporate strategic alignment mentioned in section 3.2.1. However, organizations who remain in the complying stage may not gain the benefit of sustainable purchasing (e.g. resource usage), due to they might fall into the pitfall of short-term benefit (Pagell et al., 2014).

On the other hand, the barriers hamper the implementation of sustainable purchasing include buyer and supplier investment, economic uncertainty, short-term vs. long-term goals, little top management support, lack of regulation and standard, suppliers lack resources and external awareness (Giunipero et al., 2012; Walker et al, 2008). Most sustainable purchasing programs would be compromised under the pressure of economic factors compared with environmental and social aspects (Giunipero et al., 2012). Organizations are likely to prioritize economic factors compared with environment and social aspects, especially when economic crisis and recession occur. Generally, the survival of an organization relies on the sound circle of return of investment, cash flow, profit margin and etc. Barriers would be obvious under the situation where the cost of implementing sustainable programs is not clear (Giunipero et al., 2012). When suppliers do no not have sufficient resources that may pose additional burden on suppliers (Giunipero et al., 2012), and the insufficient and discrepant of regulation and policy also complicate the case. For this regard, purchasing department may need to extend supplier training or related programs to instruct and help its supplier to reach the standard (will elaborate in later part of this chapter). Moreover, on a border sense, under the circumstance where the policy and regulation in supplier's country are not consistent with buyer's, this may summon

buyers company put more effort extending to increasing industrial benchmark and might advance the policy advance in supplier side.

	Drivers (enablers)	Barrier
Internal	Top management Initiatives	Initial Buyer and Supplier Investment
	Increased Resource utilization	Short-term vs. Long-term Goals
	Cost Saving	Little Top management Support
External	Reduce Carbon Footprint	Economic Uncertainty
	Competitive Differentiator	Lack of Standards and regulation
	Customer Requirement	Suppliers Lack Resources
	ISO14000	Policy Change difficult
		External Awareness

TABLE 7.1 Internal and External Drivers of Sustainability adapted from(Giunipero et al., 2012; Walker et al., 2008)

The drivers and barriers concluded in the previous table has not extensively conclude all challenges that an organization facing when adopting sustainable purchasing. Various factors are interrelated and determine the degree to which sustainable purchasing undertakes. Inside an organization, the power and resource that the purchasing department have are likely to influence the adoption of sustainability and other department's (R&D) cooperation (Kundsen, 2003). According to Giunipero et al., 2012, in order to implementing sustainable purchasing, purchasing manager need to overcome the hindrance from the top management, which is also supported by Zhu et al (2008)'s research. In addition, the knowledge and skill regarding to sustainability that the managers possess would also influence the implementation of sustainable purchasing (Lee & Klassen, 2008). According to Lee & Klassen (2008), the lack of environment related knowledge and the purchasing managers and/or employee lack professional skill in terms of sustainability may also be source of barriers, which has not been mentioned in previous findings. This implies purchasing manager and employees may need to improve related knowledge in this regard, due to the degree to which the purchasing manager and employees possess is likely to influence the corresponding strategy adoption.

7.2.2 Sustainable sourcing strategy: an extension of the Kraljic Portfolio

One important decision that purchasers need to make is what strategy to use to sources suppliers. As mentioned in section 2.4.1, Kraljic's (1983) model provides a straightforward yet efficient sourcing strategy to choose suppliers in terms of product property (supply risk and profit impact) and related strategy to managing suppliers (single sourcing vs multi sourcing). Kraljic portfolio (1983) has proved to be a widely-used adopted by many purchasing practitioners (sources), while, it also gained many criticism as the model has not been estimated (source), in realistic operation, some products are hard to assign to different quadrat (non-

strategic, strategic, bottleneck, and leverage item), engendering the difficulty execute the corresponding sourcing strategies that Kraljic (1983) recommended. To tackle the problems mentioned above, serval extensions or modifications of Kraljic portfolio has been put forward. Some of them are mentioned in chapter 2. In this part, the focus is paid to the extension in terms of sustainability.

When under the context of sustainability, Pagell et al., (2010) criticized on the substantial defect of Kraljic portfolio (1983) that mainly focused short-term transactional cost impact on the financial performance. This emphasis is potentially contradict to sustainable purchasing, because the blind pursuit of cost reduction is likely to do harm in the supply base (Pagell et al., 2010). Buyers and suppliers are supposed to exist based on symbiosis. Especially, when outsourcing activities are on the rise, buying company relies on suppliers providing high quality product and/or service. Low cost sourcing may have negative effect on the supplier putting them on the edge of survival (Wu & Pagell, 2011), let along supplying reliable product and/or service. In addition, continuous reduction of cost, as mentioned above, may induce suppliers' unethical behaviors in order to survive (Giunipero et al., 2012), which is contradicting to the statement of sustainable development.

Based on the above reasons, Pagell et al. (2010) modify and extend Kraljic's portfolio in terms of product categories and profit impact. The **resource based view** (RBV) (Pagell et al., 2010) means the degree to which the product or service that the organization purchases has impact on the competitive advantage in an organization (Johnsen et al., 2014, p. 42). On the other hand, the profit impact has been replaced by the TBL as important measurement, which not only addresses profit elements, but also the impacts of social and environmental dimension (Pagell et al., 2010). Along with the TBL and the supply risk, the product categories are further divided into six product categories, including strategic, strategic commodity, transitional commodity, true commodity, bottleneck and non-critical items (Figure 7.2). Based on the clarified six product categories, the corresponding buyer-supplier relationship will be described next.

In the improved portfolio, the strategy towards non-critical items should be efficiency and low transaction costs. For the bottleneck items the goal of sourcing should be risk reduction by having multiple suppliers and safety stocks. The strategic items are a high threat to the TBL and therefore managers should consider risks to one or more elements of the TBL. Strategic commodity items would have non-economic attributes which could be leveraged into a long-term competitive advantage, while true commodities can be taken as leverage items and have an impact on the cost element of the TBL. The transitional commodities have a high supply risk because the purchasers may have asymmetric information. Once insufficient information has enriched, this type of item is likely to become true commodities. For the strategic commodity type of items, purchasers initial invested in the suppliers, which may lead to higher supply risk. However, over time, the investment will make the supplier a valued resource that is able to provide superior value.

FIGURE 7.2: Portfolio matrix, Pagell, Wu and Wasserman's (2010)

To summarize thus far, nowadays, organizations are confronted with different pressures from the dynamic and competitive business environment. Being responsible to the environment and society is no longer be a slogan, but implementation of many corporate. In the strategic part, The public image and reputation are of great importance and viewed as intangible value to the organization (Sajjad, Eweje, & Tappin, 2015) which needs various support from different business function in an organization. In addition, this improved portfolio elicits an important signal that traditional low-cost sourcing strategy may no longer be able when implementing sustainable programs.

7.2.3 Implications for purchasing strategies

With the growing trend towards outsourcing and global sourcing activities, organizations are exposed to potential risks brought by the supplier' unethical and opportunistic behaviors (Sajjad et al., 2015). According to Carter & Jennings (2000), the utilization of sustainable sourcing, supplier management and assessment (as will be elaborated later in this chapter) are used as effective tools to prevent the image and reputation loss of an organization when it is embedded in outsourcing.

Merely presenting the purchasing portfolio strategy does not necessarily mean neglecting or reducing other purchasing strategies importance, such as category management, supply base management, and best value purchasing in chapter 2. However, purchasing portfolio can be taken as strategic toolkit, organically synthesizing different purchasing strategic into one portfolio matrix (Zhu et al., 2010). For example, analysis of products and their classification (category management), and analysis of the supplier relationships according to product (supplier category management), and corresponding suppliers relationship strategies (supplier management) (Zhu et al., 2010). Using portfolio, at the same time, purchaser can assess other purchasing strategies for the way of sourcing in the market and managing suppliers as well (Zhu et al., 2010). And this is also related to the degree of professional in a purchasing department. When a purchasing manager design sustainable purchasing strategy, portfolio may

to large extend provide a holistic yet straight forward view to match different strategy with suppliers and product to be sources.

In implementing sustainable purchasing, purchasers and practitioners need to communicate, interact, and cooperate systematically with internal suppliers and customers, such as the R&D and marketing departments (Schneider & Wallenburg, 2012). As told in one of the guest lectures, purchasing is likely to gain state of the art information, new products and techniques in market. As purchasing department is standing on the intersection between the supply market and the internal customer, this updated information is likely to provide optimized and cost-saving solutions to R&D. This good cooperation with other business functions will help purchasing managers to further strengthen their strategic position within the company and to successfully implement sustainable sourcing (Schneider & Wallenburg, 2012).

In addition, sustainability can no longer be achieved if the mindset of purchasing managers and practitioners does not change (Giunipero et al., 2012). Sustainable purchasing is based on the strategy that purchasers adopted to source and collaborate with its suppliers, and the way of cooperating with other functions in a company, and the professional that practitioners possess (Schneider & Wallenburg, 2012). The traditional focus of cost reduction leading strategy can no longer be in favor when firms want to become more sustainable, especially the long-term benefit would compromise in short-term cost reduction. The view shift from limited cost reduction to long term sustainable (TBL) would be a fundamental element to promote and encourage the suppliers being green and social responsible as the society expect (Pagell et al., 2010). This may increase the corporate competitive as growing demand in the market place. Purchasing managers need to incorporate sustainability in decision making and policy, when choosing suppliers.

7.2 Case study: low cost sourcing – Primark in storm

The trendy English clothing shop Primark was founded by Arthur Ryan in 1969 with the name of Penneys when first operated in Ireland. After the expansion in England in 1973, Penneys was replaced by Primark being used up to now. The goal of Primark aims at providing customers with trendy clothing at the least expense, which satisfy the low-end market segment. The Economist remarked that "For many shoppers, Primark has an irresistible offer: trendy clothes at astonishingly low prices. The result is a new and even faster kind of fast fashion, which encourages consumers to buy heaps of items"
In order to support this market strategy, providing customers with trendy clothing at low prices, low cost sourcing is exploited in Primark's sourcing strategy. This sourcing strategy pushes the limit of suppliers' margins, tapping the suppliers struggling at the edge of survival. This results in the supplier (TNS Knitwear) in UK using illegal workers in poor conditions at its Manchester factory. The workers at TNS have to work 12-hour day, seven days a week for unjustified £3.5 an hour. This payment is against the basic requirement by UK government and Primark's own code of conduct. The low cost and goal sourcing strategy also lead to the scandal of the subcontracting supplier in India using child labor.
The Primark case indicates that the race to the bottom of cost is likely to do harm in the supply base continuity. In order to survive under the high pressure of cost limit, supplier(s) are likely to behave unaccountable and irresponsible. This related unethical behavior of suppliers is likely to damage the reputation and image of Primark.

Sources: The Economist (2015), The Guardian (2008) and BBC News (2009).

7.3 Sustainable supplier selection and evaluation

Traditionally, organizations consider criteria such as price and quality in their evaluation of suppliers. Nowadays, many organizations consider environmental, social, and economic aspects as well (Bai and Sarkis, 2010a, Buyukozkan and Cifci, 2011, Seurign and Müller, 2008; in Govidan et al., 2013). When in 1998, Verma and Pullman (1998) researched what the most important supplier selection criteria were as perceived by managers; the only choices were economic criteria. As discussed in section 4.2.1 quality, cost, delivery and flexibility attributes are important when choosing a supplier. On the other hand, these days, as discussed in the introduction, it is important to also use sustainability criteria when suppliers are selected.

The Chen (2011) model implies that criteria for supplier selection are selected and that suppliers will be evaluated with those criteria. But no environmental and social criteria are used. The article of Govindan et al. (2013) provides us an overview of sustainability performance criteria, suitable for B2B firms, mentioned in recent research. Govindan et al. (2013) extend the supplier selection and evaluation process by adding sustainable criteria to it.

On the environmental scale four selection criteria are proposed based on the articles of Bai and Sarkis (2010a, b), Tseng and Chiu (2013), Kuo et al. (2010), Awasthi et al. (2010), Buyukozkan and Cifci (2011), Eltayeb et al. (2011), Amin and Zhang (2012) and the article of Nikolau et al. (2013) which was still in press during publication of Govindan et al. (2013). These factors are: **Pollution production**, **Resource consumption**, **Eco-design** and **Environmental management system** (see table 7.2). Next three experts gave their opinion

about the importance of these factors. It came out that the first factor, pollution production, is the most important factor in assessing the environmental performance of the supplier.

Also social criteria were proposed for the selection evaluation procedure. Based on the article of Bai and Sarkis (2010a) and Nikolaou et al. (2013), which was still in press during the publication of Govindan et al. (2013), internal and external social measures were defined. The internal measures were consisting of **employment practices** and **health and safety** factors. The external measures exist out of **local communities influence** and **contractual stakeholders influence** (see table 7.2). Other than the environmental factors the social factors are proposed based on a set of sub measures. Again the first factor, employment practices, was the most important factor based on the opinion of three experts.

Measure	Definition
Pollution production	Average volume of air emission pollutant, waste water, solid wastes and harmful materials releases per day during measurement period
Resource consumption	Resource consumption in terms of raw material, energy, and water during the measurement period
Eco-design	Design of products for reduced consumption of material/energy, design of products for reuse, recycle, recovery of material, design of products to avoid or reduce use of hazardous materials.
Environmental management system	Environmental certifications like ISO14000, environmental policies, planning of environmental objectives, checking and control of environmental activities
Employment practices	Disciplinary and security practices, employee contracts, equity labor sources, diversity, discrimination, flexible working arrangements, job opportunities, employment compensation, career development
Health and safety	Health and safety incidents, health and safety practices
Local communities influence selecting a supplier who offers	Health, education, service infrastructure, housing, health and safety incidents, regulatory and public services, supporting educational institutions, security, cultural properties, economic welfare and growth, social pathologies, grants and donations, supporting community projects
Contractual stakeholders influence	Procurement standards, partnership standards, consumers education, stakeholder empowerment, stakeholder engagement

TABLE 7.2 Sustainable selection criteria, Govindan et al. (2013)

Thus, due to the increased importance of sustainability the selection and evaluation criteria that the purchasers use, should be extended with environmental and social criteria. A reason for this is that, as the researchers Govindan et al. (2013) stated, this selection and evaluation criteria should enable an organisation to make their supply base more sustainable. Namely, it should help organisations to choose the best supplier among the potential suppliers (Govindan et al., 2013). But also, to continue a relationship with a supplier, since the criteria should help firms to indicate which supplier are in need of development regarding sustainability. In addition, it should indicate with which supplier a buying firm should end their relationship. Thereby, a firm should profit from the triple bottom line benefits, which were discussed in the introduction (Govindan et al., 2013).

To summarize, due to the increased importance of sustainability the selection and evaluation criteria that the purchasers use, are extended with sustainability criteria's. Traditionally organisations considered only criteria such as price and quality in their selection and evaluation of suppliers, whereas nowadays these economic criteria are extended with environmental and social criteria.

7.4 Sustainable supplier development

Only conducting sustainable supplier selection and evaluation in a way that leads to the exclusion of those suppliers which do not meet the sustainability standards, is not considered sustainable (Foerstl et al., 2010). Since, the risks regarding social and environmental sustainability may be reduced when the non-sustainable suppliers are excluded from the supply base, merely excluding non-sustainable supplier may result in risks regarding the economical dimension. As a result of excluding the non-sustainable suppliers from the supply base, the competition among suppliers gets minimized, which may ultimately endanger the goal of economic sustainability. Furthermore, the reduced and thereby more powerful number of suppliers might be less willing to adopt changing and stricter standards regarding sustainability. Therefore, sustainable supplier selection and evaluation should be complemented with sustainable supplier development (Foerstl et al., 2010). The importance of the use of development to make sure that the number of suppliers is sufficient enough (Krause, Handfield and Tyler, 2007), was already discussed in chapter 4. As was also mentioned in chapter 4 about SRM, **Supplier development** can be defined as the processes to improve the performance of a supplier and to increase the capabilities of the supply base to ensure improvement on the selection criteria of the goods and services supplied by these suppliers (Hahn et al., 1990). With sustainable supplier development, competition among the suppliers is fostered, while improving their green and social capabilities (Foerstl et al., 2010). The kept competition results in, the kept bargaining power of the firm and thereby has a positive effect on the total costs of the buying firm. Another benefit from sustainable supplier development is that it increases the credibility of the buying firm since the set sustainability standards are not merely stated but ways of achieving and maintaining these standards are also provided (Carr and Pearson, 1999; Krause, Handfield and Tyler, 2007; Foerstl et al., 2010).

Sustainable supplier development has also a positive effect on the selection and development of suppliers. When a firm gets more experience with supplier development, they will get better knowledge about which precondition suppliers should meet for supplier development to be successful. This enables to select only the suppliers which are developable in order to meet the sustainability standards (Hahn et al, 1990, Lee et al., 2001, Foerstl et al., 2010, and Trapp and Sarkis, 2016).

