IMPROVING THE BUYER ATTRACTIVENESS FOR SUPPLIERS

How to improve the position of a depending buyer?

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The author declares that the contents of this master thesis has been created by the author himself and that no other resources than the resources mentioned in the literature list have been used.

Preface

This thesis is the result of a journey that started two years ago when I began working toward my Master's of Science in Business Administration at the Rotterdam School of Management. Besides my job, studying took almost all of my spare time. Nevertheless, it was inspiring and challenging, and I enjoyed it from beginning to end.

First of all, I would like to thank Melek Akın Ateş and Serge Rijsdijk, who supported me during my final phase of study while I was writing this thesis. And I specifically would like to thank Melek for her encouragement and tips for writing an academic thesis.

Also, I would like to express my thanks to Coen van 't Westeinde and Gerrit van Amelsvoort, the owners of NDF. I would also like to acknowledge all of my colleagues for their support, contributions to various assignments, and encouragement, all of which made it possible to complete this course.

Finally, I would to like to thank all of my classmates for all of their contributions, assignments, feedback, and fun during the last two years. I would especially like to thank Nicoline Pruijssen de Kooter. Due to a coincidence, we started in the same introductory group and made the journey together almost until the end, with theses in the purchasing and supply management group. It was a pleasure to study together.

I have enjoyed my studies, and I hope you will also enjoy reading this thesis.

Roosendaal, October 2014

Frank van der Schans

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Management summary

This study attempts to find scientific evidence for factors that can improve a buyer's customer attractiveness status for suppliers. It especially focuses on situations in which the buyer is dependent on the supplier, while the supplier, however, is not dependent on the buyer.

The regular approach to studying buyers is based on the Kraljic (1983) model. The basic input for this model is the buyer's view of the supplier. The supplier's opinions regarding the buyer are not taken into account this model. However, perceptions of attractiveness in these relationships differ between buyers and suppliers and even could be conflicting (Purchase, Butler, & Alexander, 2011).

A difference in dependence (an asymmetrical dependence) between a buyer and a supplier could also have a strong influence on the relationship between them (Johnsen & Ford, 2008). However, a basic objective for buyers should be to increase customer attractiveness and then use this high level of attractiveness to receive preferred customer treatment and its accompanying benefits. This attractiveness should be visible in the supplier's treatment of the buyer (Baxter, 2012). Based on a literature review, six possible variables could have a positive influence on preferred customer status, while asymmetrical dependency could have a negative influence on it. These six positive variables associated with preferred customer status are: financial attractiveness, innovation function, information exchange, network function, trust, and commitment.

This study utilizes a questionnaire that collects data from suppliers. Statistical analyses of survey results clearly show that there is a misbalance in dependence between the buyer and almost all suppliers, with the buyer as the dependent party. As expected, the data confirms a negative correlation between preferred customer status and dependence asymmetry.

The variables 'network function' and 'commitment' have significant effects on preferred customer status. Additional testing of the data suggests that the level of dependency has an effect on a buyer's financial attractiveness.

With the conducted analyses it was found that the variables "dependence asymmetry, financial attractiveness, innovation, information exchange, network, trust and commitment" explain a significant amount of 55% of the variance in the preferred customer status. Concluding this research, we can state that we showed evidence that the variable 'network exchange' and 'commitment' significantly influence the preferred customer status. Literature also suggests a significant relation for asymmetrical dependence, financial attractiveness, innovation function, information exchange and trust. However, based on these results, this study cannot support that proposition. For these variables there was no significant influence on the preferred customer status of a company.

1 Introduction

Porter (1985) previously mentioned purchasing in his famous value chain model as a support activity through which a company can gain competitive advantage. With the trend of focusing on companies' core competencies, the amount of sourced products and services has increased rapidly (Rozemeijer, 2009). As a result of this, purchasing has become more and more important over time. Today, companies spend often more than 50% of their sales turnover on purchasing products and services. This means that purchasing has a huge effect on the financial performance of a company (Weele, 2010).

Purchasing can contribute to a business's success in three ways. First, cost savings can improve the sales margin. Second, improving the quality and logistics agreements can reduce working capital. Third, suppliers contribute by involving themselves in new product development. Even small improvements have a significant impact on a company's financial results (Weele, 2010). The strategic objective of purchasing is to develop a world-class supplier base that is better than that of a company's main competitors. However, companies are increasingly dependent on their suppliers. In the presence of such situations of dependency, good relationships between buyers and suppliers are key for companies in achieving their goals (Weele, 2010).

The basic concept in the purchasing research literature regarding the relationship between buyers and suppliers is the following: Suppliers offer a deal, and the buyer then evaluates this offer based on the cost and benefits. Based on this evaluation, the buyer can accept the deal, negotiate a better deal, or look for alternatives (Ramsay & Wagner, 2009). This concept promotes the general assumption that buyers choose suppliers and that suppliers try to attract buyers with their offerings (Ramsay & Wagner, 2009; Baxter, 2012).

This proposition presumes that buyers have a choice of suppliers and that those suppliers are interested in those buyers as customers. However, buyers do not always have a choice between different world-class suppliers (Christiansen & Maltz, 2002), and sometimes buyers are not 'commercially' attractive to those suppliers. (Ramsay & Wagner, 2009). An underlying assumption of the view that the buyer will make a choice is that the buyer is the stronger party in the relationship and not dependent on the supplier.

However, a supply chain is often built with asymmetrical relationships (Belaya, Gagalyuk, & Hanf, 2009), and suppliers are not necessarily the weaker partner. In cases where the buyer is the weaker party, the relationship will often change after a period of time. The relationship between a powerful supplier and a dependent buyer often becomes more difficult, because the purchase orders are small and and do not meet the supplier's expectations (Belaya, Gagalyuk, & Hanf, 2009).

These weaker buyers' objective needs to be achieving a so-called 'customer of choice' or 'preferred customer' status (Rocca, Caruana, & Snehota, 2012). The basic notion of customer attractiveness is that the buyer (as a customer) will attract the supplier, and that this will lead to loyalty and superior performance within this relationship (Rocca, Caruana, & Snehota, 2012). This status will also ensure that buyers receive competitive preference from a given supplier over other buyers (Rocca, Caruana, & Snehota, 2012).

The relationship between a buyer and supplier has been much researched (Hallikas et al., 2005; Rozemeijer, 2009; Baxter, 2012). As mentioned by Hallikas et al. (2005), there are countless studies that address this relationship from the customer perspective and far fewer studies that look at the relationship from the supplier's viewpoint. Rozemeijer (2009) mentioned that customer attractiveness is often approached in practical rather than theoretical research. There are many opinions and hypotheses about customer attractiveness; however, there is lack of scientific evidence. Also, asymmetry in relationships between buyers and sellers is a relatively new area of research (Chia-Jung & Rhona, 2012). Combining these research gaps, this explorative study will try to find scientific evidence for factors that can improve a buyer's customer attractiveness status from the viewpoint of suppliers in situations where the buyer is dependent on the supplier.

1.1 Research setting, company background

This research considers the supply chain of a specific company, which will first be introduced. The case company is NDF Special Light Products BV (NDF), which is an SME (14 FTE) that originated in 1999 from a management buy-out of Philips Lighting. NDF is a lamp manufacturer that is active in the high-end display market and the general lighting market.

In the high-end display market, NDF has traditionally supplied custom-made cold-cathode fluorescent lamps (CCFL), mainly for the use in niche markets for medical mammography, air traffic management, and avionics displays. These markets traditionally follow developments in the consumer market due to their risk-avoidant attitude. In these markets, solid-state lighting (LEDs) was recently introduced for use in high-end liquid crystal displays. Besides this technology change, customers are requesting a systems or solutions approach from their suppliers. Due to this market change, NDF is not only supplying lamps based on fluorescent technology but also is transitioning to complete backlight solutions based on LED technology.

For the general lighting market, NDF mainly focuses on applying the unique features of CCFL lamps. In the past, NDF primarily supplied lamps (burners), while it now also focuses on a solution approach with the supply of modules for luminaires or complete integrated compact fluorescent lamps. This has led to a greater level of vertical integration of the supply chain, with a much higher purchase rate, which has risen from 10% to over 40%.

Most businesses in the lighting and display industries in which NDF operates focus on volume production for the consumer market. Consequently, most suppliers in this market also focus on the production of large volumes with a cost leadership strategy. The strategy of NDF as an SME is different, targeting relatively small volumes with added value in a niche market.

SME companies similar to NDF often have large multinationals as customers, which require state-of-the-art products and services. Also, large multinationals can frequently be found on the supplier side. These companies produce and supply in large volumes. See figure 1 for a graphical representation.

Without the advantage of a large home market, an SME needs to attract the best suppliers in the world, without the offer of large volumes (Christiansen & Maltz, 2002). SMEs need to find a way to make themselves valuable for those world-class suppliers (Purchase, Butler, & Alexander, 2011). Being an attractive buyer may be critical to survival, since industries are consolidating (Christiansen & Maltz, 2002). When a buyer is perceived as attractive, it will gain benefits, such as access to new technologies, preferential delivery times, collaboration, and improved resource allocation (Rocca et al., 2012; Purchase et al., 2011). Loyalty from suppliers may be critical for SMEs to survive (Christiansen & Maltz, 2002). In a business-to-business market, long-term relationships are seen as a competitive advantage, because these relationships enable reductions in cost and improve quality and efficiency (Walter et al., 2003).

Firms are increasingly relying on other companies for technology for innovations. The process is changing from a highly controlled proprietary process to an inter-organizational exchange with other companies. Suppliers play a key role in the innovations pursued by buying firms (Ellis, Henke Jr, & Kull, 2012).

NDF's dependence on its suppliers is not an exceptional occurrence. A supply chain is often built with asymmetrical relationships (Belaya, Gagalyuk, & Hanf, 2009). Over time, maintaining relationships with large suppliers can be increasingly difficult, because the purchase orders are small and do not meet suppliers' expectations. In the meantime, the SME is dependent on this supplier, because its buying power is too small to have secondary sources for products or components.

Figure 1 - Location of the dyadic relationship of this research

1.2 General research objective

NDF is obviously not the only company which is dependent on it suppliers due to its inability to offer a large enough volume to be attractive. Each supply chain is comprised of dyadic relationships between buyers and suppliers, and dependence is almost always asymmetrical in these relationships (Belaya, Gagalyuk, & Hanf, 2009). The purpose of this study is, therefore, to determine which factors improve the buyer's attractiveness in situations in which the buyer is dependent on the supplier. The results of this theory-oriented research can potentially be generalized to all companies that are dependent on their suppliers with relationships in a supply chain.

1.3 Contribution to the literature

The buyer-supplier relationship is a commonly researched topic (Hallikas et al., 2005; Rozemeijer, 2009; Baxter, 2012). However, this research has primarily been conducted from the buyer's perspective (Hallikas at al., 2005). This research, on the other hand, looks for variables that can influence a buyer's attractiveness as a customer from the standpoint of the supplier. This so-called 'customer attractiveness' is a topic often approached in practice due to the lack of fundamental scientific research (Rozemeijer, 2009). Also, looking at buyers as the weaker party of asymmetrical relationships with suppliers is a relatively new area of scientific research (Chia-Jung & Rhona, 2012).

In conclusion, this research will contribute to three less frequently researched facets of the purchase and supply management literature by: (1) examining the buyer-supplier relationship from the supplier perspective, (2) looking at customer attractiveness, which currently lacks scientific foundations, and (3) investigating asymmetrical relationships in which the buyer is the weaker party. This is a relatively new area of scientific research.

1.4 Contribution to management

Many companies are comparable to NDF in that they are in a weak position relative to their suppliers, as they lack the leverage that comes with large volumes. The buyer is dependent on the supplier in an asymmetrical relationship, so the supplier is therefore not dependent on the buyer. In such asymmetrical relationships, buyers need to find ways to make themselves attractive to world-class suppliers (Purchase, Butler, & Alexander, 2011). This attractiveness will provide buyers with benefits that could give them a competitive advantage over their competitors (Rocca et al., 2012; Purchase et al., 2011). This research will contribute to management by looking for variables that could improve and influence buyers' attractiveness to suppliers. In the daily management of a company, all departments involved in purchasing relationships need to give additional attention to specific variables. This could positively influence a buyer's attractiveness to a supplier, which would benefit the buyer.

2 Exploration of literature

This chapter will present an overview of the relevant literature. We will start with the common relationships between buyers and suppliers from the perspective of the buyer. Following is an introduction to a new perspective on this relationship – that of the supplier. It is commonly assumed that, in its relationship with the supplier, the buyer is an equal or stronger party. We will describe what happens when the buyer is dependent on the supplier, while the supplier is not dependent on the buyer. In such cases, asymmetrical dependence exists.

In the following section, we continue by explaining why it is important for all buyers to be attractive to suppliers, so as to gain advantages over competitors (Bew, 2007). Next, this chapter will examine how the negative influence of this type of asymmetrical dependence (buyer dependent, supplier not dependent) affects customer attractiveness. Finally, we will describe which variables could influence customer attractiveness. At the end of the chapter, we will summarize the conceptual model and the hypotheses for this research, as formulated in the literature review.