7.4.1 Focus of supplier development resources

Based on the fact that most firms do not possess the resources to be able to develop every supplier in sustainability, choices in the allocation of development resources have to be made (Fu et al., 2012; Bai et al., 2010b; Dou et al., 2014).The decision, which supplier to develop regarding sustainability should be based on the reputational risk for the company. Whereas, the non-sustainable development of suppliers was predominantly focused on the strategic suppliers in terms of spend volumes, bargaining power and strategic relevance of the supplied items. Because the stakeholders of a firm dislike any kind of misconduct of any supplier regardless of spend volume with a particular supplier or strategic relevance to the firm. Thus, a misconduct of every supplier could result in a damaged reputation. Therefore, the decision which supplier to develop regarding sustainability should be based on the assessment of the likelihood of supplier noncompliance/ sustainability risk assessment (Foerstl et al., 2010). The ways in which a firm can assess the reputation risk, to make this decision, will be discussed in chapter 8. For example, in general, emerging countries are riskier in term of noncompliance to sustainability standards. Therefore, a general strategy for firms who purchase globally is to concentrate developing initiatives primarily on suppliers from emerging countries.

7.4.2 Environmental development

Development programs: "would be those focused on helping suppliers improve their environmental performance or relationship with the buying organization" (Bai and Sarkis 2010b). The researchers Bai and Sarkis (2010b) have categorized green-supplier-development practices into three groups: Green knowledge transfer and communication, investment and resource transfer, and management and organizational practices. The first category includes amongst other things, practices such as training suppliers on environmental issues, information sharing on environmental topics, strong formal supplier environmental evaluation, and setting environmental performance targets for suppliers. The category investment and resource transfer under green-supplier-development practices include practices like reducing supplier environmental costs, rewarding suppliers for environmental performance, and transferring employees with environmental expertise to suppliers. And the last category, management and organizational practices, consist of practices such as, long-term contract including environmental dimensions, building on top management commitment/support for supplier organization for green supply practices, and developing a formal process for supplier development for suppliers' suppliers (Bai and Sarkis, 2010b; Fu et al., 2012; Trapp and Sarkis, 2016; Dou et al., 2014).

These three groups of green development programs are all manners in which a buying firm could help their suppliers to increase their environmental performance. Thereby the suppliers are becoming more sustainable, which has as its result that the risk of non-compliance is decreased.

7.4.3 Social development

Social development of suppliers is a topic which is not covered well in literature. Apparently focal firms are more likely to develop suppliers in an environmental and the social aspect of the triple bottom line is neglected. Why would companies invest in practices which cannot lower costs? Carter (2000) supports this view by stating that social development of suppliers is not directly contributing to supplier performance. Carter does explain that there is a relationship between social development and supplier performance, but it is mediated by organizational learning.

Sancha et al. (2016) have recently investigated whether collaboration between buyer and supplier, the buyer investing in the supplier, would enhance social performance. They concluded that when supplier social performance improves the buyer performance also improves. A second important impact is that buying firms can improve social performance of suppliers by collaborating with them, e.g. developing and investing money in them. So purchasers could use their relationships with supplier firms to enhance social performance by starting a collaborative effort. Also just assessing, monitoring and evaluating (as discussed earlier in this chapter) improves buyer firm social reputation.

7.5 Buying from global suppliers

"*Some suppliers in developing countries believe that higher labor costs and various environmental standards are examples of disguised protectionism designed to keep their exports out of developed countries markets*." (Ross & Chan, 2002; in Jiang, 2009) As mentioned in section 6.1.1 cost minimization always was one of the main reasons to outsource functions to developing countries (Carter, 2000). Fortunately, this race to the bottom of costs is exchanged for a race for maximum value. Therefore now innovation is one of the main reasons to source globally.

Still, the suppliers in developing countries know where their work came from. In developed countries labor costs had become too expensive for most functions. Therefore, these functions were outsourced to lower wage countries. Problems arose when these low wage countries cannot produce cheap enough. Multinationals then search for other cheaper suppliers in the same country. The suppliers sometimes still have the attitude of producing as cheap as possible. As Plambeck and Taylor (2015) paraphrased Forster and Harney (2005) and Gould (2005): "Facing that loss of business and the high cost of responsible practices, many suppliers instead attempt to hide information from their buyers' auditors." These practices become painfully clear when events happen like the Rana Plaza building collapse in Bangladesh, 2013. To help suppliers become more sustainable on both environmental as social Jiang (2009) identifies two methods which will be elaborated below.

7.5.1 Buyer-Supplier Governance

Defined by Jiang (2009) Buyer-Supplier Governance can be identified with certain characteristics. The first one is that the buyer obligates the supplier to a certain code of conduct. In most cases the supplier has to pay for itself to achieve this (Gould, 2005). Therefore, it is also easier for the buyer to switch suppliers because there are no investments to be lost (McCafferty, 2005; Lockett et al, 2006). Combined with the ease of suppliers to evade or cheat buyer's audits this leads to many social incidents.

Because the firm does not invest in the relationship with its supplier this method is more price oriented. This also implies that there are no switching costs for the buyer, so buyers could switch suppliers when suppliers fail to meet buyer's requirements (Jiang, 2009). Therefore this method "Only encourage suppliers to do just enough to avoid being caught" (Jiang, 2009).

7.5.2 Peer-to-peer Governance

Jiang (2009) also defined another way of governing foreign suppliers. Multinational corporations could also help their suppliers. Multinationals can try to understand supplier's management policies and reward efforts towards more social labour circumstances. This way the supplier does not have to be steered with threats and sanctions. The buyer could also help the supplier by investing in supplier's business too. By applying this method mutual safeguards are developed (Kostova & Zaheer, 1999).

Of course Jiang (2009) concludes that there is a negative relationship between price pressure and peer-to-peer governance. The buyer has to invest in a supplier which it is not familiar with. This would require a lot of trust when on a short term money is invested. On the other hand when there is peer-to-peer governance it is more likely that the contract will last longer. Also it is more likely that suppliers will comply with buyer's demands.

7.6 New business opportunities

Next to enforcing several 'rules' and theories for buyer firms, sustainability practices also open doors for new business opportunities. Products could be redesigned in order to make a reverse supply chain viable. Purchasers should pay attention to think about what happens to their purchased goods after they have been used. This implies that the old "horizontal" supply chain will be replaced by a new circular supply chain; this practice becomes clear in example 7.3.

7.3 Case study: the new green deal – circular purchasing

According to the Dutch government a circular economy would result in revenue of 7 billion euros and create 50.000 jobs. It involves products being designed in a way that they can be recycled and bought back by the supplier. This sounds like a conventional supply chain; the difference is that the purchasing department enforces the supplier to add this possibility to their products.
Following this theory the Dutch Army has asked students what to do with its old uniforms. Students came up with the solution to use it in fashion. Therefore the old uniforms are not being sold to army dump stores but to fashion designers to increase value of those old uniforms.
So circular purchasing is also about increasing the value of waste. For companies this could be an interesting new way of business. Key enabler is the relationship with suppliers: they must be open for new ideas and ways of working.
Dutch railway maintenance organization ProRail discovered that their supplier was not ready for a circular deal. Result is that ProRail now has got furniture which could be reused by other parties because the materials used are of higher quality. Problem is that there is no third party to reuse this furniture.
So ProRail has not found any buyer for their used furniture yet. Still they invested in the extra quality of it.
Another example of the circular economy is the construction of the Infoversum in the city of Groningen. The sand and grind which was dug away for the foundation of the building was reused in the concrete for the building.
When an open mind is used the circular economy could create its own demand. Hence that the value of the sand and grind is much higher when it is sold (or used at the spot) as a resource for concrete than when it is sold as waste.

Sources: MVO Nederland (2016) and Welink (2014)

Next to the implications for governmental purchasers sustainability also offers opportunities to entrepreneurs. In example 7.3 a packaging free store in Groningen is elaborated. The main purpose is to show that sustainability is not boring, but trendy and hip as well.

7.4 Case Study: buying goods with no packaging

In the city of Groningen it is possible to buy your food without packaging. In the Opgeweckt Noord store you can only buy food out of dispensers, casks and crates. Customers can bring their own packaging (like glass bottles) or buy reusable packaging at Opgeweckt Noord itself. According to their website this will result in:

- Conservation of natural resources
- Reducing the CO2 pollution
- Reduces the food oversupply
- Reduces the mountains of waste

Based on a variety of "forces" Opgeweckt Noord states that their products come from local suppliers. This has many benefits. The first one is that the food will travel less, so the flavor will diminish less, also the money spend will stay in the region and will protect small authentic farmers in the region. Opgeweckt Noord further elaborates that "you" as consumer are the basis of a healthy lifestyle of you and your family. Opgeweckt Noord also offers their advice to consumers about food, exercise and healthiness.
Besides advice, Opgeweckt Noord offers a lot more; workshops about cooking, exercise and diets are offered to customers. It is also possible to socialize in the store of Opgeweckt Noord. They offer working places with free Wi-Fi to customers so they can "healthy" work in a pleasant environment.
This example shows that entrepreneurs and businesses can create new business models by using sustainability concepts. A totally new market segment is addressed by these entrepreneurs. Purchasers should therefore keep in mind that sustainability can offer new opportunities.

Source: Opgeweckt Noord (2016)

7.7 Summary

In this chapter main theories of sustainability were explained. The triple bottom line of Elkington (1999) and the definition of Brundtland (1987) have been introduced. With the knowledge of these theories the importance of sustainability practices was explained. It became apparent that focal companies these days are responsible for actions conducted by their suppliers (Koplin et al., 2007). An important statement to keep in mind is: "A company is no more sustainable than the suppliers from which it sources" (Miemczyk et al., 2012).

In the first main part, the drivers and barriers to implementation of sustainability practices are introduced. It seemed that employees and top management are the internal drivers of sustainability practices. Also having customers demanding these practices is very useful. Next to this the Kraljic (1983) matrix is extended in this chapter. Using the publication of Pagell et al. (2010) the environmental, social and economic impact of the product categories was introduced. The first example in this chapter told about the Primark store having problems with suppliers. Because of the race to the bottom of costs suppliers were paying their employees very bad and in some cases even using child labor.

In the next section supplier relationship management, as explained in chapter 4, was addressed. The need for extending the selection and evaluation criteria was stated with the publication of Verma and Pullman (1998). Environmental and social selection criteria were

introduced for the supplier selection and evaluation process. Using these criteria will result in the selection of more sustainable suppliers for companies.

The following section in the chapter was sustainable supplier development. It explained that only using criteria for selection and evaluation is not enough. Also, the benefit of 'development experience' was explained: buyers could tell earlier in the selection process which suppliers are able to be developed. This was followed by a section concerning the focus of supplier development resources. This decision should be based on the likelihood of supplier non-compliance and the sustainability risk assessment (Foerstl et al., 2010). Special sections about environmental and social development were also introduced. Collaboration could improve the social performance of suppliers, and therefore improve the performance of the buyer company as well.

The last two sections contained subjects like global purchasing and new business opportunities. In the global purchasing section, two governance practices Jiang (2009) identified were elaborated. Purchasers could better use peer-to-peer governance for the best result of their efforts. The new business opportunities section gave some examples about entrepreneurs and businesses developing new business models for the sake of sustainability.

7.8 Discussion

The best purchasing strategy these days is to collaborate with your inner company and your suppliers. This also holds for a successful implementation of sustainable sourcing. The traditional cost focus is of no more use. Since customers will be seeking value of their products and focal companies are held accountable when some supplier is not paid well (Koplin et al., 2007).

The supplier selection and evaluation process as proposed in chapter 4, based on Chen (2011), can thus be extended by adding sustainability criteria. Using the triple bottom line approach Govindan et al. (2013) add social and environmental criteria to the selection process. These criteria were factor rated by three experts in the field. Hereby sustainability is applied when selecting and evaluating suppliers. Govindan et al. (2015) also offer a list of a hundred selection criteria used in literature. Although, when using these criteria the question remains whether the focal company is getting scammed or not (Jiang, 2009).

Next to sustainable supplier selection and evaluation, it is for a purchasing function necessary to conduct sustainable supplier development to become sustainable. Sustainable supplier development has as its major benefit that the competition among the suppliers is fostered while the suppliers are improved in their green and social capabilities. The literature provides many programs which a buying firm could use to improve the environmental performance of their suppliers. However, the social development of suppliers is a topic which is not well covered in the literature. Despite the fact that when the social performance of suppliers improves their own social performance also improves. Next to that the development of suppliers, in achieving sustainability practices can only be started after initial development. The decision which supplier should be developed regarding sustainability should be based on

the likelihood of supplier noncompliance/ sustainability risk assessment. This is necessary because the misconduct of every supplier could result in a damaged reputation.

Purchasers could enhance firm reputation by collaborating with suppliers in an effort to improve social performance. Next to normal supplier development, which includes the economic performance aspects like information sharing, socially responsible development of suppliers could enrich focal company's reputation and social performance.

Key Terms

The key terms mentioned in this list can, with their references, be found in the main body of this chapter.

Contractual stakeholders influence - procurement standards, partnership standards, consumers education, stakeholder empowerment, stakeholder engagement

Eco-design - design of products for reduced consumption of material/energy, design of products for reuse, recycle, recovery of material, design of products to avoid or reduce use of hazardous materials

Environmental management system - environmental certifications like ISO14000, environmental policies, planning of environmental objectives, checking and control of environmental activities

Employment practices - disciplinary and security practices, employee contracts, equity labor sources, diversity, discrimination, flexible working arrangements, job opportunities, employment compensation, career development

Health and safety - health and safety incidents, health and safety practices

Local communities influence - health, education, service infrastructure, housing, health and safety incidents, regulatory and public services, supporting educational institutions, security, cultural properties, economic welfare and growth, social pathologies, grants and donations, supporting community projects

Pollution production - average volume of air emission pollutant, waste water, solid wastes and harmful materials releases per day during measurement period

Resource based view - focuses on the unique resources and capabilities controlled by the firm as sources of sustainable competitive advantage; the term sustainable (or *sustained*) in this context implies a long-term focus rather than a focus on environmental or social issues.

Resource consumption - resource consumption in terms of raw material, energy, and water during the measurement period

Stakeholders - people who have an interest, claim, or stake in an organization, in what it does, and in how well it performs

Sustainable development - development that meets the needs and aspirations of the present without compromising the ability of future generations to meet their own needs

Sustainable purchasing - the consideration of environmental, social ethical and economic issues in the management of the organization's external resources in such a way that the supply of all goods, services, capabilities and knowledge that are necessary for running, maintaining and managing the organization's primary and support activities provide value not only to the organization but also to society and the economy

Triple bottom line - profit (the economical dimension) should no longer be at the expense of people (the social dimension) or planet (the environmental dimension)

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Chapter 8: Risk management and Purchasing

Authors:

Debye, Y.,
Guo, M.,
Rabo, P.
and, Renkema, M.R.W.

Abstract

Risk management and purchasing are two dynamic fields which should be both considered. This chapter therefore is a combination of the work in these fields. The process management model from Ho et al. (2015) provides a good framework to manage risks in purchasing. Each step of this cycle, identification; assessment; strategy and monitoring, will be analyzed into depth. Purchasers can identify different kind of risks (demand, internal, supplier and environment related) which can be assessed with a risk assessment matrix. Based on the assessment an appropriate strategy could be selected, i.e. transferring (or sharing), accepting, avoiding and/or reducing the risk. The fourth step of the risk management process is reserved for risk monitoring. This is not the end of the process. Due to the nature of uncertainties, risk management remains an ongoing process. Furthermore, companies can act proactively and/or choose a reactive management strategy.

Table of content

8.1 Introduction

A book about current issues in purchasing is not complete without addressing the role of risk management in purchasing, since highly competitive business environments have always been and will always be full of uncertainties. For example, Wall Street crash (1929), Oil crisis (1973-4), Asian crisis (1997), Dotcom crash (2001) and the latest subprime crisis in 2008 (The Economist), have an indirect or direct influence on the purchaser to manage risks. Companies have to face these different risky situations and must be able to address accordingly. There are risks that can be forecasted a long time before their appearance and there are risks that happen unpredictably so that organizations have to handle them in a short term.

The purchasing department is increasingly regarded as a function that can provide a competitive advantage for their organization, as addressed in the purchasing strategies chapter 2. It is a central function that has to deal with and react to progressively different and new risks. For instance, good working buyer-supplier relationships are getting more essential for the mitigating risks that are encountered in the purchasing process and that can negatively affect the entire company. Shi et al. (2011) also suggested that purchasing is a critical function in supply chain management and that this function is susceptible to risk, mainly due to uncertain customer demand and purchase price volatility. The objective of implementing risk management strategy is to help organizations handling uncertainties and disruptions.

Because of the significance of purchasing, this chapter will concentrate on how risk management can contribute to purchasing within companies. The main focus is set on the risk management process. This process can be used as a guideline to purchasers. Besides, in case of the appearance of a risk, it requires to apply **reactive risk management** strategies which will be introduced after the risk management process. The knowledge obtained from this chapter will equip a purchaser with insights and capabilities to help the company to prepare and react to the situation which is full of uncertainties.

To comprehensively and thoroughly address the practice of risk management and its connection to purchasing, this chapter will be organized as follow. Section 8.2 will introduce the risk management and purchasing. Section 8.3 will discuss how to identify purchasing risks. Section 8.4 will show what should be taken into consideration in purchasing risk assessment. Section 8.5 will illustrate strategies could be applied for managing purchasing risks. Section 8.6 will discuss purchasing risk monitoring. Section 8.7 will focus on reactive risk management. Section 8.8 will summarize the whole chapter followed by discussion.

8.2 Risk management and Purchasing

Before addressing the risk management process, it is important to know the risk management context for purchasing activities. This chapter will begin with an exploration of this context based on literature and a case of Hewlett-Packard to show the importance of managing risks.