2.1 What are the different perspectives of the buyer and the supplier?

2.1.1 Purchasing portfolio models, buyer's perspective

Buyers deal with many products and suppliers. For differentiating the significance of purchases, the ABC analysis was used for a long time. This tool does not provide strategic recommendations and has no real guidelines. Therefore, it is not a portfolio technique (Gelderman, 2000). However, supply chain management requires a strategic approach to buyer-supplier relationships (Bensaou, 1999). Purchase portfolio models are used to classify the purchased products and/or services and to determine the most suitable approach (Luzzini et al., 2012).

In 1983, Kraljic was the first to introduce a widely used portfolio approach for purchasing (Luzzini et al., 2012; Gelderman & Weele, 2003). It was originally intended to answer to questions common to all manufacturers, such as how to guard the long-term availability of products at competitive costs, and how to survive changing economics and disruptive innovations. The more uncertain the answers to those questions are, the more important supply chain management is (Kraljic, 1983).

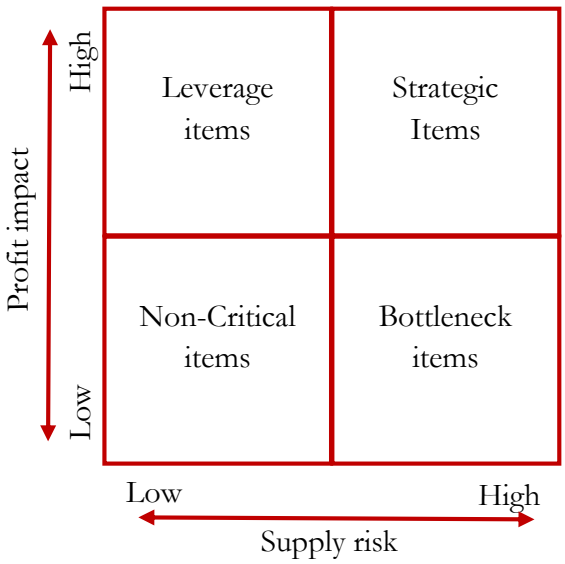

Figure 2 – Purchasing portfolio model (Kraljic, 1983)

The first stage of Kraljic's (1983) portfolio approach is to classify products along two axes. The horizontal axis indicates the 'supply risk,' for example, the complexity of the supply market, scarcity, or the possibility for substitution. The vertical axis represents the 'profit impact,' which shows the relative amount of purchased materials and its influence on profitability. This classification results in a 2x2 matrix with four categories (see figure 2). By assessing the position in the matrix, one can determine the appropriate strategy for exploiting important suppliers, reducing risk, and minimizing vulnerabilities. For each category in this Kraljic (1983) matrix, an adapted approach is required:

Leverage items. Leverage items have a large impact on profit and are available from various suppliers at a low risk. Products are easy to substitute, and suppliers are interchangeable. This avoids the need for long-term contracts. Buying power is obtained to receive better prices (Gelderman & Weele, 2003; Caniëls. & Gelderman, 2005).

Non-Critical items. The low value per unit and the possibility to substitute call for an approach that can reduce cost through efficient processing, standardization, and inventory optimization (Gelderman & Weele, 2003).

Bottleneck items. These products have significant risks associated with them and are vulnerable to scarcity, without a large influence on financial results (Gelderman & Weele, 2003; Caniëls. & Gelderman, 2005).

Strategic items. Strategic items should be the most relevant category, as it contains the product and/or service essential for competitive advantage in the largest spending categories (Luzzini et al., 2012). For strategic items, further analysis is necessary regarding the supply market, where three categories have been identified, each with different power positions. In a position where the buyer has a dominant market role, with low or moderate supplier strength, an aggressive strategy, 'exploit,' is recommended. For markets with an opposite position, where the supplier is the strong party, a defensive strategy, 'diversify,' is indicated. Under this strategy, buyers must start looking for other suppliers or substitutes. For markets without this asymmetry, buyers should implement an intermediate strategy, 'balance' (Kraljic, 1983; Gelderman & Weele, 2003). It is no exception that strategic products will be sourced from one supplier. To counter this disadvantage, buyers aim to build partnerships (Caniëls & Gelderman, 2005). However, partnerships should not be the only preferred approach toward handling strategic items, as mentioned by Kraljic (Gelderman, 2000).

The basic objective of Kraljic's (1983) matrix is to reduce risks and to gain the maximum bargaining power. Decisions made with such portfolio techniques are always questionable, due to the choice of the dimensions. Subjective choices will influence the location within the matrix. In practice, this tool is supplemented with additional information, such as company strategy, market information, and information about individual suppliers. This additional background information enriches decisions made on the basis of this analysis to avoid threats or missed opportunities. Also, discussion and thoughtful manual adjustments are important to improve the usefulness of this analysis (Gelderman & Weele, 2003).

Portfolio techniques are commonly used, but most models in the purchase and supply management (PSM) literature are a variant or extension of the model developed by Kraljic in 1983 (Luzzini et al., 2012). Extending the Kraljic (1983) model, Luzzini et al. (2012) conducted research empirically testing purchase portfolio models by adding extra dimensions (see figure 3). By investigating a globally collected dataset, they created a classification system with four purchase categories. The following four indicators distinguish the purchase categories: customization, technological uncertainty, supply market volatility, and supplier power. The most important goal and objective, as described by Luzzini et al. (2012), are given for each category:

> **Steady.** The market for these products is characterized as stable. There is limited market volatility and no customization. This will lead to a predicable supply market. Sweeteners for food industries are an example (Luzzini et al., 2012).
>
> **Volatile.** The products in this category are standard (commodity) products without much customization but essential for the industry. Purchase conditions are mostly determined by the volume and volatility of the market. Examples of this type of product are plastics and resins (Luzzini et al., 2012).
>
> **Special.** This category has the most customized products and the most supplier bargain power. This bargaining power is a result of customization and leads to dependence on suppliers. An example from this category is castings for automotive manufacturers (Luzzini et al., 2012).
>
> **Risky.** Products in this category are the most difficult to purchase and are associated with the most uncertainty in terms of their technical specifications and supplier market volatility. This supplier volatility is necessary to meet uncertain specifications. An example from this category is IT consulting for financial services (Luzzini et al., 2012).

It is notable that price is the most important strategy for all of these four categories. Second, for all categories, delivery is important and should ensure the supply of goods. Differences can be found in the efficiency strategy, which is a logical, important factor in volatile markets. Innovation is only the third strategy in the other categories. Sustainability is the least important in all categories, despite the attention this subject has been receiving in recent years (Luzzini et al., 2012).

For a strategic analysis of the purchase portfolio, Kraljic (1983) is good starting point (Gelderman, 2000). However, purchase portfolio models have a disadvantage in that the variables are not sufficiently described, which makes it difficult to operationalize and measure them (Luzzini et al., 2012). Many academic researchers have reservations regarding the use of portfolio models. Notwithstanding the limitations of such models, the benefit of using a portfolio technique is that it provides additional insight into strategic issues (Gelderman, 2000). Also, Kraljic's (1983) model was developed from practice and has limited theoretical and empirical foundations, as do most other portfolio models (Luzzini et al., 2012). But the lack of corrections to such models and the opportunity to modify and adapt them to fit individual organizations could explain the support and success they have achieved in practice (Gelderman & Weele, 2003).

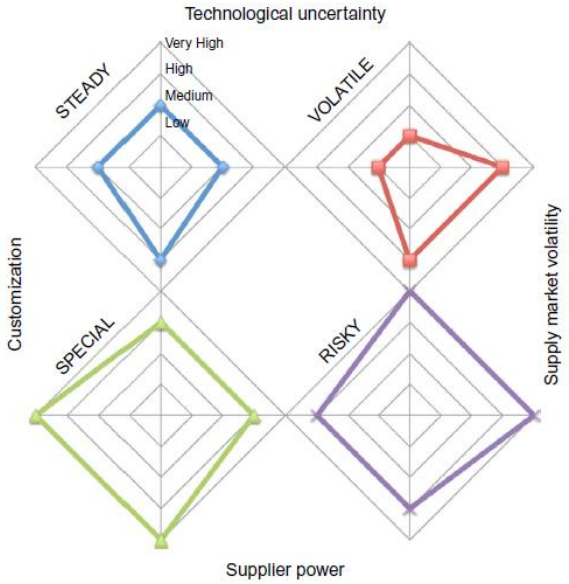

Figure 3 - Purchase portfolio model by Luzzini et al., (2012)

The common approach to the buyer-suppler relationship from the perspective of a buyer is based on the Kraljic (1983) model. The basic input for this model is the buyer's view of the supplier. Opinions of the supplier are not taken into account. Despite the fact that these models have only a limited academic foundation (Luzzini et al., 2012), they are successfully and widely used (Gelderman & Weele, 2003).

2.1.2 Purchasing portfolio models, supplier's perspective

Kraljic's (1983) model is based on the view of buyers, but perceptions of the buyer-supplier relationship differ depending on perspective (Purchase, Butler, & Alexander, 2011). This view of suppliers has also been neglected by most other portfolio models, as they are mostly derived from the Kraljic (1983) model (Hallikas et al., 2005). In this section, we will discuss the supplier's viewpoint of this dyadic relationship.

Carter (1998) made a similar kind of portfolio model as did Kraljic (1983), with the objective of determining the strategy a supplier should utilize in handling buyers. This gives the buyer the opportunity to choose a strategy that perfectly fits the buyer's objectives, so as to achieve a better relationship (See figure 4).

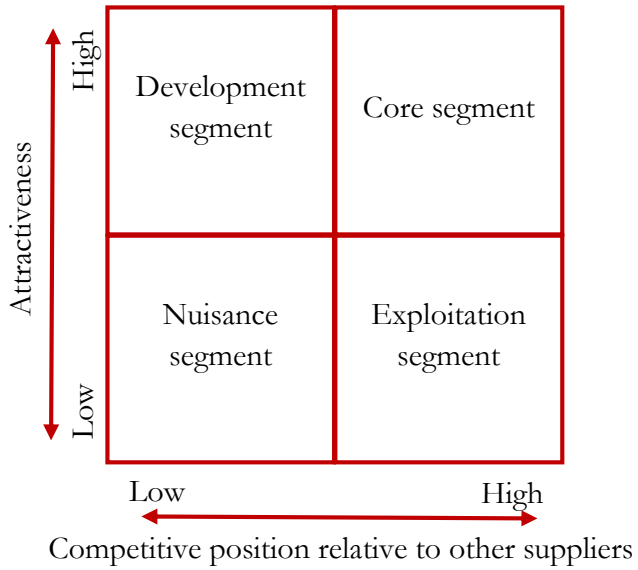

Figure 4 - Customer portfolio analysis, seller perspective (Carter, 1998)

Using the Carter (1998) model, we can describe the preferred strategy for the supplier:

> **Development segment.** These are buyers that suppliers need in order to expand their businesses. They can do so by pampering these customers. By providing additional resources, buyers can seek opportunities for new ideas and products (Weele, 2010; Rozemeijer, 2009).
>
> **Core segment.** These are buyers to keep at all costs, by providing superior service and quality. It is important to defend this position, because these are the most 'profitable' customers (Weele, 2010).
>
> **Nuisance segment.** These buyers are not of interest to suppliers, so the buyer should give them low attention and even say goodbye to them when they do not prove profitable. (Weele, 2010).
>
> **Exploration segment.** For customers in this segment, suppliers need to charge a premium price to seek short-term advantage. Suppliers need to be aware of the risk of losing this customer (Weele, 2010).

A Dutch consultancy firm, 'Purspective,' combined both models into the so-called 'Dutch windmill model' (see figure 5). This model tries to give practical advice on which strategy the buyer should adopt after it has judged the position from its own point of view and from the supplier's point of view (Weele, 2010).

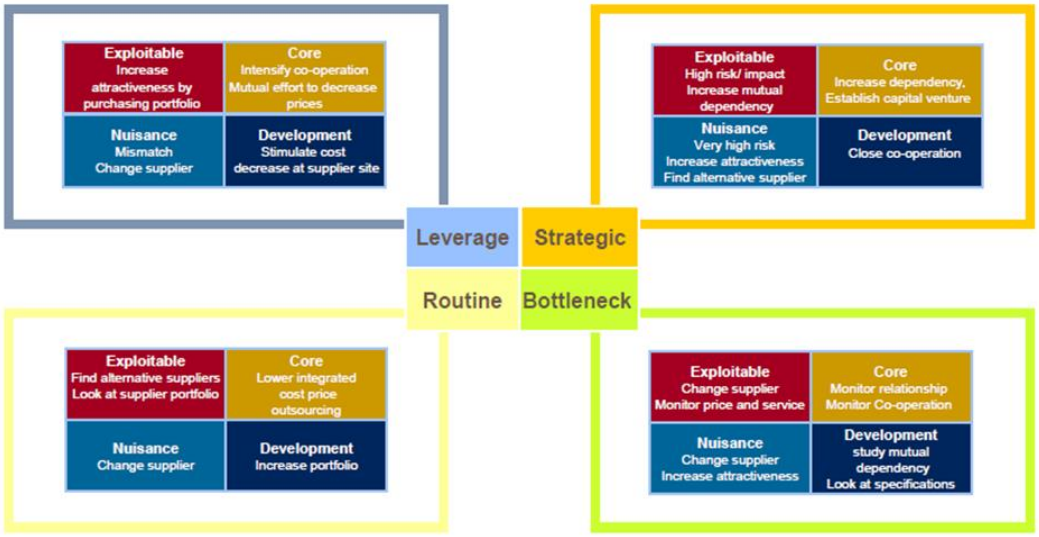

Figure 5 – 'Dutch Windmill' Original source: "Purspective" (Weele, 2010) retrieved from (Haag, 2013)