8.2.1 Definitions within the context of risk management and purchasing

Risk management and purchasing can be brought together, because in purchasing there are also risks that are needed to be managed. “Objectives of risk management can be eliminating, reducing, controlling” (Waring & Glendon, 1998, p. 7), and/or transfer risks (Norrman &

Jansson, 2004). Table 8.1 illustrates different kinds of risks related to the supply and purchasing field (Waring & Glendon, 1998; Zsidisin, 2003, Goh et al., 2007; Monahan, 2008; Russill, 2012; Ho et al., 2015; Sobel, 2015). As shown in table 8.1, it can be suggesting that risks are very diverse. **Purchasing risks** can have different sources and can be differentiated with multiple labels (refer to section 8.3).

Author(s)	Part	Definition
Ho et al.(2015, p. 5036)	Supply chain risk management	"An inter-organizational collaborative endeavor utilizing quantitative and qualitative risk management methodologies to identify, evaluate, mitigate and monitor unexpected macro and micro level events or conditions, which might adversely impact any part of a supply chain."
Zsidisin (2003, p. 222)	Supply risk	"Supply risk is defined as the probability of an incident associated with inbound supply from individual supplier failures or the supply market occurring, in which its outcomes result in the inability of the purchasing firm to meet customer demand or cause threats to customer life and safety."
Sobel (2015, p. 22)	Risk	"Effect of uncertainty on objectives."
Russill (2012, p. 13)	Purchasing risk management	"The name given to the measures taken […] including changes to behaviors, procedures and controls […] which remove purchasing risks or reduce them to what is considered to be an acceptable level."
Goh et al., (2007, p. 164-165)	Supply chain risk management	"The identification and management of risks within the supply network and externally through a coordinated approach amongst supply chain members to reduce supply chain vulnerability as a whole."
Waring and Glendon (1998, p. 3)	Risk management	"Field of activity seeking to eliminate, reduce and generally control pure risks (such as from safety, fire, major hazards, security lapses, environmental hazards) and to enhance the benefits and avoid detriment from speculative risks (such as financial investment, marketing, human resources, IT strategy, commercial and business risks)."
Monahan (2008, p. 11)	Enterprise Risk Management	"Dealing with uncertainty for the organization."

TABLE 8.1 Definition of risk management

The risk types discussed in this chapter are a selection of purchasing risks in the overall context of the supply chain management related to purchasing. Other types however might be equally relevant in different very specific business environments. Because of the universality and uncertainty of purchasing risks, it is hard to define a precise definition of purchasing in risk management. Additionally, due to the similarity between the risk management process and general risk management efforts, the definition for risk management could be adopted and adapted to be suitable under the circumstance of purchasing. Therefore, in this chapter, purchasing risks are defined as supply, operation and demand risks which have an effect on the purchasing process (i.e. identification, assessment, mitigation and monitoring) to reach the organizational goals.

8.1 Case Study: Purchasing Risk Management at Hewlett-Packard

Hewlett-Packard signed a long-term contract with a major supplier to manage future cost and availability uncertainties of flash memory. But is this a right contract about the flash memory? Because a risk is if the flash memory prices dropped, then Hewlett-Packard would pay more than their competitors because of the fixed-price as mentioned the contract. Nagali et al. (2008) therefore developed a quantitative framework to let Hewlett-Packard show in detail the long-term demand, cost, and availability uncertainties as specified in the contract. The authors suggested that the benefits of implementing purchasing risk management (PRM) for the purchasers in the process are: material-cost savings, assurance of supply, cost predictability, inventory reduction, supplier benefits, reduction in the 'bullwhip effect', new business process and PRM function, workforce development. As results of this new PRM process at Hewlett-Packard, in 2006, this new business process helped Hewlett-Packard to manage 7 billion dollars in spending; results in material-cost savings of 128 million dollars. Over the last six years, HP saved more than 425 million dollars by using the PRM approach. This case study shows that manage and mitigate risks in purchasing can result in saving a lot of spending.

Source : Nagali et al. (2008)

8.2.2 Risk management process model

The risk management process model is broadly studied and adapted over the last years. Table 8.2 shows an adaption of the risk management process over the years from several researchers. From table 8.2 it can be realized that the risk identification, risk assessment and monitoring is a red line in the process. This chapter chooses the process from Ho et al. (2015), who comprehensively summarized the multiple similar processes in previous literatures. The risk management process model consists of the following four steps, which are 1) risk identification; 2) risk assessment; 3) risk mitigation; and 4) **risk monitoring**.

Authors	Risk management process
Harland et al. (2003)	1) Map supply network; 2) Identify risk and its current location; 3) Assess risk; 4) Management risk; 5) Form collaborative supply network risk strategy; 6) Implement supply network risk strategy.
Norrman & Jansson (2004)	1 Risk identification; 2) Risk assessment; 3) Risk treatment; 4) Risk monitoring.
Blackhurst et al. (2008)	1 Risk identification; 2) Risk assessment; 3) Risk management decisions and implementation; 4) Risk monitoring
Ho et al. (2015)	1 Risk identification; 2) Risk assessment; 3) Mitigation/strategy; 4) Risk monitoring

TABLE 8.2: Risk management processes

At length, figure 8.3 gives a concise and legible impression for understanding the circle of **purchasing risk management process**. It is important to realize this cycle because it provides a clear guide for purchasing risk management. This makes risk management a continuous process. The first step in the process is identification, where the discussion of sources and types of risks in purchasing will be addressed (paragraph 8.3). The second step is assessment, where the probability and impact of risk will be discussed (paragraph 8.4), followed by different kind of strategies, such as risk acceptance, reducing, transferring and avoidance (paragraph 8.5). The last step about monitoring are relevant to tracing, pre-warning and examining the implemented strategies (paragraph 8.6).

FIGURE 8.3: Circle of **purchasing risk management process,** Ho et al. (2015)

8.3 Risk identification

The first step in risk management process is identifying those incidents that can occur and will have a negative impact on the organization's performance (Ho et al., 2015). In this paragraph, first the sources of purchasing risks are given. Before risk assessment can be addressed in the next paragraph.

8.3.1 Sources of risks

Christopher and Peck (2004) identified the different sources of risks within the supply chain as: Supply Risk, Process Risk, Demand Risk, Control Risk and Environmental risks. Figure 8.2 illustrates the extended supply chain and its sources of risk. This figure is a combination of Manuj and Mentzer (2008) and Christopher and Peck (2004).

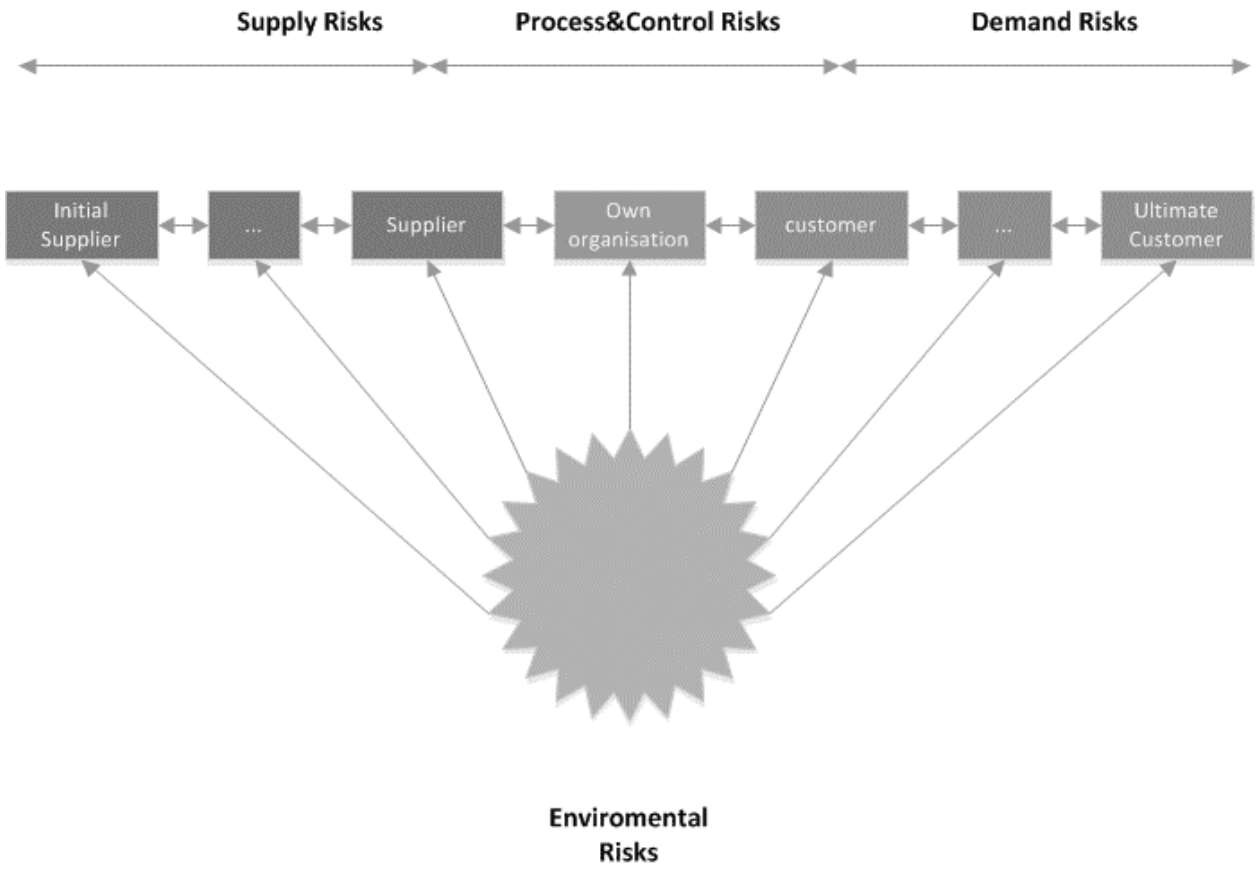

FIGURE 8.2: Risks in the extended supply chain, Christopher & Peck (2004

In figure 8.2, process and control risks are related to uncertainties in processes that either creates value, or those linked to overseeing the performance of the earlier mentioned value adding processes (Christopher & Peck, 2004). Two other or sources of risk are supply and demand risks, which originate from outside the firm; these sources are linked to risks caused by interacting with suppliers and risks caused by interacting with customers (Christopher & Peck, 2004; Manuj & Mentzer, 2008). These sources of risk are both internal to the supply chain network. (Christopher & Peck, 2004; Manuj & Mentzer, 2008). All other sources of risk are

external to the organization, as well as, to the supply chain network and can therefore be labeled as environmental risks (Christopher & Peck, 2004; Manuj & Mentzer, 2008). Chopra and Sodhi (2004) suggested that purchasing risks refer to unanticipated increases in acquisition costs resulting from fluctuating exchange rates or supplier price hikes.

8.3.2 Types of risks in purchasing

As seen in in the previous paragraph, the sources for risks in purchasing are: supply risks, environmental risks, internal operational risks and demand risks. Reviewing the literature on purchasing risks, the first thing that becomes clear is the great diversity in different types of risks. Based on many possible nuances, one can declare a new category; all depending on both the author's perspective as well as on the perspectives of others, like survey respondents or interviewees.

Risk	Example(s)	Related to chapter:
Price risks	Supplier raising prices after being selected.	4 & 2
Inventory related risks	Stock being stolen, destroyed or prices drops.	4
Accuracy of deliveries risks	Goods being delivered after and before intended.	4
Quality risks	Delivered products are of lesser quality than agreed on.	4 & 2
Availability risks	The risk of a supplier not being able to deliver due to stock outs.	4
Communication & information delivery risks	Miscommunication of order details.	4
Conflicts about intellectual property rights risks	O.E.M starts producing a competitive product, based on your IP	5
Reputation risks	The public knowing your products are produced in sweatshops, child labor, etc.	7
Dependency on suppliers	Based on an unfavorable power balance a supplier can try to renegotiate parts of the deal like price or quality.	4 & 2
Outsourcing	Loss of flexibility and competences, vendor lock-in	5

TABLE 8.3: Supply risk types, Hallikas and Litunkangas (2016); Christopher and Peck (2004)

Table 8.3 based on Hallikas and Litunkangas (2016) and Christopher and Peck (2004) give an overview of the different types supply risks. The upcoming part will discuss the linkages of these types of risk with other chapters in this book, and the interdependencies between the different types of risk.

Chapter 2, the purchasing strategies chapter, made the importance of managing risks in the purchasing process very clear. The first and most used model for purchasing portfolios is the Kraljic matrix (Kraljic, 1983). In this matrix items are allocated to categories based on two attributes, the severity of the supply risks and profit impact. The central position, of the concept of supply risks makes sense; since uncertain and unwanted events can seriously affect the company's performance.

Linked to the importance of sustainable sourcing is the potential of the overall reputation risks that can be the consequence of a company's failure in sustainable sourcing. This is not only the fact with social responsible, but also ecologically responsible sourcing (Lemke and Petersen, 2013).

Price risks are risks of price fluctuations while sourcing goods, a purchaser risk to have to pay a higher price then eventually agreed on, because of fluctuations in the market price (Zsidisin, 2003), or any other reason a supplier uses to alter the price. This risk is therefore directly related to the risks of getting too dependent on a supplier. When a buyer depends too much on a supplier, the buyer can become the supplier's captive, as discussed in section 4.2.2. Give this supplier the opportunity to try to renegotiate the agreement. This can result in the supplier raising prices or deliver goods with lower quality. Another risk type tied to supplier dependency is outsourcing. Since with outsourcing, selected business processes are transferred entirely to a supplier. As a result, a company risks to end up too dependent on the supplier, because with outsourcing there will be a loss of knowledge about the outsourced activities, in the purchasing company. Also can outsourcing lead to a decrease in flexibility and less control over the quality assurance (Shi, 2008; Schiele & Vos, 2015). Outsourcing of valuable business parts, such as research and development is also connected to the risk of conflicts about intellectual property as shown by Buss and Peukert (2014).

The class of environmental risks is in their turn heavily connected with the global purchasing context. In section 6.1.2, the authors identified the extension of the supply base as a possible driver to develop a global purchasing strategy. By doing so, environmental risks like: socio-economic- and socio-political risks can also rise. However, a global sourcing strategy can also be a risk mitigating effort. Cavallo et al. (2014) show the after effects of earthquakes in Chile and Japan, in 2010 and 2011. They conclude that even six months after the earthquakes, significant number of products were out of stock. Remarkably the price levels did not show a noteworthy increase at the same time (Cavallo et al., 2014). Companies in these areas, who did not developed a global sourcing strategy, would not be able to serve their customers in the same way, as companies who sourced globally. Giving companies that sourced globally a strategic advantage during these stock outs; until even six months after the events.

Another interesting type of environmental risk to highlight is technological risk. In today's highly technical working environment, as purchasers, just like anybody else, depend more and more on ICT systems. A good example of the impact a threat of a disruptive technological risk can have on the entire supply chain, is the anticipation on the Y2k millennium bug. Researchers had found out that internal clock in computers were probably not able to cope with the change from the usual double digit year notation to the required 4 digits' year notation; while transitioning into new millennium (Essig et. al, 1999; Mcgaughey & Gunasekaran, 1999).

Risk	Example(s)	Related to chapter:
Nature risks	Earthquakes, hurricanes, tsunamis, floods, extreme cold weather, extreme hot weather.	6
Socio-political	Terrorism, international trade disputes, war	6
Socio-economic	Employee strikes, financial crisis.	7
Technological	The millennium bug, stop supporting software	
Internal misalignment risk	Ordering products based on the wrong specifications.	3
Variations in demand	A new competitive product being released on the market.	

TABLE 8.4: Environment and demand risk types, Hallikas and Littunkangas (2016); Christopher and Peck (2004)

And finally the last risk type listed in table 8.4; variation in demand, can be caused by a release of a new competitive product on the market or by seasonal demand variation. In both cases this can lead to a decrease in the demand. If purchasing does not recognize this risk, this can result in the unnecessary buying of products or parts (Johnson, 2001). Demand risks are in this case related to internal misalignment risks. Collecting demand data is traditionally the area of expertise of the marketing department, when both departments are misaligned the purchaser risks to buy products which are not the best solution for the customer (Johnson, 2001; Sheth et. al, 2009).

8.4 Risk assessment

Next to risk identification, many purchasing managers might directly move on to discuss which risk management strategy could be applied for a specific risk. Because, in general, there are complexity and difficulty in assessing purchasing risks, especially while taking the second-tier supplier (supplier's supplier) or multi-tier supplier (e.g. supplier of supplier's supplier) into consideration (Jütter et al., 2003). Nevertheless, it is important for an organization to place risk assessment in the second step of risk management process because only by understanding what would be the consequence brought by the risk, could a company find out the appropriate strategies. Moreover, strategies that a firm should implement are highly relying on the results of risk assessment (Manuj & Mentzer, 2008). Therefore, this step is unneglectable.

Purchasing managers should assess risks in terms of two main perspectives as researchers and practitioners do in the supply chain risk management. The first is to measure the probability that the risk might happen; besides, the second is to evaluate the impact resulted from the risk (Harland et al., 2003). Hallikas et al. (2004) presented a clear and comprehensive description of those two aspects, which has been broadly agreed and accepted by the following researchers (e.g. Blackhurst et al., 2008). In the meantime, Norrman and Jansson (2004) also pictured a similar table as Hallikas et al. (2004) established. Thereby understanding the following two tables and the figure of risk diagram, researchers and practitioners are capable to realize the logic of risk assessment.