Both parties (suppliers and customers) are not necessarily in the same segment, and they do not necessarily have the same strategy in relation to the each other. If a supplier is of strategic importance to a customer, but from the supplier's perspective the customer belongs to the nuisance segment, the buyer will have a major problem. Obviously, the customer needs to influence the supplier to align its perception of the relationships with the customer's own objectives. In other words, the customer needs to be attractive for the supplier (Purchase, Butler, & Alexander, 2011). To conclude this section, we can state that perception of attractiveness in buyer-supplier relationships will differ between buyers and suppliers and even could be conflicting (Purchase, Butler, & Alexander, 2011).

2.2 What is asymmetrical dependence?

2.2.1 Dependence

In the Kraljic model, it is not obvious when the balance of power between buyer and supplier is used in the model. It is clearly stated in the strategic quadrant, but it also needs to influence other parts of the model. Power is often seen as something negative because of its possible misuse. Ignoring power is not a solution, because it still exists and has an influence on the buyer-supplier relationship (Gelderman, 2000). Dependency is used to show power and is defined as the contrary of power (Emerson, 1964).

"The dependence of actor A upon actor B is (1) directly proportional to A's motivational investment in goals mediated by B, and (2) inversely proportional to the availability of those goals outside of the A-B relationship" (Emerson, 1964, p. 32).

Dependence can be seen as the price that the buyer or supplier must pay to achieve benefits as a trade-off. Benefits for more dependent companies are difficult to achieve (Lee & Johnsen, 2011). Too much or too little dependence on a supplier causes tension, because buyers want to depend on the achievements of their suppliers and to remain independent of them. According Gelderman & Weele (2004), the known determinants for dependence in buyer-supplier relationships are:

- Availability of alternative suppliers in the channel
- Cost to replace the existing supplier
- Commitment of a channel member to the other party
- Resource criticality

Sometimes technology dependence is also present, because a supplier has a unique technology (Gelderman & Weele, 2004). But companies will always be dependent on other parties in some ways (Kibbeling et al., 2009). However, there is no empirical evidence that these factors have a significant influence (Gelderman & Weele, 2004)

Kraljic's (1983) portfolio approach does not really consider power and dependence. Some remarks are made regarding reducing dependence on the supplier or making the most of buying power. Between the lines, power and dependence are major issues, however. The three purchasing strategies – 'balance,' 'exploit,' and 'diversify' – are defined as balance of power and dependence (Caniëls & Gelderman, 2005). The 'exploit' strategy aims to use the buyer's power over the supplier to, for example, realize cost reductions. The 'diversify' strategy, where the buyer is the weaker party, encourages the search for new suppliers to break the power of the current supplier. In a situation where the power is 'balanced,' one must be careful and try to reduce dependence on the supplier (Kraljic, 1983). In the Kraljic (1983) model, strategies are only given for the strategic quadrant but could also be projected onto the other parts of the model.

There are two main concepts for strategies for dealing with suppliers, power and trust. There are two subcategories for power – namely, dependence and the type of power (Terpend, Krause, & Dooley, 2011). It is likely that these vary in different cultures (Kibbeling et al., 2009). However, when dependence and power are projected onto the Kraljic (1983) model (see table 1) in the most likely situation, there are clear distinctions between all item categories. This projection is, of course, a generalization, because it is only from the viewpoint of the buyer or supplier. It does not take into account a differing opinion of the buyer or supplier for any item category (Gelderman, 2000).

Kraljic (1983) segment	Dependence	Power
Strategic items	High mutual dependence	Balanced power
Non-Critical items	Low mutual dependence	Balanced power
Leverage items	High supplier and low buyer dependence	Buyer-dominated
Bottleneck items	Low supplier and high buyer dependence	Supplier-dominated

Table 1 – Relationship between dependence and power, Kraljic (1983)

However, Kraljic (1983) only described what to do in the strategic item category, in which it is expected that there is a high mutual dependence. The presumption that mutual dependence will exist in the strategic item category is too simplistic. As described in the first part of this review, there could be different situations and perspectives for buyers and suppliers regarding each purchased item. It is conceivable that there could be situations with no agreement between buyers and suppliers, and a category representing such situations is absent." The next section describes the situation based on our proposition that there is a difference in dependence between buyer and supplier.

2.2.2 Asymmetrical dependence

In a case study by Steinle & Schiele (2008), a situation was described detailing what could happen when a strategic item for the buyer is not very important for the supplier. This case study focused on technology-orientated companies with specialized suppliers with supply bases in two different locations. The buyer was located in Western Europe. In case one, the supplier was in the United States (US), and in the second case, the suppliers were close to the buyer in Western Europe. In the case with the US supply base, an example was given regarding a pump supplier, which is an item specifically utilized in the oil industries. Such pumps are inimitable, and there are only a few suppliers in the world. A good relationship with these pump suppliers is very important for the buyer. Often, the end-customer will predetermine and specify the pump supplier. Because of this decision, the buyer has hardly any bargaining power and is completely dependent on a specific supplier. Besides a higher cost, supply chain problems – such as late deliveries, incorrect items, or items not in compliance with specifications – were reported. Despite a lot of effort, and even an agreement about a 'strategic alliance,' a sound relationship never developed. The supply chain disadvantages affected the buyer's position (Steinle & Schiele, 2008).

The difference between this case study by Steinle & Schiele (2008) and the more common situation is that case study is based on a dependent buyer. It does not take the standard approach with a large and powerful buyer and a dependent supplier (Chia-Jung & Rhona, 2012).