8.4.1 Probability of risk

Because not all kinds of risk have the same probability to happen, it would be wise for purchasing managers to make it clear to them that which type of risk is very unlikely to happen and which type of risk is very probable to happen. For instance, like it was already highlighted in paragraph 8.3.1, natural disasters like earthquake or tsunamis, can cause problems of supply disruption, especially in global purchasing, so that suppliers might not able to deliver timely (Tang et al., 2012). Even though this kind of risk is facing by both suppliers and buyers, they are recognized as very rare events. Table 8.5 provides the probability of risk divided into five scales (Hallikas et al., 2004, p. 53).

Rank	Subjective estimate	Description
1	Very unlikely	Very rare event
2	Improbable	There is indirect evidence of event
3	Moderate	There is direct evidence of event
4	Probable	There is strong direct evidence of event
5	Very probable	Event recurs frequently

TABLE 8.5: Probability assessment scale, Hallikas et al. (2004, p. 53)

8.4.2 Impact of risk

Another element that should be taken into consideration by purchasing managers is the impact of risks. Because even when a risk really happens, it does not mean that the consequence will be severe. For example, when a supplier fails to transport a component that required by the buyer, there might be another supplier who can deliver it (Giri, 2011). In this case, the impact of such risk is relatively low. But if that component is compulsory and is merely bought from one supplier, then this risk might shut down the process of producing so that influence the whole supply chain besides the upstream. Table 8.6 shows another table of Hallikas et al. (2004, p. 53), where they are dividing impact into five scales.

Rank	Subjective estimate	Description
1	No impact	Insignificant in terms of the whole company
2	Minor impact	Single small losses
3	Medium impact	Causes short-term difficulties
4	Serious impact	Causes long-term difficulties
5	Catastrophic impact	Discontinue business

TABLE 8.6: Impact assessment scale, Hallikas et al. (2004, p. 53)

8.4.3 Risk assessment matrix

By summarizing table 8.5 and table 8.6, Hallikas et al. (2004, p. 53) provide a matrix for risk assessment, figure 8.4. In this diagram, there are four blocks showing the combination of the probability and impact. According to Norrman and Jansson (2004), for the risk with low probability and low impact, a company could simply accept it when it happens. However, for the risk with at least moderate probability and at least medium impact, an organization should seriously prepare for it so that it can mitigate such risk. In line with these propositions, section 8.5 will discuss which strategy could be used according to the consequence of the risk assessment.

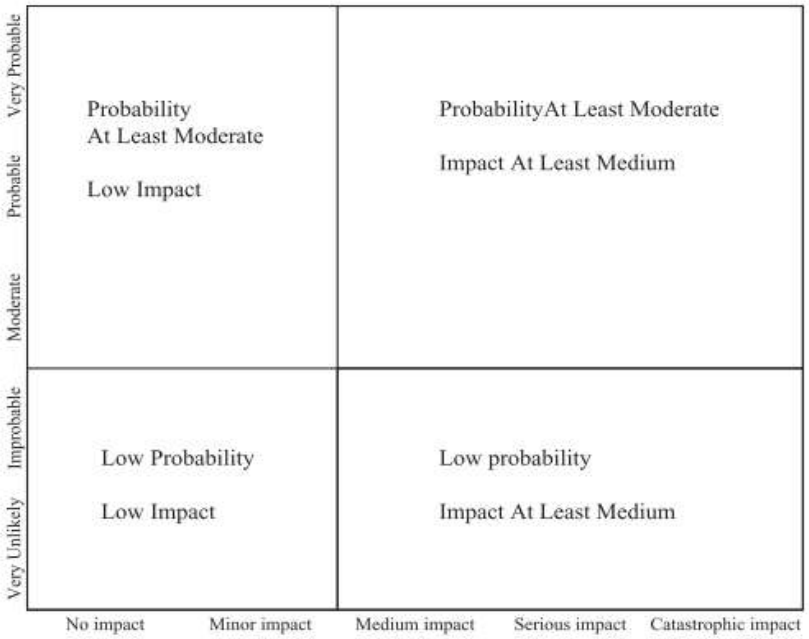

FIGURE 8.4: Risk diagram, Hallikas et al. (2004, p. 53)

8.2 Case Study: Fyra

The Fyra was the name of the train that was intended to serve customers on the high speed rail line (HSL) between Rotterdam and Brussels. Many errors were made with regard to managing purchasing risks in this project.
Risk with possible great implications like the risk of using new technology, sourcing from a new supplier and bad weather conditions, were not correctly assessed or managed. Since it is impossible to perfectly predict the performance of new technology in general, and even more so for different weather conditions, testing should take relatively more time than when purchasing a more conventional train. The time constraint the Dutch national railroad company (NS) put on the supplier, Ansaldo Breda, was unrealistic. In fact, even when there were no delays during the development of the trains, there would not have been enough time to properly test the train, or educate employees in using the train. Therefore, the NS should have known that Ansaldo Breda could never meet all the quality requirements in the time the NS demanded. NS basically accepted risks, which where probable and had at least moderate impact. The resulted breakdowns of the trains ultimately proved to be catastrophic for the project, since these caused all stakeholders to lose confidence in the trains, which resulted in the decommissioning of the Fyra project in 2013; just over a year after the first commercial ride.
Another main points of critique that can be found in the report of the parliamentary inquiry commission with regard to risk management, is the lack of clear risk ownership. Identified risks where transferred to other stakeholders in the tendering process, or internally to other departments, as much as possible and mostly on legal grounds. Consequently, for most risks and most parts of the project, the risk management was handled very minimalistic, where it should have been one of the core activities.

Source: Parlementaire enquete commissie Fyra, 2015

8.5 Risk strategies

According to the risk diagram we adopted in 8.4.3, purchasing risks might happen in different situations in terms of the difference of probability and impact. Therefore, four general purchasing risk management strategies could be proposed in accordance with each situation (Norrman & Jansson, 2004). To be specific, in the most severe situation that risks might happen with high probability and serious impact, it is logical for a company to avoid those risks to happen (Manuj & Mentzner, 2008). In contrast to that, if the probability and impact are both low which means that it neither happens frequently nor leads to strongly negative influence on the company, then to simply accept the risk and to focus on the other operational activities is more feasible (Finch, 2004). Next to that, when it is very probable that a risk might happen but the risk has only limited negative influence, the proper strategy for an organization is to reduce the probability rather than to be involved in dealing with the impact (Norrman & Jansson, 2004). At last, a company should transfer the risk or share it with stakeholders in the circumstance that the frequency of a risk is low but it will incur catastrophic impact. For example, earthquake is a potential risk that many companies especially who are doing global purchasing. Earthquake happens improbably however it would cause devastating consequences. Companies generally are able to realize it and would choose to consider transferring it to an

insurance company (Kunreuther, 1996). What those companies do could not contribute to avoid the occurrence of the earthquake but they do could benefit from it by receiving compensation from the insurance company in the case of the earthquake does really happen.

In detail, **risk acceptance** refers to the situation that a company does not respond to those risks that are recognized as to be small so that it is not beneficial to spend time or resources to deal with (Tummala & Schoenherr, 2011). Reducing a risk matters in two ways; reducing the likelihood of the risk and, the sequel of the risk. The likelihood can be reduced by e.g. having extra stock, multiple suppliers, substitute resources, fire extinguishers in the firm, having a responsible person for handling risks and side-by-side systems. The sequel of the risk can be decreased by advancing dangerous operational processes (Norrman & Jansson, 2004). Transferring a risk can mean that the organization where the risk occurred moves it to an insurance company or to a supply chain partner "by moving inventory liability, changing delivery times of suppliers (just-in-time deliveries) and to customers (make-to-order manufacturing), or by outsourcing activities. Furthermore, contracts can be used to transfer commercial risks" (Norrman & Jansson, 2004, p. 439). The fourth strategy is risk avoidance. Norrman and Jansson (2004) state that avoiding is to remove the type of reason that could cause the risk. According to Manuj and Mentzner (2008) there are two types of avoidance strategies. By using the first one, companies strive to defeat all kinds of risks. This type is adopted when there are options to choose like: not entering a highly competitive or supply risky environment. The second type of avoidance strategy is used for decreasing the likelihood of a risk. This type is applied if managers have no other option than entering a highly competitive or supply risky environment (Manuj & Mentzner, 2008).

The above discussions are focusing on the general perspectives of the purchasing risk management. In order to manage risk, purchasing managers firstly should know that which type of strategy they would like to apply. Afterwards, they could choose the detailed strategies or tactics accordingly (Norrman & Jansson, 2004). Risk management involves proactive strategies and reactive strategies (Wieland & Wallenburg, 2012; Hohenstein et al., 2015). Briefly, proactive strategies aim at avoiding the occurring and reducing the negative influence of potential risks (Hallikas et al., 2004); reactive strategies (paragraph 8.7) however focus on responding to disruption incurred by risks. (Wieland & Wallenburg, 2012). In order to be consistent to the risk management process, the next section will concentrate on proactive strategies. Reactive strategies will be introduced after the risk monitoring.

8.5.1 Proactive strategies

Proactive purchasing risk management can be defined as the "purchasing's willingness to take risks and to effectively use current knowledge to make decisions about the future (Carr, 1996)" (Smeltzer and Siferd, 1998, p.39). If purchasing managers are operating in a rapidly changing business environment, they should be stimulated to be work proactively. A proactive risk management strategy involves more than purchasing management, is exceeding integrative purchasing management" and above "strategic purchasing management" (Smeltzer & Siferd, 1998, p. 39). Advanced purchasing managers work proactively, and set and focus on risk management (Giunipero & Eltantawy, 2004). Smeltzer et al. (1998) conclude that "proactive purchasing management is risk management (p.45)". "Top management has the responsibility

to involve purchasing at strategic levels and hire well-trained purchasing professionals to manage risk and increase returns (p.45)". In this paragraph three proactive risk management strategies are explained: robustness, stress testing and early supplier involvement.

Robustness. "Robustness is defined as the ability of the system to resist a disruption" (Zsidisn et al., 2005, p. 3404). It can be seen as a precondition for handling risks from the supplier side (Wieland & Wallenburg, 2012). Purchasing managers need to take into account that robustness can help to overcome volatility risks (Wieland & Wallenburg, 2012). Realizing robustness has an encouraging effect on "the supply chain's customer value and business performance" (Wieland & Wallenburg, 2012, p. 898). It can be recognized as the truthful booster of organizational accomplishment (Wieland & Wallenburg, 2012) and according to Tang (2006) it is an opportunity to make a firm becoming able to withstand stress. A suitable robust supply chain is the one that is able to recover from a disruption and that can revert to a good condition (Chen et al., 2015). There are some specific tactics that could be applied by purchasing managers. For instance, they could choose to use multiple suppliers instead of single sourcing; they should make decision on make-and-buy; they could also increase the level of safety stock (Tang, 2006).

Stress testing. According to Chopra and Sodhi (2004) stress testing is a method that helps purchasing managers and their organization to comprehend and arrange supply chain risks. Choosing scenarios systematically reduces the danger of "blind spots" in a stress test (Flood & Korenko, 2015, p.57). For that the 'what if' approach can be applied (Chopra and Sodhi, 2004). At first glance the identification of the core suppliers, clients, plant capability, supply centers and transport tracks must take place (Chopra and Sodhi, 2004). Afterwards locations and inventory must be investigated. Then managers examine potential sources of risks. This assists to find thinkable supply chain influences plus the organization level of readiness. The purchasing professionals should ask questions like: What can we do if a supplier does not supply for a several amount of time? What happens if a supplier increased its prices at the closure of a contract? What should we do if a supplier delays payment by a distinctive amount of time (Chopra and Sodhi, 2004)? Stress testing should be used as a thought experiment to support the organization to be ready for unexpected events, instead of thinking only about the probability of such events (Chopra and Sodhi, 2004). Employees should be regularly recalled that the target is to be prepared for unexpected events and always to try to minimize risks at the lowermost costs. The explained method can be utilized for risk mitigation in the short and long term (Chopra & Sodhi, 2004). Additionally, Shi (2004) highlights that stress testing should result in a risk model that seizes all risk aspects and also takes all probable issues into account.

Early supplier involvement. The authors Zsidisin and Smith (2005) illustrated that the native idea of **early supplier involvement (ESI**) within the product development or design process is to reduce supply costs but ESI can also be used as a strategy for reducing the supply risk of companies. Involving the supplier at an early stage can diminish the risk of product flops, not accomplishing objective costs and out spreading of the product set-up time (Zsidisin & Smith, 2005). Introducing ESI has advantages for both: the buyer and the supplier. It reduces the incertitude in regard of demand variations and what kind of technical improvements of the

product are necessary. Thus, a suitable supplier selection process is important. Also information exchange and an emerging affiliation are essential (Zsidisin & Smith, 2005). Giunipero and Eltantawy (2004) state that ESI as a strategy is especially useful in a new buying situation for crucial high technological products with a high security need. In this case purchaser should communicate their risk management plans, assimilate with supplier actions and vitalize the communication exchange.

It should be noted that strategies, such as building up buyer-supplier collaboration, improving supply chain visibility and increasing supply chain velocity, could be either proactive or reactive (Hohenstein et al., 2015). Since the objective of risk management is to reduce both; the probability and, the impact of risks (Hallikas et al., 2004), purchasing manager should initially consider these strategies from the proactive point of view.

Buyer-supplier collaboration refers to the buyer and supplier working together with effectiveness aiming at achieving mutual benefits (Tukamuhabwa et al., 2015) in responding to and recovering from disruptions. Collaboration is particularly important for the upstream stakeholders (i.e. buyer and supplier) because supplier relationship management, which has been discussed in chapter x. Supplier relationship management, is regarded as the first consideration in managing supply chain risk (Blackhurst et al. 2011). Collaboration could enhance the performance and ability of a supply chain because it focuses on long-term relationship and information sharing (Soosay & Hyland, 2015) so as to increase the ability of response and recovery.

Visibility refers to that an organization's capacity to see throughout the whole upstream of the supply chain (i.e. from supplier to supplier) (Tukamuhabwa et al., 2015). It requires the purchasing manager to know the status of delivered entities and inventory level in each node and arcs as well as the current circumstance of the supply chain (Kamalahmadi & Parast, 2016). For an organization, increasing visibility could also lead to the improvement of the information transforming system (Brandon-Jones et al., 2014) which is helpful in cost reduction because a "safety stock strategy implies a higher cost to companies" (Azevedo et al., 2013).

Velocity refers to how fast can a company can respond to and recover from a disruption (Tukamuhabwa et al., 2015). In order to increase velocity, a purchasing manager should focus on the efficiency but not the effectiveness of the ability of response and recovery (Kamalahmadi & Parast, 2016). From that point of view, velocity could be increased by shortening the length of supply chain (Jüttner & Maklan 2011) and lowering the veriation of raw material (Saenz & Revilla, 2014). For instance, in line with the strategy of selecting supplier, choosing suppliers who can provide multiple raw materials or products could significantly decrease the length of the supply chain. Therefore, simplifying the upstream supply chain by reducing nodes and shortening arcs could increase velocity of the supply chain (Christopher & Peck, 2004).

Risk management strategies are essential for every organization that evermore outsources operations to react to all kinds of disruptions that could affect the supply chain (Monczka et al., 2010). To indicate: a suitable strategy can support the ability to control those disruptions (Wieland & Wallenburg, 2012). Nonetheless, those strategies are still not completely developed. But increasingly more companies are considering strategies to guard the

flow of goods through their supply chain (Monczka et al., 2010). But which strategy should a company chose? It is subject to the type of disruption and the company's readiness for such events (Chopra & Sodhi, 2004).

8.3 Case Study: Rolls Royce

In this section the case of Rolls Royce and the company's strategy of applying early supplier involvement (ESI) to minimize risk are established. In the aerospace division of Rolls Royce the ESI was introduced by a new purchasing manager. The division is a supplier of crucial parts in the aerospace sector. They deliver essential technology for non-military and military airplanes. Generally the sector is controlled by costs and dependability. Thus, Rolls Royce has to invest highly in product development. To develop a new product it takes three to four years and the costs are on average 500 up to 600 million dollars, 65-80% of its products are delivered by suppliers. ESI has a main focus within Rolls Royce due to the fact that 80% of the product costs are made in the early design phase. Next to cost reduction, and among other things, ESI is a tool for reducing supply risks. Especially, those risks that occur at the supplier's side (Zsidisin & Smith, 2005). Rolls Royce developed an ESI process with 16 steps. In general it can be said that, the sooner ESI is implemented in the product development process, the higher are the possible benefits. Threats that can be mitigated by ESI are inflated costs, legal obligations, quality issues, supplier capacity limitations, long product deployment phases, issues with design changes, and internal supplier leadership problems.

Source: Zsidisin & Smith (2005)

8.6 Risk monitoring

Risk monitoring is the fourth step in risk management process. It draws less attention to researchers and practitioners (Ho et al. 2015), but it is nevertheless important for risk management. Risk monitoring refers to tracing the whole process of purchasing activities (Norrman & Jansson, 2004; Tummala & Schoenherr, 2011), pre-warning potential risks (Zhang et al., 2011), and examining the result of implemented strategies (Norrman & Jansson, 2004; Tummala & Schoenherr, 2011). By doing so, an organization is capable to create proactive plans for potential risks (Norrman & Jansson, 2004). In case of any incident, a company is able to react to it agilely and efficiently.