Much of the literature for buyer-supplier relationships has been written from the perspective of the buyer, where it is presumed that the buyer is the stronger party. The power balance between both parties will not be stable and will change. The weaker party will try to change the balance so as to gain leverage over the other. But being the weaker party is not always a disadvantage (Bastl, Johnson, & Choi, 2013). According to Cristiansen et al. (2002), the decision to start a relationship with a supplier is the buyer's decision. Sometimes the situation is different. In such cases, the supplier is powerful and attractive, which will reverse the roles. Asymmetry in the relationship will be accepted as long as the benefits are greater than the disadvantages (Lee & Johnsen, 2011). Symmetry in the relationship will lead to a long-term relationship. A large asymmetry will harm the weaker party and destroy the partnership (Caniëls & Gelderman, 2005). The weaker party will sense uncertainty, and performance will decline (Lusch & Brown, 1996). This has a potentially destabilizing effect on the relationship (Chia-Jung & Rhona, 2012). If a buyer and supplier can understand the influence of an asymmetrical dependence relationship, it will enable the parties to manage and develop a durable relationship.

The dependence between buyer and supplier does not need to be identical from both points of view. Suppliers and buyers are independent from each other. Both could have a different view

regarding the dependency of the other party. This leads to four types of dependencies (see table 2). This is based on the classification of the supplier relationships model from Hallikas et al. (2005).

Buyer's dependence	Supplier's dependence		
High	High	S = B	High mutual dependence
High	Low	S < B	Asymmetrical supplier dependence
Low	Low	S = B	Low mutual dependence
Low	High	S > B	Asymmetrical buyer dependence

Table 2- Types of dependency

Size asymmetry in relationships between buyers and suppliers provides an additional array of problems varying from managing operational issues to the development of trust and commitment. Most research in this area has been conducted on dyadic relationships between smaller suppliers and large, powerful customers. The smaller suppliers experience problems with sustaining and developing these asymmetrical relationships. Researchers have used differences in firm size as a proxy for asymmetry, which can indicate potential problems in a relationship. The smaller supplier has to retain the norms of the larger buyer to keep the relationship. Also, when both parties have different demands, developing a mutual orientation is difficult. Becoming a 'hostage' is also a significant risk for a smaller supplier. In such a situation, a supplier gives up its own goals to sustain the relationship. However, relationships with big customers also provide the chance to gain opportunities through indirect relationships via these larger parties (Johnsen & Ford, 2008).

According to Johnsen & Ford (2008), findings on size asymmetry on dependence in the buyer-supplier relationship indicate that power could influence strategic and operational areas of a business. Often, the smaller supplier puts strategic and operational control in the hands of the larger buyer. Only through technological knowledge can it gain influence in the relationship. A long-term relationships can establish commonly understood patterns of contacts and reduce misunderstandings. Technological power and the application of technology can enable small suppliers to gain influence with big buyers. A disadvantage is that this large customer will use its power to control and limit the smaller supplier. A lower level of dependence is important to avoid being influenced and controlled when dealing with only one large and powerful customer. To summarize, a difference in dependence (an asymmetrical dependence) between a buyer and a supplier could have a great influence on the relationship between the two.

2.3 Customer attractiveness

2.3.1 Customer attractiveness and its importance

There are multiple perspectives on partner attractiveness in a buyer-supplier relationship. Normally it is viewed from the perspective of the buyer. However, this thesis features the supplier's perspective on the attractiveness of the buyer. This is the opposite viewpoint to that most commonly researched in this field (Baxter, 2012). It is in contradiction with the classic view that all buying firms have equal chances (Steinle & Schiele, 2008). In the academic literature, this is also called 'preferred customer' (Schiele, Veldman, & Hüttinger, 2011).

The basic notion of customer attractiveness is that the buyer will attract the supplier, and that this will lead to loyalty and superior performance (Rocca, Caruana, & Snehota, 2012). The objective of obtaining customer attractiveness is a so-called 'customer of choice' or 'preferred customer' status. This status will ensure that companies receive competitive preferences from critical suppliers (Bew, 2007). This is also shown in the definition from Nollet et al. (2012) for a preferred customer:

"A preferred customer is a buying organization who receives better treatment than other customers from a supplier in terms of product quality and availability, support in sourcing process, delivery or/and prices" (Nollet, Rebolledo, & Popel, 2012, p. 1186).

The original assumption of 'customer attractiveness' is that a buyer becomes so attractive for a supplier that the supplier will offer good prices (Lusch & Brown, 1996). However, other benefits could be achieved as well. The attractiveness of a buyer should affect the supplier's attitude and actions, which influence the amount of resources a supplier is willing to allocate to this buyer (Baxter, 2012). Reciprocity and self-interest will encourage suppliers to give benefits to buyers that are attractive customers (Ellis, Henke Jr, & Kull, 2012). The dynamics between buyers and suppliers are changing, and it is no longer considered common that potential suppliers initiate the relationship. Suppliers that are recognized as excellent are approached by potential customers. Standing out from other potential customers is becoming important for catching the attention of suppliers. (Nollet, Rebolledo, & Popel, 2012) A long-term, durable relationship is seen as a competitive advantage that will improve the value of the relationship (Walter et al., 2003).

Even the opposite behavior can be seen, as suppliers will discontinue relationships with unattractive buyers without perspective. It is the real opposite of customer attractiveness (Schiele, Veldman, & Hüttinger, 2011). Therefore, customer attractiveness is most important if there is a scarcity of suppliers (Steinle & Schiele, 2008). In highly developed markets an oligopoly often exists, which makes it difficult to find an alternative. Suppliers will not distribute their resources uniformly across all customers and are selective (Rocca, Caruana, & Snehota, 2012).

Cooperation and creating value for both members of the party is the main objective for a relationship between a buyer and a supplier, with gaining as much value as possible the primary purpose. Empirical research gives evidence that suppliers that focus on a few select customers can achieve lower costs with higher profitability in long-term relationships, in opposition to firms with a more transactional approach (Walter, Ritter, & Gemünden, 2001).

A supplier survey conducted by Bew (2007) indicated that achieving customer attractiveness gives customers benefits over others without a preferred status. This survey indicated that customer attractiveness is even more important than economic benefits.

"75% of suppliers say they regularly put most-preferred customers at the top of allocation lists for materials or services in short supply on a regular basis, 82% say that these customers consistently get first access to new product or service ideas and technologies and a resounding 87% of suppliers offer unique cost reduction opportunities to their most-preferred customers first" (Bew, 2007, p. 2).

Considering the previous survey, an attractive customer status is very helpful in achieving additional benefits from a supplier. These advantages imply benefits related to product quality and innovation, support, delivery reliability, product price, and costs for the customer. Suppliers will compare buyers on the benefits to be gained from relationships with them. Benefits could include profit or any other economic or social benefit (Nollet, Rebolledo, & Popel, 2012).