8.6.1 Trace the risk

According to the risk assessment matrix, risk could be categorized based on its probability and impact. In terms of risk monitoring, it is inefficient for a company to trace all kinds of risk. As proposed by Norrman and Jansson (2004), if a potential risk has a high level of probability and/or impact, or in the case of it is not mitigated, risk monitoring is needed. One of the risk monitoring tool for purchasing manager could be MRP (Material Requirements Planning), because by applying IT system to share information between buyer and supplier could increase the visibility in the supply chain (Scholten & Schilder, 2015). Tracing risk allows the purchasing manager to prepare appropriate actions for abnormal events (Tummala & Schoenherr, 2011).

8.6.2 Pre-warn the risk

Tracing the risk is always accompanied with pre-warning the risk. Pre-warning refers to timely report any disruptions or abnormalities whenever they are found (Zhang et al. 2011). Pre-warning could be achieved by increasing the visibility of the supply chain (Hohenstein et al., 2015). For example, since visibility improvement is highly relevant to the information sharing (Kamalahmadi & Parast, 2016); once there is a signal showing that the inventory level for a material is low, the manager could immediately contact the supplier to ask for replenishment. In this case, the potential risk is stock out. Implementing IMS (Inventory Management System) could be helpful in this situation, because IMS transfers the responsibility from the buyer side to the supplier side (Herbon et al., 2014).

8.6.3 Examine the strategy

The purchasing manager should examine whether the risk is still threatening the company (Tummala & Schoenherr, 2011). Because even though appropriate strategies could be applied, it is still difficult to fully eliminate all risks or the impact from risks (Giunipero & Eltantawy, 2004). As it is similar to the risk assessment, examining the effect and consequence of used strategies could be taken from two perspectives, which are probability and impact (Hallikas et al., 2004). After this step, purchasing managers should know that whether the probability and/or impact of risks have been reduced. If it appears that the problem was not solved or lowered to an acceptable level, the risk monitoring is still required (Norrman & Jansson, 2004).

8.4 Case Study: Ericson

The case of Ericsson is a classic example of supply risk management, even though the accident happened in 2000, the lesson people learned from it is still useful in the current business environment. Therefore, this section adopted and adapted the case from the article of Norrman and Jansson (2004) to illustrate the importance of monitoring purchasing risk. Ericsson was one the largest supplier of mobile telecom systems in the world. During the 2000s, approximately 40 percent of the worldwide mobile phone cells were produced by Ericsson. It occupied a dominant position in the mobile phone manufacturing; however, due to a lack of strategy for risk management, especially the purchasing risk monitoring, Ericsson suffered a severe strike from the disruption of the supplier. In 2000, due to the fire at a supplier's plant, which is the only sourcing for a specific component, Ericsson had to stop its production and waited recovery of that plant. It took nearly three weeks to begin to produce and after six months, the yield only reached half of what it was before the fire. Finally, Ericsson announced that it lost about 200 million dollars because they failed to realize that it is also important to "analyze, assess and manage risk along the supply chain and to take immediate action when incidents are indicated". Therefore, Ericsson proposes a philosophy that "everyone is a risk manager". In this procedure, Ericsson is able to develop contingency plans including response plans, recovery plan, and restoration plan. By implementing the approach, Ericsson could address the following guidelines for managing supplier so that to monitoring the purchasing risks. (Norrman & Jansson, 2004). As mentioned in paragraph 8.6. Risk monitoring refers to tracing the whole process of purchasing activities (Norrman & Jansson, 2004; Tummala & Schoenherr, 2011). So at first, Ericsson should find suppliers and regularly update a plan for secure sourcing; secondly, supplier should have at least one backup plan in case of uncertainties; afterwards, there should be a manager or a person who take responsibility for launching the plan; fourthly, there should be a representative from the supplier that receives training from the buyer; in the fifth, suppliers should report any abnormality; the sixth guideline is that buyer should have the access to the plan of suppliers; next to that, suppliers should manage their supplier (e.g. second tier supplier) correspondingly; in the eighth place, suppliers should actively participate in the risk management; finally, buyer should have the right to ask for components that are essential to buyer from suppliers at any time.

Source: Norrman and Jansson (2004)

8.7 Reactive strategy

However, purchasing managers must be aware that even though it is possible to reduce certain risks with the four strategies by Norrman and Jansson (2004), they cannot be entirely removed (Giunipero & Eltantawy, 2004). Especially in a global purchasing environment where the complexity and uncertainty are on a higher level (Barry, 2004). Therefore, it also requires **reactive risk management** strategies to be applied.

Reactive risk management strategy is an essential part of comprehensive supply chain strategies for every organization. Companies that do not take the risk of disruptions seriously are at the risk of enormous financial and market share drop. Involving reactive risk management strategy confide in alleviation and crisis actions. Reactive risk management refers to "response", "recovery" and "growth" while suffering disruptions (Hohenstein et al., 2015). This is in line with the definition of supply chain resilience given by Fiksel et al. (2015).

Tukamuhabwa et al. (2015) summarized 11 reactive strategies for building up a resilient supply chain. Since the strategy of building up collaboration, improving visibility and increasing velocity has already been introduced in section 8.5.1, additionally this section will discuss the other two.

An essential part of any supply chain is agility. **Agility** refers to that a company is able to respond quickly to unforeseen disruptions in the supply chain (Tukamuhabwa et al., 2015). It is needed for continuing on in unsettled and changeable markets (Agarwal et al., 2007). With applying agility firms can answer to market requirements. Adaptable mechanisms are important to react to the organizational environment actions (Sharifi et al., 2006). Christopher et al. (2004) state that agility emphasizes the ability to react. Those supply chains that apply agility are information-based. According to Wieland and Wallenburg (2012) agility is a strategy to manage risks reactively. "Being agile has a strong positive effect on the supply chain's customer value, while its impact on business performance is mediated by the supply chain's customer value" (p. 898). It is essential to dispatch customer-side risks.

Flexibility refers to a company's ability to respond to changes, or disruption, timely and efficiently (Tukamuhabwa et al., 2015). Increasing flexibility is important to a purchasing manager because it could help to build up a good relationship with suppliers (Mensah & Merkuryev, 2014). For example, dual-sourcing (or using backup supplier) is a strategies for increasing flexibility (Hohestein et al., 2015). When there are supply disruptions caused by one supplier, the purchasing manager could move to another supplier and still keep long-term relationship with the former supplier. Using this strategy requires an organization to have a professional purchasing manager with adequate knowledge of this strategy.

8.8 Summary

The purpose of this chapter is to show how the purchasing function can contribute to risk management. Generally purchasing managers can act proactively; which means, that risk management is always part of the purchaser's responsibility. The risk management process model from Ho et al. (2015) is used as a framework for the risk management process and the structure of the chapter. The steps in this model are: identification, assessment, choosing an appropriate strategy and monitoring (Ho et al., 2015).

The first step; risk identification, starts with exploring the context of the purchaser's organization; since to be able to identify the risks first the context of purchaser's organization should be known. Who are the different actors in the supply chain and what risks are related with interacting with them? Four classes of **purchasing risks** sources have been identified: Supply risks, related to the risk held by individual supplier; process and control risks, risk from within the own organization like process variations, and internal misalignment; Demand risk, the class of risks related to the uncertainties encountered when interacting with customers; environment risks, the source of all other risks arising from outside the supply chain. These different sources can be the origins of a great variety of different risk types. In section 8.3.2 a table with relevant risks types for the purchasing context is presented and the different types of risks are later discussed. The conclusion of the discussion also highlights the complexity of risks management, since the types of risks are heavily interrelated and the role of risks

management in purchasing is so essential that is has already been several previous chapters, like (purchasing strategies) and (supplier relation management).

Secondly the identified risks need to be assessed. The most common way to assess risks is by using the two dimensions: probability and impact. Once the risks have been assigned some value for both dimensions, the risks can be plotted on the risk assessment matrix which uses the aforementioned two-dimensional. Based on the position of the risk an appropriate strategy needs to be selected to handle the risk.

Choosing the appropriate strategy should depend on the impact and the probability that risk occurs and is the third step. **Risk acceptance** is a good strategy when the impact of risk is perceived as low. For these risks the cost of avoiding the risks will exceed the probable costs of the risk. When the impact is significant in terms of costs, it can be favorable to reduce the risk. This can be done by either reducing the likelihood or the sequel of the risk. For other risks, the best way to handle them can be through **risk transferring**. A process where the ownership of the impact of the risk is transferred to a third party, like an insurance company or supply chain partners. The fourth strategy, **risk avoidance**, for risks where it's probable impact cost the organization too much, so that everything needs to be done to avoid this event from happening. For example, by not sourcing from suppliers in a region where natural hazards often occur. When a purchaser does not have a choice in this and the probable impact costs of the risk are still too high, the purchaser is just left with the second **risk avoidance** strategy: reducing the likelihood of the risk (Norrmann & Jansson, 2004).

In the fourth phase of the risk management process model, the risks are monitored. First the company have to trace the risk, followed by pre-warn the risk and finalize examine the strategy (Norrman and Jansson, 2004). When all steps are taken, a company might have to mitigate some risks, or apply reactive risk management strategies, to minimize the damage when those unwanted events do occur. It is important to constantly evaluate the risks because of the dynamical context most organizations are part of; the risk management process is a cycle after all. Based on the content of this chapter the authors suggest that risk management should be considered in every purchasing department.

8.9 Discussion

The position of the purchasing department can have an impact on dealing with risk management in the purchasing process. Purchasing risk should be mitigated on strategic level (Mostia, 2009) and therefore top management has the responsibility to involve purchasing at strategic levels, through a top-down approach (Smeltzer et al., 1998). Of course opinions may vary about the suitability of this of approach when the firm increasingly depends on suppliers, for instance; as Arya et al. (2015, p. 583) stresses "the seemingly imperfect nature of decentralization may actually prove to be desirable when a firm relies on external suppliers and strategically manages inventory". A perfect spot for risk management in the purchasing process is difficult to find, it depends on the company's strategy, environment and other influential aspects. What is clear is the importance of quickly responding to the environmental threat, which can play "a very important factor to survive" (Chen & Chu, 2003, p.300). But for all parts in the purchasing

process, as Rahl and Lee (2000) mentioned “communication is crucial in reducing risks that are mispriced, misunderstood, mismanaged, unidentified, or unintended” (p.20).

In this chapter several current issues in the context of risk management and purchasing are highlighted and four cases that address how different companies deal generally with risks (Case HP), how organizations prevent risks (Case Rolls-Royce), what kind of risks can occur (Case Fyra) and what kind of consequences risks and disasters have (Cases Fyra and Ericsson). Nonetheless, the authors are aware that not all current issues in combination with purchasing are discussed and that there are many more cases that are interesting for purchasers to study. The chapter has several limitations due to word and time limit. That is why the authors realize that there are always themes left out, which could be important for risk management in relation to purchasing and claim that it always will be a current issue since organizations will probably always be confronted with risks, disruptions, disasters and uncertainties.

Key term list

The key terms mentioned in this list can, with their references, be found in the main body of this chapter.

Agility refers to that a company is able to respond quickly to unforeseen disruptions in the supply chain.

Buyer-supplier collaboration refers to the buyer and supplier working together with effectiveness aiming at achieving mutual benefits in responding to and recovering from disruptions.

Early supplier involvement (ESI) are native idea of ESI within the product development or design process is to reduce supply costs but ESI can also be used as a strategy for reducing the supply risk of companies.

Flexibility refers to a company's ability to respond to changes, or disruption, timely and efficiently.

Purchasing risks are defined as supply, operation and demand risks which have an effect on the purchasing process (i.e. identification, assessment, mitigation and monitoring) to reach the organizational goals.

Purchasing risk management process includes 1) risk identification; 2) risk assessment; 3) risk mitigation and 4) **risk monitoring**.

Proactive purchasing is defined as the purchasing's willingness to take risks and to effectively use current knowledge to make decisions about the future.

Reactive risk management refers to "response", "recovery" and "growth" while suffering disruptions.

Robustness is the ability of the system to resist a disruption.

Risk acceptance refers to that the cost of managing the risk is acceptable because the risk level is insufficient to justify the cost of risk avoidance.

Risk avoidance refers to removing the type of reason that could cause the risk.

Risk reducing refers to reducing the likelihood and the sequel of the risk.

Risk transferring refers to when the risk occurred moves these to outside the company.

Risk monitoring refers to tracing the whole process of purchasing activities.

Stress testing is a method that helps purchasing managers and their organization to comprehend and arrange supply chain risks.

Velocity refers to how fast can a company can respond to and recover from a disruption.

Visibility refers to that an organization’s capacity to see throughout the whole upstream of the supply chain.

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Chapter 9: Purchasing from different perspectives

Authors:

Kräuter, V.,
Saaltink, N.J.,
Terpstra, M.
and, Van Rijn, J.

Abstract

The theories mentioned in previous chapters are applicable in many occasions. However, there are some situations where exceptions have to be made. For this reason, this chapter will discuss the purchasing activities from different perspectives. The first perspective is purchasing in the public sector and the second one is purchasing in small and medium-sized enterprises. These perspectives are chosen as they both have unique characteristics that ask for different strategies or implementations of the purchasing function. The complexity of public purchasing, dealing with fraud and working with tendering regulations will be highlighted when discussing strategic purchasing from the perspective of a public purchaser. Moreover, the influence of the size of the company and purchasing power consequences will be discussed when looking from the perspective of a purchaser that works in a small and medium-sized company. In addition, cases about the local Dutch government, the federal accountability act of Canada, Chinese SME retailers and a practical experience are used to illustrate the topics and discussions in this chapter.

Table of content

9.1 Introduction

So far, this book has covered the most recent theories and current issues in the field of purchasing. There are however, some occasions in which the purchasing theories in this book will not hold. In this chapter, it will be shown that although the theories mentioned in previous chapters are applicable in many occasions, there are some situations where exceptions have to be made. The correctness of the theories is not argued but the reader should gain an understanding of the complexity of this field and should be able to question the generalizability of the theories and approach this topic from different angles.

In this chapter the topic of purchasing is discussed from two perspectives. The first perspective is purchasing in the public sector and the second perspective is purchasing in small and medium sized enterprises. These two perspectives were chosen for several reasons.

Strategic purchasing is often discussed from the viewpoint of the private sector. However, purchasing in the public sector differs from purchasing activities in the private sector. Although many processes are similar, the regulations, existence of corruption, multiple objectives, and fixed budgets distinguish public purchasing from private purchasing (Barreto, 2000; Fee, Erridge, & Hennigan, 2002; Arlbjørn & Freytag, 2012; OECD, 2007). Moreover, there are enormous financial amounts involved with public purchasing (Dreher, Kotsogiannis, & McCorriston, 2009). The estimated spending on purchasing services, works or supplies is in the EU is around 14% of GDP (European Commission, 2016). Moreover, public purchasing commitments under the Governmental Procurement Agreement (GPA) are estimated at around 1.3-1.5 trillion Euro (European Commission, 2016; WTO, 2016). Due to the different context and the high amount of money that is involved with public purchasing it is necessary to pay attention to the strategic purchasing activities from the perspective of a public purchaser.

Whereas the purchasing function in the public sector is complex and involves high amounts of money, in small and medium sized enterprises the purchasing function is less complex but has also some unique challenges. In the previous chapters of this book, the main focus of literature has been on large and/or global enterprises. This is due to the fact that most research in the field of purchasing is focused on the purchasing activities of large and/or global companies due to the availability of data. In a comprehensive review of the purchasing literature performed by *Ellegaard* (2006), the author found that until then merely 18 articles in specialist purchasing journals, and 58 in total were focused on or have taken into account purchasing practices in Small and Medium-sized Enterprises (SMEs). Although there is limited research available on SMEs, in the UK for example 99.9% of the companies are SMEs and produce 51% of UK GDP (Pressey, Winklhofer, & Tzokas, 2009). This makes it a very current issue for this chapter. However, in recent years there has been a growing body of research on purchasing practices in SMEs (Brustbauer, 2014; Gunasekaran, McGaughey, Nhai & Rai, 2009; Pressey, Winklhofer & Tzokas. 2009; Paik, 2011; Ramakrishnan, Haron & Yen-Nee, 2015; Yu. 2015). This growing body of research shows that purchasing activities in SMEs are still a current issue and is therefore further investigated in this chapter.

The rest of this chapter is structured in the following way. First of all the complexity of purchasing in the public sector is addressed and a case example of the Local Government of Nijmegen is provided. The next section is about fraud in public purchasing. Important issues here are transparency and budgeting. To illustrate these issues a case example is provided on the federal accountability act of Canada. After that the tendering regulations and subsidies are discussed. Section 9.3 will start with a definition on small and medium-sized enterprises, followed by the significance of purchasing for SMEs. After that the organization of the purchasing function is discussed. In this section the responsibility for purchasing is discussed as well as the degree of (de)centralization within SMEs. This paragraph is followed by a section on purchasing power in SMEs where cooperative purchasing plays an important role. The section on SMEs ends with a comparison between different sized companies. The goal here is to highlight the differences between SMEs and large companies regarding purchasing activities. This section will be supported by the experience of a senior purchasing manager that has worked in companies of different sizes. Finally the chapter ends with a summary and a discussion section that reviews this chapter and highlights future issues.

9.2 Public purchasing perspective

Public purchasing refers to the purchase of work, goods or services done by public authorities (European Commission, 2016). Public purchasing is different from private purchasing for several reasons. For example, public purchasers do not purchase for traditional customers as private purchasers do (Arlbjørn & Freytag, 2012). This paragraph will discuss the differences between private and public purchasing and will answer the question why a public purchaser does not purchase for traditional customers.