It is becoming increasingly important to receive a preferred customer status, which is essential for future success (Schiele, Veldman, & Hüttinger, 2010). It is important that a supplier sees its advantage rapidly; otherwise it will take much effort to reach that status. Also, buyers need to invest to prove their commitment (Nollet, Rebolledo, & Popel, 2012).

Various benefits can be gained if a customer is perceived as attractive, which will lead to a more profitable relationship (Rocca, Caruana, & Snehota, 2012). Buyers are not only interested in the offered products but also in support for the supplier's product, product applications, and the processing of the product. Buyers are also specifically interested in information that could create value in the supply chain (Baxter, 2012). Buyers can even influence suppliers' decisions through regular interactions (Nollet, Rebolledo, & Popel, 2012). Particular SMEs have a low buying power, and they are competing with many other parties to gain priority treatment (Purchase, Butler, & Alexander, 2011).

Therefore, being seen as attractive by suppliers is of the highest importance from the buyer's perspective (Schiele, Veldman, & Hüttinger, 2010), because not every customer can obtain preferred customer status. That said, it is important to note that the past is not a guarantee for the future (Nollet, Rebolledo, & Popel, 2012).

Ellis et al. (2012) found evidence in the US automotive industry for the importance of implementing a strategy to make oneself attractive as a supplier's best buyer, so as to maximize the value of the relationship. Bew (2007) also suggested four approaches to build/increase customer attractiveness:

1. Benchmark oneself as a customer against one's own competitors from the point of view of a supplier.
2. Find the hidden decision criteria at one's supplier.
3. Build a partnership with one's supplier that goes beyond the best deal or contract terms but also involves the supplier's business needs and objectives.
4. Buyers with low costs to serve are attractive to suppliers.

The objective behind customer attractiveness is to gain preferred customer treatment, resulting in several benefits for the buying firm. This should be visible in the supplier's treatment of the buyer. For this reason, the buyer's preferred customer status is measured as a reference for customer attractiveness (Baxter, 2012).

2.3.2 The impact of asymmetrical dependence on customer attractiveness

Many studies about customer attractiveness and dependency take a large buyer with many small suppliers as a starting point, as is common, for instance, in the automotive industry. Here, the buyer is able to force its requests onto its supplier, which, to a large extent, can determine whether the relationship in the supply chain is successful (Benton & Maloni, 2005).

Recent research by Nyage et al. (2013) indicated that the balance of power and the power used will affect the behavior and operational performance of partners. It is important for both parties to use the right kind of power. However, its impact on the relationship is greater for buyers then for suppliers. In addition, Gulati and Sytch (2007) found that mutual dependency improves the performance of a purchasing relationship. On the other hand, buyer dependence on a supplier affected performance adversely. Supplier dependence on a buyer did not have this effect.

Dependence will lead to a greater number of conflicts, which hamper the flow of knowledge and create operational barriers. Also, the supplier will reduce the transfer of knowledge to maintain this dependence or even to widen it. The supplier can also raise prices to improve its profits in this specific relationship. Dependence will have a negative influence on the buyer's customer attractiveness (Corsten & Felde, 2005).

Dependency has a negative influence on the performance of the relationship (Lusch & Brown, 1996). Reciprocity and self-interest encourage suppliers to give benefits to buyers that are attractive customers. To strengthen this exchange, it is necessary that there be mutual advantages for both parties (Ellis, Henke Jr, & Kull, 2012). The relationship will only last as long as each party benefits from it. In case of a demand that does not make economic sense, the weaker party will end the relationship (Lusch & Brown, 1996).

The risk of becoming more dependent on a supplier is that the buyer will lose its capabilities related to the sourced products. If this occurs, the buyer will be unable to continue to specify the sourced product due to a lack of knowledge (Corsten & Felde, 2005).

To conclude this section about the relationship between dependence and customer attractiveness, we can state the following: There is a lack of related research on the topic (Benton & Maloni, 2005). A mutual, equal dependence is the favorable position for customer attractiveness. A higher level of dependence negatively affects customer attractiveness (Gulati & Sytch, 2007). Based on the previous proposition, the first hypothesis of this research is:

H_1 = A higher asymmetrical dependence is negatively related to the preferred customer status of a company.

2.4 Types of customer attractiveness

As discussed earlier, customer attractiveness will differ for each supplier and buyer. A case study by Moody (1992) asked suppliers to describe the 'best customer' and gave the following characteristics as most important in a random sequence:

> *"Early supplier involvement; Mutual trust; Involvement in product design; Quality initiatives; Profitability; Schedule sharing; Response to cost reduction ideas; Communication and feedback; Crisis management; Commitment to partnership"* (Moody, 1992, p. 52).

A shown by Moody (1992), buyers can have several functions for a supplier. Walter et al. (2001) also summarized the functions of a buyer for a supplier (see table 3). These researchers also clustered these functions into two categories. The first category includes all functions that directly generate monetary benefits for the supplier. The most important function of a buyer for a supplier is to generate cash flow by ordering a steady and large volume as a loyal customer. Earning money is essential for the continuation of a company. The other category includes indirect or non-monetary benefits for the supplier. When serving small niche markets, volume leverage is not an option. In this situation, a customer needs to have other reasons to attract the customer price and volume (Ellis, Henke Jr, & Kull, 2012). These indirect functions do not have a direct effect on profit and turnover but provide opportunities to achieve them. Buyers on the forefront of innovation will give access to new technologies (innovation function). Prestigious customers can act as valuable references when entering new markets, the 'market function.' The 'scout function' relates to customers that can provide valuable market information. Some relationships, such as those with trade associations or banks, can help with access to specialized knowledge, the 'access function' (Walter, Ritter, & Gemünden, 2001).

Direct monetary benefits	Indirect (non-) monetary benefits
Profit function	Innovation function
Volume function	Market function
Safeguard function	Scout function
	Access function

Table 3 - Functions of a customer relationship (Walter, Ritter, & Gemünden, 2001)

A study by Ellis et al. (2012) found an even stronger relationship between other factors, such as reliability (trust) and involvement in product development, than with the share of sales for increasing customer attractiveness. This implies that other factors that are non-monetary could also influence preferred customer status.

We will use this classification of monetary and non-monetary benefits in the coming section. Based on the functions of Walter et al. (2001), the characteristic of Moody (1992), and the reasons given by Ellis et al. (2012) – which have a large overlap – we grouped similar functions into six different variables, as shown in table 4. The literature assumes that these variables will influence customer attractiveness.

In the next sections we will discuss each variable in terms of its definition, as well as relevant findings from the literature. We will then draw conclusions about monetary and non-monetary benefits' influence on a buyer's preferred customer status as antecedents for customer attractiveness.