9.2.1 Complexity of public purchasing

As already mentioned in the introduction of this chapter, there are enormous financial amounts involved with public purchasing (Dreher et al., 2009). This huge amount of money is being spent by different public organizations on different kinds of products, services and projects. For example, public purchasers spend money on infrastructure projects, health care services and supplies, education and services that contribute to a safe environment. A lot of products, services and projects that are bought by a public purchaser are similar to the ones bought by a private purchaser. However, public purchasers often have a different reason to choose a particular supplier, as public purchasing is not purchasing for the traditional customer (Arlbjørn & Freytag, 2012). Public Purchasers have to deal with social, economic, environmental and political objectives, like promoting small and medium sized local firms, generating jobs, and/or making environmentally friendly purchases (Brammer & Walker, 2011; Burguet & Che, 2004; Fee et al., 2002; The Consortium of European Commission, 2014). These objectives influence the selection of supplier (Fee et al., 2002). So it can be said that their supplier selection criteria are different.

Supplier Selection Criteria

Section 4.2.1 has already discussed that the most important criteria for selecting a supplier are: the unit cost of components/service, the quality of components/service, the delivery lead-time, on-time delivery and flexibility in changing the order. Furthermore, it is stated that the

purchasing function of a company should select suppliers based on these attributes. However, the perspective of a public purchaser should be taken into account as well. These attributes do not cover the social, economic, environmental and/or political objectives that public purchasers are often confronted with. So it can be argued the supplier selection criteria of private and public purchasers are different. For this reason, public purchasers must keep in mind that the traditional list of selection criteria is not complete.

Next to the fact that public purchasers are often dealing with a wider variety of objectives, they are often contradictory, and collide with the traditional efficiency objective (best price-quality ratio) (Brammer & Walker, 2011; Griffith, 2011). Therefore, it is said that public purchasing takes place in a complex environment as they have to deal with multiple and conflicting objectives (Burguet & Che, 2004). For this reason, it is argued that public purchasers must make use of Best Value Purchasing (BVP) practices (Griffith, 2011).

Best Value Purchasing

BVP is already discussed in section 2.6.2, where it is stated that BVP is used in order to achieve a higher quality and not to only concentrate on price. The government of the United Kingdom also saw the importance of BVP. For this reason, a law was passed that requires all local authority approved services and supply provisions should be purchased with the consideration of BVP (Griffith, 2011). In the past, it used to be common for the government to select the suppliers with the focus on the lowest cost, but now all publicly purchased services in the UK are subject to BVP. This change took place because non-financial measures, such as quality and speed, experienced a shortfall and the following adjustments were even pricier (Griffith, 2011). Due to that, the role of purchasing within the public sector has become more strategic. Governments have started to recognize that strategic public purchasing can cause more benefits than saving money (Zheng, Knight, Harland, Humby, & James, 2007). Therefore, the introduction of BVP in the public sector is really important.

However, BVP from the perspective of a public purchaser differs from the view of a private purchaser. Section 2.6.2 also highlights that BVP takes multiple factors into account. Nevertheless, there is stated that BVP selection criteria should only be chosen if the elements measure an additional value to the product. However, public purchasers are also focused on adding value to the community (Brammer & Walker, 2011; Burguet & Che, 2004; Fee et al., 2002; Zheng et al., 2007; The Consortium of European Commission, 2014). This means that next to value adding criteria for the product, value adding criteria for the environment are important. Promoting small and medium sized firms, generating (local) jobs, social exclusion and economic development are all examples of criteria that are of high importance to a public purchaser, but of lower importance to a private purchaser (Burguet & Che, 2004; Fee et al., 2002). For this reason, literature based on studies on BVP performed in private enterprises are not directly applicable for BVP in public organizations. So public purchasers must be careful in using the general practices and criteria of BVP. On one hand, a public purchaser must focus on criteria that measure additional value to the community. But on the other hand, the general selection criteria and characteristics that are shown in section 2.6.2 (e.g. control of supply risks) should not be forgotten.

The case below shows that a public purchaser has to deal with many different objectives, which make the purchasing process very complex. By trying to satisfy as many stakeholders as possible, it sometimes happens that purchasers lose sight of the wood for the trees. The example shows, how easy it is loose the focus on one of the most general objectives and characteristic of BVP (control of supply risks) and how many things have to be taken into account.

9.1 Case Study: Local Government of the Dutch city Nijmegen

In 2015, the Local Government of the Dutch city Nijmegen (LGN) made a deal in order to keep local jobs. In reaction on the housing problem, they decided to buy an area for building new houses. However, on that area, there was a slaughterhouse where around 250 people were employed. The cheapest way to solve this problem was by obligating the slaughterhouse to go away and buy the ground. However, the LGN decided to go for a more social solution. In order to keep local employment it made a deal for 21 million euros (300 EU per Citizen). In this contract was stated that the company has to build a new slaughterhouse in the neighborhood of Nijmegen. The LGN had paid attention to the local housing problem and the local employment rate. However, it forgot to pay attention to the risks of supply (execution of agreement). They did not look at the economic and the political environment beyond the local boarder's. The political crisis with Russia made export to this customer impossible. Furthermore, the slaughterhouse did not have a license to export directly to their biggest customer China (due to a law it was no longer possible to export via Japan). For this reason, the slaughterhouse became bankrupt. As the purchaser was focused on different local aspects, it did not identify the risks of supply. Because of that, they have paid the 21 million euros without controlling the risks of supply. As the slaughterhouse has a lot of other creditors, it is still the question if the LGN receives their millions back.

People want to know how this could happen and question the integrity of the involved purchasers. Why did they sign such a weak contract? Some people claim that it was due to fraudulent and corrupt activities of the LGN. However, the LGN claimed that it was a mistake. In order to create trust the LGN want to provide full openness and transparency of the investigation into this issue. They want to show to the outside world that is was a mistake and that they can be trusted.

Source: Boerenbusiness (2016); De Gelderlander (2016); Eenvandaag (2016)

9.2.2 Dealing with fraud in public purchasing: Transparency and Budgeting

Fraud is used as an umbrella term for different fraudulent activities. In general, fraud is defined as: dishonestly to obtain a benefit or advantage and/or causing a loss to another party ((CIMA), 2008). Corruption, conspiracy and bribery are all examples of activities that fall within the category fraud ((CIMA), 2008; Lysons & Farrington, 2006: p 664). The general definition of **corruption** is stated as: "the abuse of public power for private gains" (Dreher et al., 2009). Fraudulent activities can be conducted at every stage in the purchasing process and lead to high losses of public money ((CIMA), 2008;Lysons & Farrington, 2006: p. 664). For example, bid rigging, collusion by bidders, fraud in contract performance, bribery, and acceptance of gratuities, are all activities that could be conducted by the purchaser of an organization

(Büchner, Freytag, González, & Güth, 2008; Hessami, 2014; World Bank IN Lysons & Farrington, 2006: p 664).

Especially a public purchaser is vulnerable to fraud because in this stage the interaction between public and private sectors takes place (OECD, 2009). As already mentioned, the environment of a public purchaser is very complex. This complex environment gives public purchasers many opportunities to conduct corrupt and fraudulent activities (Burguet & Che, 2004). This indicates a problem, as there is a lot of money involved with governmental purchasing (14% of GDP) (European Commission, 2016). For this reason, it is identified as an important issue in the public sector (e.g. Barreto, 2000; Compte, Lambart-Mogiliansky & Verdier, 2005). Additionally, different countries have measured a growth in the number of fraudulent cases and in the amount of losses due to fraudulent activities (Economist Intelligence Unit data, 2008 & KPMG data, 2007 IN CIMA, 2008). For this reason, more and more regulations emerge to prevent and detect fraud (CIMA, 2008; European Commission, 2014; OECD, 2007). Weak governance of purchasing leads to less competition and an increase of the price paid by the government. Subsequently, this will effect in less effective usage of resources (the taxes paid by the taxpayers) (OECD, 2009). For this reason, the fight against fraud has become a top priority for international institutions like the European Commission, World Bank, and WTO (CIMA, 2008; European Commission, 2014; OECD, 2009). More governance of purchasing results in a more effective usage of resources, which in this case are the taxes paid by the taxpayers (OECD, 2009). For this reason, it is often proposed to make all public purchasing methods transparent and fair (Griffith, 2011; Holt, 2010: OECD, 2007).

Transparency

Hence, to counteract fraud, more transparency throughout all purchasing processes is necessary (OECD, 2007). Example 9.1 also shows that transparency is important to show citizens the integrity of public purchasers in order to create an environment where citizens can trust that their taxes are used efficiently. But in practice, some governments take a contrary position. Ohashi (2009) explains that in Japan officials often exclude undesirable organization under the umbrella of discretionary from the bid letting, which lowers the number of bids and causes less competition. Accordingly, Evenett and Hoekman (2004) agree that more transparency in purchasing procedures results in less demand in goods that are more prone to bribery. Opaque purchasing even may be in the interest of the government, because more transparency has a negative effect on the domestic market. Therefore, contracts are often given to companies because of their geographical location, their size, or to minorities to support them. On the other hand, more transparency would support entering new firms into the competition, which can result in lower purchasing costs for the government. Especially in industries where a reference price is hard to determine it is observed that corrupt officials pay a higher price than necessary (Evenett & Hoekmann, 2004).

To increase the level of transparency in public purchasing, ten principles were introduced by the OECD (2009), see table 9.1.

1st	More transparency throughout all the stages within the Purchasing process to guarantee fair and equal treatment of all suppliers
2nd	More transparency during competitive tendering to ensure sound competitive processes
3rd	Public funds have to be used properly
4th	Employees working in the Public Purchasing sector have to be skilled professionals
5th	The governments have to provide mechanisms to decrease the risks on integrity
6th	Better collaboration between the public sector and the government is required
7th	Governments are urged to provide mechanisms to monitor public Purchasing in order to sanction misbehavior
8th	Clear chains of responsibility and their control should be established by the government
9th	Complaints from suppliers should be handled in a fair and timely manner
10th	The government has to increase the public awareness for public Purchasing and provide it with information.

TABLE 9.1: Transparency rules of the OECD (OECD, 2009)

Unfortunately, the principles for nondiscrimination have only been accepted by the countries on a voluntary basis (Evenett & Hoekman, 2004). A possible difficulty might be that these principles are basic and hard to measure. Thus another tool has to be introduced to improve the level of transparency and because budgeting experienced a lot of attention in the public purchasing procedure this topic will be examined closer.

Budgeting

Budgeting is a performance expectation based on past data regarding a particular performance item (Wildavsky, 1986). The function of public budgeting is to enable executive and legislative parts of the government to allocate resources in a transparent and legitimate way and to provide the public with information. It monitors transactions and decisions made by the government and gives a clear overview (Hessami, 2014; Benito & Bastida, 2009). Properly used budgeting practices support the government in allocating resources in the best way, hence maximize the welfare for the society (Hessami, 2014). As a consequence of the strategic shift

of purchasing, it is no longer treated as a purely technical process anymore. Currently, purchasing participates in the decision making process and is involved in the budget making process (OECD & World Bank, 2004).

On account of this, budgeting seems to be a suitable tool to bring transparency into governmental purchasing activities and fight fraud, but it can become a victim of corruption itself. Often too optimistic projections of the economic development are made and revenue expectations are stated too high, so that input resources are easier available. (Benito & Bastida, 2009). This is called **budgetary slack** and refers to the intentional under- or overestimation of revenues or costs to achieve targets easier (Merchant, 1985). Therefore, it might appear that budgeting is not a good tool to guarantee transparency. To refute this assumption an example from the Canadian government is shown, where integrity in public purchasing is assured through budgeting.

9.2 Case study: Federal Accountability Act of Canada

In November 2006 Canada introduced the Federal Accountability Act as a part of the Financial Administration Act. Thereby it should be ensured that budget purchasing, the project and the payment verification are supervised by three individuals that are unrelated to each other. Moreover, the accountability of public purchasing was extended.
Now, all expenditures have to be aligned with the expected results and it has to be demonstrated how the expenditures contribute to the outcome.
The function of a purchasing auditor was introduced with the intention to observe all governmental purchasing activities. The purchasing auditor has to deal with complaints from potential suppliers and conduct managers. Further, discrepancies among interest groups have to be resolved and an annual report about the state of the art has to be prepared and reported to the parliament annually.

In order to support the planning, budgeting and reporting process an integrated model was introduced, that links appropriation, budgeting and investment. This is different from the past, where auditing took place without interaction to other departments.

Source: OECD (2007)

As a result of the several difficulties within public purchasing, many rules and regulations have been passed in other countries as well. The next part will explain the most important regulations in public purchasing.

9.2.3 Tendering regulations in public purchasing

Public purchasers have to deal more often and in a more extensive way with national and international regulations than private purchasers (European Commission, 2016; WTO, 2016). These regulations are mainly created to regulate tendering processes, the most used process by public purchasers, in order to support a competitive, transparent and fair single public market (Arlbjørn & Freytag, 2012; European Commission, 2016; WTO, 2016). Purchasing regulations are evolving almost every year and still, the market is not regulated well. As already mentioned, fraudulent scandals still exist. So more and more rules are implemented to increase the integrity

of public organizations (European Commission, 2014, 2016; González & Güth, 2008; Hessami, 2014; OECD, 2007). It is beyond the scope of this book to discuss all the different purchasing regulations as there are too many different regulations created by different authorities (European Commission, 2016; WTO, 2016). Furthermore, the regulations differ for the type of purchase (services, goods or work) (European Commission, 2016). As already discussed in section 5.4 the process of purchasing services differs from the process of purchasing goods, so the legislation differs, too. It was stated that in particular industries and for particular purchases, you have to study more than 500 hundred pages in order to know the regulations (Wetering, 2016). The different regulations and the extensive authorization procedures make public purchasing a long, labor intensive and very slow process (van Weele, 2000; p. 326). This creates a challenge to purchase effectively in the complex environment of regulations. This also highlights that, due to the high amount of rules, public purchasers have to deal with different tendering challenges than private purchasers.

Public Tendering Process

In the case of a European public purchaser, there are three kinds of purchasing procedures that can be used; the open, restricted and the negotiated procedure (European Commission, 2016). In order to select which procedure fits in which situation, the purchaser can make use of portfolios, discussed in section 2.4 in this book. For example, the open procedure could be chosen for the purchase of less strategic products. This procedure allows that every supplier that is interested in the contract can bid. However, the open procedure is less suitable for more critical products. For this reason, a purchaser can also choose to follow the restricted procedure. Through a request for information that needs to be send to the tendering firm, the technical and economic competence of bidders are checked first. Based on this request, the tendering firm decides which suppliers can bid for the contract (Costantino, Dotoli, Falagario, & Sciancalepore, 2012). This means that in this procedure the number of bidders is restricted in the tendering process. All procedures have their own rules and characteristics and which procedure is best in which situation depends on several factors. Due to that, purchasers must strategically think what procedure fits in which situation.

Section 2.4 highlights that purchasing portfolios are a valuable tool for developing differentiated purchasing strategies. Moreover, portfolios are very useful for optimally balancing the resources among the different purchases. Different types of portfolios are already discussed. However, all models provide advice that is partly not useful for public purchasers as their tendering process is often restricted by rules. Therefore, these models are not directly applicable for public purchasers. For example, public tendering procedures are divided in multiple steps that are time consuming (European Commission, 2016; van Weele, 2000; p. 326). This makes time a critical factor for a public purchaser. To show the length of one step, it is stated that potential suppliers have at least 52 days to prepare their bids (from date of dispatch of the notice for publication) (European Commission, 2016). Unfortunately, no portfolio model takes the time dimension into account and it is also no factor that measures the strategic importance of a purchased product (Olsen & Ellram, 1997 IN section 2.4). Additionally, the general models are often highlighting the importance of mutual commitment, discussion and forming partnerships as important activities when buying critical products (Kraljic, 1983; Olsen

& Ellram, 1997). This is not always possible for a public purchaser, due to anonymous regulations (OECD, 2009). Furthermore, in public tendering it is not possible to make changes when a purchasing procedure has started. When necessary to change something, the procedure should be officially stopped and a new procedure must be started based upon the new specifications (European Commission, 2016).

In conclusion, the portfolio models previously discussed can be very useful for private purchasers in order to differentiate their purchasing strategies. Whereas a public purchaser must keep in mind that these models are not fully suitable to differentiate their purchasing strategies. This is not only the case for purchasers of public authorities as the above described, as regulations are also relevant for private enterprises that conduct activities that are subsidized by the government (European Commission, 2016). This also means that all (sub) contracting activities should meet the requirements of the legislations.

9.2.4 Subsidy in Public Purchasing

To conclude this part and highlight the importance of public purchasing the effect of public purchasing on the economy will be explained. Public purchasing can be seen as an indirect and less obvious form of subsidy, whereas subsidies are a direct support for organizations (Buigues & Sekkat, 2010). It is hard to find a proper definition for the term subsidy, because the differentiation is controversial. But the most accepted definition of **subsidy** is "any assistance of the government that allows consumers to purchase goods and services at prices lower than those offered by a perfectly competitive private sector, or [that] raises producers' incomes beyond those that would be earned without this intervention" (Schwartz & Clements ,1999 p. 120).

The effect of subsidies are, that domestic products are preferred to foreign manufactured goods (Li, Kahn, & Nickelsburg, 2015; Buigues & Sekkat, 2010). The preference of public purchasers for domestic products can be explained by the wish to maintain an industrial sector or uncertainty in the supply chain (Buigues & Sekkat, 2010; Asker, 2008). During the tendering, subsidies decrease the price per unit to a greater amount than the subsidy itself and the increased profit is absorbed further in the supply chain (Asker, 2008). But if a lack of international competition occurs because of subsidy, consumers might be exposed to higher prices and local producer become monopolists. These circumstances can lead to less differentiated supply and higher prices (Li et al., 2015).

9.3 Purchasing at Small and Medium-sized Enterprises

In order to further elaborate on the purchasing activities of SMEs in this part, there is a need to define what makes an enterprise a SME. The *European Commission*, the executive body of the *European Union*, has formulated a definition of small and medium-sized enterprises.

Small and Medium-sized Enterprises (SMEs): "The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million" (European Commission, 2015, p. 43).

In table 9.2 the characteristics of each company category are displayed.

Company category	Staff headcount	Turnover	or	Balance sheet total
Medium-sized	< 250	≤ € 50 m		≤ € 43 m
Small-sized	< 50	≤ € 10 m		≤ € 10 m
Micro-sized	< 10	≤ € 2 m		≤ € 2 m

TABLE 9.2 - SME characteristics, European Commission (2015)

The decision to include account turnover/balance sheet total in the definition is especially important for examining purchasing activities. Due to a lack of resource power in many SMEs strategic purchasing and/or supplier development is either not possible or thought to be of little importance (Carr and Pearson, 1999; Quayle, 2000 IN Pressey et al., 2009). This will be further elaborated in the coming sections. Due to the fact that resources are of importance in the choice of implementing strategic purchasing practices, it is chosen to use the turnover/balance sheet total for the categorization of enterprises.

9.3.1 Significance of Purchasing in SMEs

In recent literature, strategic purchasing is regarded as being relevant to all firms, regardless of their size (Park and Krishnan, 2001 IN Pressey et al., 2009). Nevertheless, ideas have also been presented that especially in SMEs strategic purchasing is not possible or the strategic function is not yet deemed to be important to the company. Various reasons have come forward that suggest that SMEs are not suitable for a strategic purchasing function: their resources are not sufficient or flexible enough, purchasing practices are of a too small nature to be regarded strategic and within the company there is a lack of attention towards strategic purchasing (Quayle, 2000; Ellegaard, 2006; Zheng et al., 2004 IN Pressey et al., 2009; Zheng et al., 2007 IN Pressey et al., 2009).

Instead of focusing on strategic purchasing, in general SMEs try to focus more on supplier evaluation. This does however not mean that strategic purchasing is not taught to be important within firms, it merely confirms the ideas of Quayle (2000) about their insufficient resources (Pressey et al., 2009). Therefore, supplier selection and evaluation is a vital task for SMEs because they are more dependent on external resources as they lack the internal ones. Both Pressey et al. (2009) and Quayle (2002) found in their research that criteria that were most important to SMEs were the core capabilities of suppliers: quality, price, product, reliability, service reliability and capability to support. Other, mainly value adding activities like R&D, capability to support, EDI and purchasing expertise were in general taught to be of smaller importance to SMEs when selecting and evaluating different suppliers. Nevertheless, some SMEs do value the networking capabilities and the right positioning in the supply chain of certain suppliers, in order to be able access the latest technologies and innovations (Mudambi et al., 2004 IN Pressey et al., 2009). The findings therefore suggest that in general the traditional

buyer's results orientated demands remain of the highest priority to SMEs, while customer-related demands are given less attention in the evaluation and selection process (Quayle, 2002).

Additionally, these findings can also be projected on the purchasing maturity development theory presented by in section 2.2. As was discussed the maturity of the purchasing function reflects the extent to which it is integrated in strategic management and can be categorized in 6 stages. If we consider the priority put on the traditional buyer's results orientated demands, the purchasing function of SMEs would fall under the second stage, commercial orientation in which the focus of the purchasing function is merely on the above mentioned results of price, cost savings and delivery performance.

9.3.2 Organization of Purchasing in SMEs

Ellegaard (2006) clearly stresses the fact that the purchasing activities in SMEs generally are under the responsibility of one of the few key players in the firm. Additionally, the purchasing is not seen as a separate task but in many cases implemented in the general running of a company, which often falls under the responsibilities of the owner-manager (Gadde and Håkansson, 2001 IN Ellegaard, 2006). In respect to that, in a research concerning the purchasing activities of small sized enterprises in the UK only 19% of the companies had a separate purchasing function. In the rest of the cases the purchasing activities were under responsibility of a designated employee, which in many cases was the owner (Quayle, 2002).

It seems that the size of an organization therefore does have a significant impact on the positioning and organization of the purchasing function in a company. In a study performed by Paik (2011) the role of size was investigated in relationship to purchasing practice in SMEs. The results of the differences in purchasing activities and functional span of control between medium and small-sized enterprises are depicted in Table 9.3 and 9.4 below.

Purchasing activities	Medium-sized enterprises		Small-sized enterprises	
	Frequency	%	Frequency	%
Centralized in a purchasing department	87	84,5	12	26,7
The primary responsibility of one individual	7	6,8	28	62,2
Departments perform their own purchasing	9	8,7	5	11,1
Total	103	100	45	100

TABLE 9.3 - Organizational structure, Paik (2011)

Does the person or department responsible for purchasing have other duties besides purchasing?	Medium-sized enterprises		Small-sized enterprises	
	Frequency	%	Frequency	%
Yes	50	48,5	42	93,3
No	53	51,5	3	6,7
Total	103	100	45	100

TABLE 9.4 – Functional span of control, Paik (2011)

The results clearly show that the differences in size do influence the centrality on both the centrality of the purchasing activity as well as the functional span of control. As the size of the company increases, the purchasing activities become more centralized and thus the responsibility of a whole department instead of merely one person. Additionally, as size increases the focus of the designated employee or department will be more on solely purchasing. These findings confirm the previous mentioned statements of both Gadde and Håkansson (2001 IN Ellegaard, 2006) and Quayle (2002).

These findings about small and medium-sized enterprises and the role of organizational size in influencing the centrality of the purchasing function do comply with the previous mentioned statements made in section 3.2.2. It was stated that the organizational structure is greatly influenced by the firm strategy and therefore changes accordingly. Additionally, as the importance of purchasing decisions increases there is a general tendency towards centralizing the purchasing function, discussed in section 3.2.2. If we compare these statements to the findings of Paik (2011), the purchasing function seems to be of greater importance as a company increases in size and therefore tends to centralize more as the firm grows.

9.3.3 Purchasing Power in SMEs

When discussing purchasing power the link to resources is quickly made as the relative power of either a buyer or supplier is greatly dependent on how much resources they possesses in order to influence their external environment. Therefore, with little resources available, the view was created that it was not useful to pursue the strategic purchasing activity. Quayle (2002) described the general response towards the priority of purchasing within the company as: “The general view was that with little or no perceived purchasing power, there was no need to pursue the activity through additional, already scarce, resource(s)” (Quayle, 2002).

As SMEs in general do not perceive themselves to possess sufficient purchasing power, they seek out other options to increase this by making use of external resources (Pressey et al., 2009). This reasoning is in accordance with the general resource dependence theory, from which the practice of cooperative purchasing is derived. **Cooperative purchasing** is defined as: “..the cooperation between two or more organisations in a purchasing group in one or more

steps of the purchasing process by sharing and/or bundling their purchasing volumes, information, and/or resources" (Schotanus & Telgen, 2007). This is a mindful tool to overcome the problem of limited resources and achieve goals none of the members could realize alone (Yu, 2014). This theory or practice is not only performed by SMEs but widely applied. Generally the advantages of cooperative purchasing include lower transaction and purchasing costs, higher quality, reduced (supply) risks, and learning from each other. Nevertheless, as might be assumed there are some risk involved with working so closely together with other firms, like high set-up cost, coordination costs, loss of flexibility and disclosure of information (Schotanus & Telgen, 2007). In theory this method is beneficial for the purchasing firms involved, but of course there are specific success factors required to make such an intensive relationship work. Schotanus, Telgen & de Boer (2010) identified the following success factors: no enforcement of participation, group-member cooperation, commitment to the cooperative, a common objective and influence of all group members, and the fair allocations of costs and gains.

Cooperative purchasing is considered to be a strategic issue in multiple world-class supply chains (Choi & Han, 2007 IN Yu, 2014). As it does not merely focus on the core activities of purchasing but also on possible value adding activities like learning from each other (which can convert itself to innovation), cooperative purchasing can be a helpful tool for SMEs to create a more strategic purchasing function. Although cooperative purchasing has not yet received considerable attention for the supply chain management researchers, Yu (2014) did perform a case study on cooperative purchasing within Chinese SMEs, which is depicted below.

9.3 Case study: Cooperative purchasing in Chinese SME Retailers

Since the slow transition from a centrally planned to a more market economy, the Chinese economy as well as the retail sector have experienced an enormous economic growth. This resulted into rising competition both from large Chinese and international retailers, rising logistics costs and buyer-supplier relationships. These developments put enormous pressures on the SMEs. Nevertheless, in 2008 still 98% of all retail companies were SMEs, accounting for 96% of the total turnover in the retail market. As costs are increasing, profit margins are low, and price competition is becoming more and more intense, the SME retailers had to deal with too high costs. The China Chain Store & Franchise Association (CCFA) did therefore, in order for the SME retailers to survive, suggest cooperative purchasing groups.

The cooperative purchasing group in this case is named PGSME. The group has achieved great success, currently consisting out of more than 100 retail stores divided over 4 subgroups, with a combined turnover of $800 million and average growth rates of 50%.

Cooperative purchasing has helped the individual retailers/SMEs in multiple ways. By purchasing together the group-members achieved a huge purchasing volume and were thereby able to negotiate with the supplier for lower purchasing prices. Additionally, normally the Chinese 'gift-giving' ethos resulted into briberies, but could now be prevented by setting up a cooperative purchasing team. Next to that, in response to customer demand, PGSME started considering quality as the most important criteria of choosing suppliers. Lastly, group-member could learn from and support each other through the cooperative purchasing efforts.

Additionally, the critical success factors that were in place for managing the cooperative purchasing group PGSME included: similar characteristics of group members and personality traits of top executives, the role of a 'big brother', and lastly the good 'guanxi' in the group. The 'big brother' role is important as one of the members provided help and support to other group members, in terms of interest free loans and sharing databases and salary incentive systems. In the PGSME case subgroup 3 took the role of 'big brother'. Additionally, guanxi is derived from the Chinese culture and builds on personal and business relationships, in order to create trust among the group members. The guanxi is especially in this case of the highest importance to the purchasing group, as it is not only beneficial for information sharing, but also for instance in solving problems related to institutional risk.

Source: Yu, (2014)

9.4 Comparison of different sized companies

After discussing the characteristics of the purchasing function within SMEs it is interesting to show the main differences in the purchasing function between SMEs and large companies. In this section large companies are described as multinationals. These multinationals are defined as a "gigantic, oligopolistic enterprise which spreads a network of a great many factories and distribution bases in suitable places all over the world, and pursues profit maximization with this global strategy" (Kojima, 2010: p.221). This definition is used as it states that it is a large

corporation with a global strategy and therefore most theories mentioned in this book can be applied to such an organization.

The differences will be shown by an example. This example sums up differences between different sized companies that are based on the experience of a senior purchaser who has worked for over 25 top 100 companies, several governmental organizations and several SMEs. His name is Erwin de Boer and he works as a managing consultant for the company Benefit.

9.4 Case study: Purchasing in different sized companies: An experience of the senior purchaser Erwin de Boer

The biggest issue within purchasing is the difference between core vs non-core products. For both SMEs and multinationals it is extremely important to determine what belongs to the core of the company and what belongs to the non-core. This distinction is necessary as the purchasing department is built around this core business. The organization however differs between different sized companies. SMEs often do not have a separate purchasing department but the purchasing activities are under direct control of either a high-ranked manager or the owner of the company. This means that all purchasing activities are centralized and that most of the purchasing activities can be seen as strategic because most purchasing activities focus on the core-business. In multinational companies purchasing is often done by a large separate purchasing department which can be organized in different ways. As also mentioned in previous chapters the purchasing department can be centralized, decentralized or hybrid. According to the manager the extent of (de)centralization depends on the size of the company. In general the following distinction applies:

- Small companies → centralized purchasing
- Medium companies → distinction between, core / non-core (centralized/decentralized)
- Large companies → product specialization, core / non-core (centralized/decentralized)
- Super international → hybrid, strategic products centralized, non-strategic decentralized

Another important aspect of the purchasing department is the training of the purchasing employees. The experience of the manager showed that a lot of (fast) growing companies are behind with the training of their employees. When this is recognized, training is provided to the employees and their knowledge and skills are improved. In practice there is almost a linear relation between the size of the company and the training of the employees. When the company grows, the amount of training increases.

The same holds for the maturity of the purchasing department. The purchasing department follows the maturity and size of the overall company and interacts with the overall company more and more as it becomes larger.

Source: S. de Boer, senior purchasing at benefit, in an interview with the authors of this chapter, March 13, 2016

9.5 Summary

The purpose of this chapter was to look at the purchasing function from different perspectives. The perspectives chosen in this chapter are purchasing in the public sector and purchasing in small and medium sized enterprises. Purchasing in the public sector was chosen because of its unique characteristics. The regulations, corruption, multiple objectives and fixed budgets require a different approach from the public purchaser compared to the private sector. Huge amount of money is being spent by different public organizations while they have to keep social, economic, environmental and political objectives in mind. All these objectives influence the supplier selection criteria and if this is not complex enough, public purchaser are often dealing with a wider variety of objectives that are often contradictory and collide with the traditional efficiency objective. Al these factors make that public purchasing takes place in a complex environment. Best Value Purchasing is mentioned as one of the ways to cope with this complexity. Governments are realizing that strategic public purchasing can cause more benefits than saving money. The only issue here is again the different objectives of a public purchaser compared to a private purchaser. The public purchaser needs to make sure that he adds value to the community and therefore he needs to adapt the general practices and criteria of BVP to fit his objectives.

Another important issue in public purchasing is **fraud**. Different countries have measured a growth in the number of fraudulent cases and in the amount of losses due to fraudulent activities. It is therefore often proposed to make all public purchasing methods transparent and fair. In order to make it more transparent the OECD introduced ten principles in 2009 which should make this possible. Another way to improve transparency is budgeting. By setting budgets resources are allocated in a transparent and legitimate way and provide the public with information. Extra caution is necessary here to prevent any budgetary slack.

As a consequence of before mentioned issues, more and more rules are implemented to increase the integrity of public organizations. These different regulations and extensive authorization procedures make public purchasing a long, labor intensive and very slow process. Because these processes can be so cumbersome and the fact that it is not possible to make changes when a purchasing procedure has started, makes it difficult to apply the portfolio models mentioned in chapter 2 to the public tendering process.

The last important factor in public purchasing is the concept of subsidy. Subsidy allows public purchasers to purchase their products at local, more expensive, manufacturers to support the industry. The risk is that it backfires and that a lack of internal competition increases prices.

Purchasing in small and medium sized enterprises was chosen because although there is limited research available on these companies, they form a large part of industry and are responsible for a substantial part of nations GDP. Opinions about the strategic function of the purchasing department in SMEs differ. Some say that strategic purchasing in this context is not possible and other say that strategic purchasing is relevant for all firms regardless of their size.

Supplier selection and evaluation is a vital task for SMEs because of their dependency on external resources. Although this is vital, the focus of SMEs is still more on price, quality

and reliability than on mainly value adding activities like R&D or capability to support. These findings can be projected on the purchasing maturity development theory presented in chapter 2. It would fall under the second stage where the focus is on price, cost savings and delivery performance.

The organization of purchasing in SMEs also differs from large or global companies. Often there is no separate purchasing department but the activities are the responsibility of a key player within the firm or the owner of the firm. The size of the firm influences the extent to which the purchasing activities are (de)centralized and as size increases there will be designated purchasing employees or a separate purchasing department.

The aspect of power is an important factor for SMEs. Because of their limited resources, SMEs are perceived to have little or no purchasing power. In order to gain some power SMEs are using cooperative purchasing as a tool to bundle their purchasing volumes and other resources. This way they can reduce costs, improve quality and learn from each other in the process. Because this tool does not only reduce cost but also focuses on value adding activities it can be helpful for SMEs to create a more strategic purchasing function.

The last part of the chapter gives some examples of differences between different sized firms based on the experience of a senior-purchasing manager. He states that the biggest issue in strategic purchasing is determining your core and non-core business. The purchasing department needs to be built around this core business in order to be strategic.

9.6 Discussion

In this chapter several current issues are presented on the area of public purchasing and purchasing in small and medium-sized companies. Although a lot of different topics are discussed, the authors are aware that this chapter is not an exhaustive list of current issues on purchasing from different perspectives.

An important issue that is not in this chapter is the function of purchasing in different industries. During the research in literature and the conversations with a senior purchasing manager it became clear that there are big differences between industries. However, the body of academic research on these topics is limited which makes it difficult to do extensive research and to come up with valid arguments for our statements. If this topic would be included, chances are that it becomes an enumeration of different case studies which is not the purpose of this chapter. The direction however possesses a lot of opportunities for future research to determine the exact differences between those industries.

In addition, only two different perspectives have been described within this chapter. Nevertheless, other perspectives like non-governmental organizations or non-profit organizations might give another look upon the purchasing function within a company and the strategies that are used. Next to the different industries, these directions also possess sufficient opportunities for future research

In conclusion, it remains difficult to generalize theories on every company as certain influences, circumstances or capabilities may prevent a company from performing an activity

according to literature. Therefore the application of purchasing practices can differ extensively within a labeled group. As earlier mentioned, 99, 9% of the companies fall within the categorization of SMEs, which makes it difficult to generalize theories and or findings to this specific group, as there are still plentiful differences within this group to be found. Nevertheless, within this chapter the authors tried to create a perspective that represents the general view and practice of purchasing activities in both SMEs and public organizations.

Key terms

The key terms mentioned in this list can, with their references, be found in the main body of this chapter.

Budgetary slack - the intentional under- or overestimation of revenues or costs to achieve targets easier

Budgeting - a performance expectation based on past data regarding a particular performance item

Cooperative purchasing - "the cooperation between two or more organizations in a purchasing group in one or more steps of the purchasing process by sharing and/or bundling their purchasing volumes, information, and/or resources"

Corruption - the abuse of public power for private gains

Fraud - an umbrella term for different fraudulent activities - dishonestly to obtain a benefit or advantage and/or causing a loss to another party

Public purchasing - the purchase of work, goods or services done by public authorities

Small and Medium-sized Enterprises (SMEs) - "The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million"

Subsidy - any assistance of the government that allows consumers to purchase goods and services at prices lower than those offered by a perfectly competitive private sector, or [that] raises producers' incomes beyond those that would be earned without this intervention

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Glossary

Key terms:	Definition:	Page:
Agency theory	The conflicting difference between tolerance between the principal and agent. Both parties have different objectives	98
Agility	Refers to that a company is able to respond quickly to unforeseen disruptions in the supply chain	207
Best value purchasing	A purchasing process where not only price is considered but also many other key factors are taken into account during the evaluation and selection process to enhance the long-term performance and value	3
Budgetary slack	The intentional under- or overestimation of revenues or costs to achieve targets easier	224
Budgeting	A performance expectation based on past data regarding a particular performance item	223
Buyer-supplier collaboration	Refers to the buyer and supplier working together with effectiveness aiming at achieving mutual benefits in responding to and recovering from disruptions	203
Category management	A construct constituting of an individual's attitudes, perceptions and past experiences towards a company	128
Co-management	Different levels of organization that have comparative advantages in the generation and mobilization of knowledge acquired at different scales. Bridging organizations provide a forum for the interaction of these different kinds of knowledge, and the coordination of other tasks that enable co-operation: accessing resources, bringing together different actors, building trust, resolving conflict, and networking	64
Complexity	The difficulty or easiness in understanding work	54
Contract	A mutual commitment between a principal and agent. A commitment can be developing a product or providing a service.	96
Contract management	An active process which will start in the contracting phase when the formal agreements will be aligned. After the development of the contracts, the second phase is to monitor and manage the agreements	95
Contractual stakeholders influence	Procurement standards, partnership standards, consumers education, stakeholder empowerment, stakeholder engagement	175
Cooperative purchasing	The cooperation between two or more organizations in a purchasing group in one or more steps of the purchasing process by sharing and/or bundling their purchasing volumes, information, and/or resources	229
Coordinator configuration	Can be considered as a much more traditional purchasing structure, where the main focus lies on costs and technological risks are rather low	54
Corruption	The abuse of public power for private gains	221
Current issues	Literature study has found that some topics in the field of strategic purchasing are played a lot attention to in recent years	116

Cultural distance	A country's cultural attributes determine how people interact with one another and with companies and institutions. Differences … are all capable of creating distance between two countries	157
Dedicated configuration	Considers purchasing activities to be of major concern to the organization	54
Development programs	Would be those focused on helping suppliers improve their environmental performance or relationship with the buying organization	177
Dyadic relationship	The relationship between one buyer and one supplier	84
Early supplier involvement (ESI)	Native idea of ESI within the product development or design process is to reduce supply costs but ESI can also be used as a strategy for reducing the supply risk of companies	202
Eco-design	Design of products for reduced consumption of material/energy, design of products for reuse, recycle, recovery of material, design of products to avoid or reduce use of hazardous materials	174
Employment practices	Disciplinary and security practices, employee contracts, equity labor sources, diversity, discrimination, flexible working arrangements, job opportunities, employment compensation, career development	175
Environmental management system	Environmental certifications like ISO14000, environmental policies, planning of environmental objectives, checking and control of environmental activities	174
Evaluation	The process of measuring the performance of another party	102
External chain	A relationship in which more than two companies are involved and that describes the flow of a product from supplier to customer	84
External co-management	The alignment between different organizations	64
Flexibility	Refers to a company's ability to respond to changes, or disruption, timely and efficiently	207
Fraud	An umbrella term for different fraudulent activities - dishonestly to obtain a benefit or advantage and/or causing a loss to another party	233
Global purchasing	The activity of searching and obtaining goods, services and other resources on a worldwide scale, to comply with the needs of the company	143
Health and safety	Health and safety incidents, health and safety practices	175
Institutions	Humanly devised constraints that structure political, economic, and social interaction and that provide the incentive structure of an economy	142
Integrator (marketing's new function)	The solutions companies offer towards their customers	64
Integrator configuration	Puts high importance on the purchasing function, however, to a lesser extent than the dedicated configuration	54
Interaction process	The communication aspects associated with interdepartmental activities	58

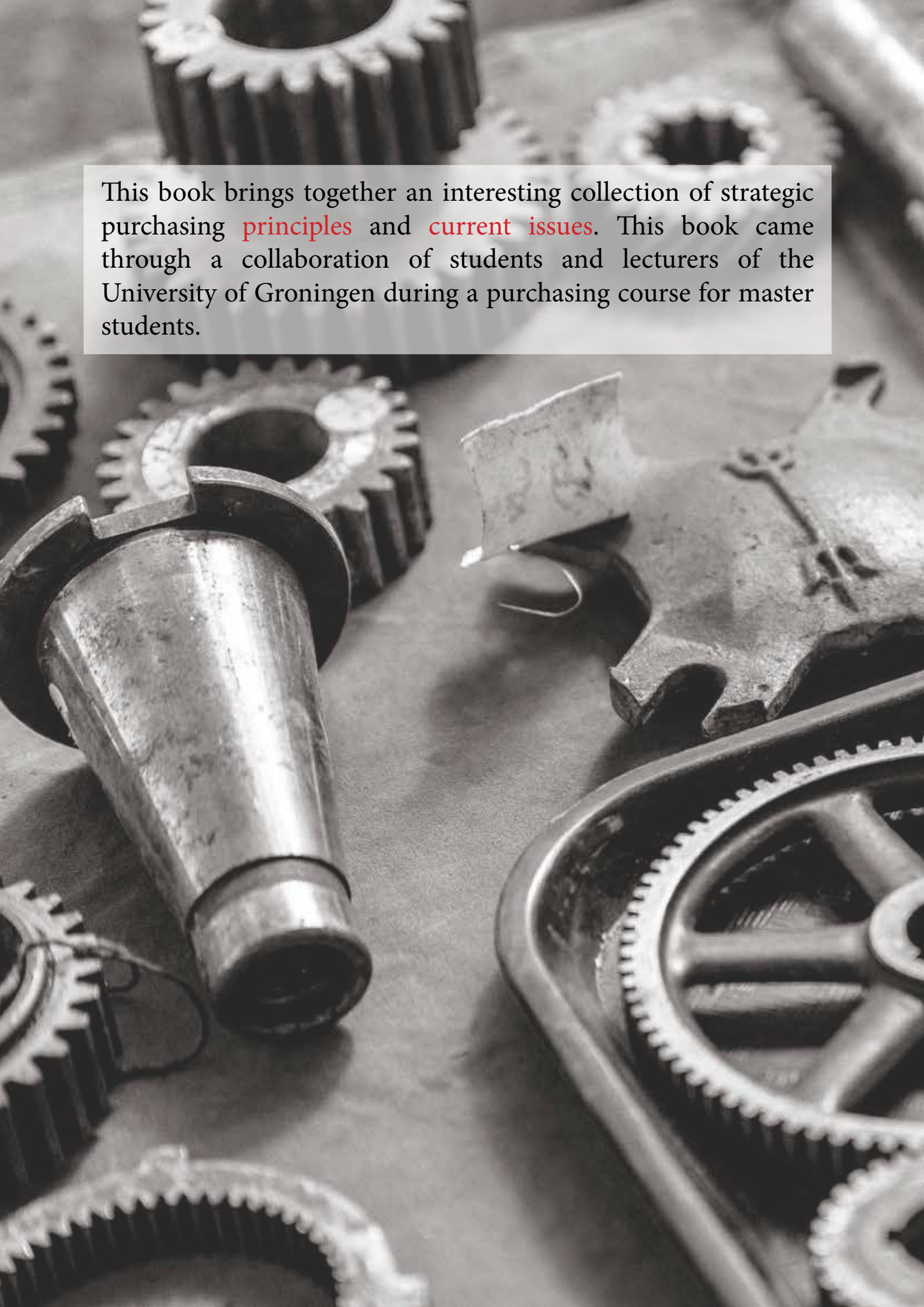
Interdepartmental collaboration	An affective and volitional process where departments work together with mutual understanding, common vision, and shared resources to achieve collective goals	58
Interdependence	The extent to which activities are mutually dependent	54
Internal alignment	A configuration of competences for each strategy alternative	44, 153
Internal chain	A relationship in which no suppliers are involved	84
Internal co-management	The internal alignment between functions within a firm	64
Internal customer	Looks at the employee as a customer. The employee is seen as an internal customer inside the organization which has needs and wants, which they request from other functions	59
Internal integration	Encompasses the extent to which different functions cooperate to arrive at mutually acceptable outcomes	49
Internal marketing	Looks at the employee as a customer	59
International Purchasing Office	An offshore buying office or buying house to procure components, parts, materials and other industrial inputs to be used by manufacturing plants globally	154
Leasing contracts	Contracts where a periodically fee is paid to make use of the equipment	101
Local communities influence	Health, education, service infrastructure, housing, health and safety incidents, regulatory and public services, supporting educational institutions, security, cultural properties, economic welfare and growth, social pathologies, grants and donations, supporting community projects	178
Lowest price purchasing	Only selecting a supplier who offers the lowest price for the product	37
Network	All relations between all suppliers and buyers involved in the process from raw material to the final customer	84
Ordering	The placing of purchase orders at the suppliers against previously arranged conditions or when orders are placed directly at the supplier, without questioning the supplier's conditions	10
Organizational culture	A set of shared assumptions and understandings about organizational functioning	55
Organizational perspective	There is the requirement that purchasing is included in inter-functional project teams and participates in the development, articulation and deployment of strategies	51
Organizational structure	Revolves around hierarchies, rules and roles	53
Outsourcing coordinator (purchasing' new function)	Putting together various services contracted from various vendors to collate the best customer solution promised by marketing	64

Outsourcing services	The contracting-out of services that were previously performed in-house	118
Performance based contracts	Contracts based on the output, the performance, of the process. Performance based contracts will give more flexibility to the supplier	101, 117
Pollution production	Average volume of air emission pollutant, waste water, solid wastes and harmful materials releases per day during measurement period	174
Portfolio model	The purchasing portfolio is often considered a valuable tool for developing differentiated purchasing and supplier strategies	28
Power	The ability of one partner to have an advantage over the other and it can allow one partner to coerce the other into doing something they otherwise may not do	95
Proactive purchasing	Defined as the purchasing's willingness to take risks and to effectively use current knowledge to make decisions about the future	201
Process orientation	The focus on business processes instead of emphasizing on functional and hierarchical structures	60
Product Service-Systems (PSS)	A combined offer between a product and a service that generates value during the use	123
Productization	The transformation of a service into a product	129
Public purchasing	The purchase of work, goods or services done by public authorities	219
Purchasing business service	The exchange of business services among organizations	120
Purchasing maturity	The level of purchasing maturity reflects the extent to which the purchasing function is integrated into the strategic management decision-making process	21
Purchasing process	This is the process used to identify user requirements, evaluate the need effectively and efficiently, identify suppliers, ensure payment occurs promptly, ascertain that the need was effectively met, and drive continuous improvement	9
Purchasing risk management process	1) risk identification 2) risk assessment 3) risk mitigation and 4) risk monitoring	193
Purchasing risks	Are supply, operational and demand risks which have an effect on the purchasing process; identification, assessment, mitigation and monitoring, to reach the organizational goals	191
Purchasing strategy	A strategy to make purchasing more effective and efficient	19
Reactive risk management	Refers to "response", "recovery" and "growth" while suffering disruptions	190
Relationship management	The ability to act ethically, listen effectively, communicate, and use creative problem solving. The ability to drive relationships is critical for firms seeking to build strong integration with external suppliers	80

Resource based view	Focuses on the unique resources and capabilities controlled by the firm as sources of sustainable competitive advantage; the term sustainable (or *sustained*) in this context implies a long-term focus rather than a focus on environmental or social issues	171
Resource consumption	Resource consumption in terms of raw material, energy, and water during the measurement period	175
Risk acceptance	The cost of managing the risk is acceptable because the risk level is insufficient to justify the cost of risk avoidance	208
Risk monitoring	Refers to tracing the whole process of purchasing activities	204
Robustness	Can be seen as a precondition for handling risks from the supplier side	202
Service	A change in the condition of a person, or of a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit, with the prior agreement of the former person or economic unit	114
Service purchasing process	The process of purchasing a service, consisting out: specifying (request for information and detailed specification); selecting; contracting; ordering; expediting and evaluating	120
Service-dominant logic	The shift in focus from goods and materials towards intangible resources, hence: services	113
Service-level agreement	a contract that defines services that the vendor will provide to the client and specifies: information about the agreement itself, such as its term, the parties, and ways in which disagreements or changes are to be negotiated	118
Servitization	A company's change of direction from purely providing products towards supplying a variety of offerings including the combination of products and services in order to generate value	126
Small and Medium-sized Enterprises (SMEs)	The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million	226
Social capital	A valuable asset that stems from access to resources made available through social relationships	93
Sourcing	Finding, selecting, contracting and managing the best possible source of supply on a worldwide basis	10
Sourcing phase	The initial stages of the purchasing process, as depicted by van Weele (2010). It includes: specification; selection; contracting	125
Strategic purchasing	The application of the whole selection of activities that help to develop and sustain a long term competitive advantage, ranging from what, when, and how much to purchase, purchasing it and the process of making sure that what is purchased is received on time in the right quality and quantity	9
Stress testing	Is a method that helps purchasing managers and their organization to comprehend and arrange supply chain risks	202

Subsidy	Any assistance of the government that allows consumers to purchase goods and services at prices lower than those offered by a perfectly competitive private sector, or [that] raises producers' incomes beyond those that would be earned without this intervention	226
Supplier development	The process to improve the performance of a supplier and to increase the capabilities of the supply base to ensure improvement on the selection criteria of the goods and services supplied by these suppliers	90
Supplier evaluation	The process of evaluating the selected suppliers based on selection criteria	81
Supplier involvement	Suppliers taking an active role in shaping the nature and mode of service provision	123
Supplier management	All processes and tasks related to managing the suppliers of the company by the selection of suppliers, the evaluation of suppliers and the development of suppliers	80
Supplier portfolio management	The management of an array of supplier relationships, each having various characteristics and each serving the firm in different ways	87
Supplier relationship management	Focused on maximizing the value of a manufacturer's supply base by providing an integrated and holistic set of management tools focused on the interaction of the manufacturer with its suppliers	79
Supplier selection	The process of selecting possible suppliers in order to reduce risk, maximize value and build a long-term relationship between the buyer and the supplier	81
Supplier selection criteria	The criteria to be used for the supplier selection and evaluation: the unit cost of components/service, the quality of components/service, the delivery lead-time, on-time delivery and flexibility in changing the order	81
Supply base management	Systematic approach for strategically managing the whole supply base, including, but not limited to aspects such as, number of suppliers, supplier differentiation, interrelations between suppliers, time and transparency	31
Sustainable development	Development that meets the needs and aspirations of the present without compromising the ability of future generations to meet their own needs	166
Sustainable purchasing	The consideration of environmental, social ethical and economic issues in the management of the organization's external resources in such a way that the supply of all goods, services, capabilities and knowledge that are necessary for running, maintaining and managing the organization's primary and support activities provide value not only to the organization but also to society and the economy	169
Task perspective	A reorientation of the focus of activities in the purchasing department activity as purchasing strategies shift towards being more critical	51
Total cost of ownership	All costs associated with the acquisition, use and maintenance of an item to be considered in evaluating that item and not just the purchase price	59

Traditional Contracts	Contracts which are based on the input. The buyer will specify how to produce its resources	98
Transaction cost economics	Transaction Cost Economics (TCE) is an economic theory that provides an analytical framework for investigating the governance structure of contractual relations within a supply chain	118
Triple bottom line	Profit (the economical dimension) should no longer be at the expense of people (the social dimension) or planet (the environmental dimension)	172
Uncertainty	The extent to which people, groups and organizations have information about future events	54
Variety	The depth and width of knowledge that is necessary to perform a purchasing activity	54
Velocity	Refers to how fast can a company can respond to and recover from a disruption	106
Vendors	Anyone who provides goods or services to a company or individuals	57
Visibility	refers to that an organization's capacity to see throughout the whole upstream of the supply chain	106



This book brings together an interesting collection of strategic purchasing principles and current issues. This book came through a collaboration of students and lecturers of the University of Groningen during a purchasing course for master students.