Variables	Walter et al. (2001)	Moody (1992)	Ellis et al. (2012)
Financial attractiveness	Profit function Volume function	Profitability	Share of sales
Innovation function	Innovation function	Early supplier involvement Involvement in product design Response to cost reduction ideas	Supplier involvement
Information exchange	Scout function	Schedule sharing Communication and feedback Crisis management	
Network function	Market function Access function		
Trust		Mutual trust	Reliability of relationship
Commitment		Commitment to partnership	

Table 4 – Variables that influence customer attractiveness

2.4.1 Monetary benefits

Financial attractiveness

The most important function of a buyer for a supplier is to generate cash flow by ordering a steady volume as a large and loyal customer. A supplier should distinguish a difference between profitable and volume customers. Suppliers also need a minimum of utilization to have a threshold to make profit possible (Walter, Ritter, & Gemünden, 2001).

In the literature, the general assumption is that value is the basis of all business relationships. The most evident value is cash flow or turnover, which can be realized by the price or the volume. Eventually, this cash flow or turnover should result in profit. This is a basic function for a company and absolutely necessary to survive (Carter, 1998; Walter et al., 2003; Purchase, Butler, & Alexander, 2011; Nollet, Rebolledo, & Popel, 2012; Rocca, Caruana, & Snehota, 2012).

However, Baxter (2012) made the important point that for customer attractiveness, it is not the past but the future that counts. It is possible for a buyer to have had a large turnover in the past but low attractiveness, because future spending is expected to be low.

Even without scientific research, it is logical to assume that financial attractiveness is very important for a business relationship. However, Baxter (2012) found evidence that financial attractiveness has a significant influence on the level of preferred customer status but that commitment has a stronger effect than preferred customer treatment as an antecedent for customer attractiveness.

Concluding our findings in the literature, one can assume that financial attractiveness in the future is an important predictor of preferred customer status (Baxter, 2012). The hypothesis is:

H_2 = Financial attractiveness is positively related to the preferred customer status of a company.

2.4.2 Non-monetary benefits

Innovation function

Firms are changing the way innovation is driven, from a highly controlled proprietary approach to an inter-organizational approach. With this inter-organizational approach, innovations on both sides strengthen the innovations of both suppliers and buyers (Ellis, Henke Jr, & Kull, 2012). Users are a good source for innovation, as they know better than anyone else what they would like to improve as users of the product. Relationships (such as a buyer-supplier relationship) are often an important source of ideas. More and more innovations occur due to interactions between different parties and companies and with external support (Hippel, 1998). A buyer's support for a supplier in the interaction between buyers and suppliers to increase innovation will be referred to as the 'innovation function.'

Innovation is a key factor for a company's success and a prerequisite for its long-term survival (Corsten & Felde, 2005). A buyer that supports a supplier to become more competitive will be granted preferred customer status. One of the ways to support a supplier is to encourage innovation (Nollet, Rebolledo, & Popel, 2012). Research by Schiele et al. (2011) showed significant empirical evidence that preferred customer status is positively influenced by the innovativeness of the buyer.

Involving a supplier in new product development will improve the preferred customer status. Engaging a supplier in product development is a buyer's decision. Through innovations related to the product or processes, a supplier can improve its internal efficiency and costs by adopting the processes suitable for both companies. Higher involvement makes it easier to prototype, test, and optimize the design. The supplier will benefit from this involvement, because the buyer is facilitating a cost reduction, which will result in a higher attractiveness as a customer for the buyer (Ellis, Henke Jr, & Kull, 2012). A case study at Novo Nordisk enzymes Inc. showed that a buyer could benefit when a commodity supplier became a full system supplier. By adopting innovative solutions into the newly develop product, Novo Nordisk was able to completely unburden the buyer and also significantly reduce the amount of used commodity. This also resulted in an attractive price for the buyer. The common project had advantages for the supplier and the buyer (Christiansen & Maltz, 2002).

Also, access to and the sharing of new technologies without the prospect of direct orders could give a competitive advantage to both parties. The buyer would have an advantage over its competitors, and the supplier would have direct input from a customer that could intensify innovation (Ellis, Henke Jr, & Kull, 2012). A case study at Grundfoss showed that its customer attractiveness improved when it supported a supplier as it innovated by testing new products and giving extensive feedback as the first user (Christiansen & Maltz, 2002).

The integration of buyers and suppliers provides an external source of innovations and solutions (Schiele, Veldman, & Hüttinger, 2011). A buyer can challenge a supplier to improve its products and production capabilities by pushing the envelope (Christiansen & Maltz, 2002). Also, when a buyer is willing and capable of reassessing processes, standardization, and improved supply chain practices, it helps a supplier to innovate. (Nollet, Rebolledo, & Popel, 2012).

Buyers are reluctant to integrate a supplier into their innovation processes. It could be a disadvantage to innovate together, because this could often result in a dedicated, developed product or service that can only be purchased from that specific supplier (Schiele, Veldman, & Hüttinger, 2011). Secondly, buyers believe that suppliers of dependent buyers may have a disadvantage when

it comes to pricing behavior when a strategic development relationship is established, a so-called lock-in (Corsten & Felde, 2005). Empirical evidence for this disadvantageous pricing was not found in research by Schiele et al. (2011).

The type of innovation is also important. For instance, if the initial development of a product is quite costly, this could influence the dependence relationship between buyer and supplier (Essig & Amann, 2009). Strangely, Corsten et al. (2005) found a significant relationship between dependence and improvements in a buyer's innovativeness. They found their results to be surprising, but mentioned that, the other hand, a company will put extra effort into measures (such as innovation) to reduce dependency on suppliers.

After this review, we can state that improving the innovation function should encourage innovation and should result in an increased preferred customer status. To support this proposition, the following hypothesis has been formulated:

H_3 = Innovation function is positively related to the preferred customer status of a company.

Information exchange

The next non-monetary variable that will be discussed is information exchange. The buyer may have information that is valuable for the supplier (Baxter, 2012). A wide variety of information is possible. For instance, market information could enable suppliers to improve their responses to market changes or to mitigate risk by avoiding obsolescence and bull-whip effects. All parties could benefit from joint success through the exchange of this information (Baxter, 2012).

Bilateral communication is, according to Monczka et al. (1998), a predictor for success of alliances within a supply chain. Relationships (such as buyer-supplier relationships) are often an important source of ideas and information (Hippel, 1998). Information about the other party in the relationship is sometimes necessary, for instance, to plan future purchases (Monczka et al., 1998). Suppliers will value frequent exchanges of information with buyers (Caniëls & Gelderman, 2005).

Another large advantage of such communication is that it can avoid conflicts by searching for solutions at an early stage. This information exchange has a positive influence on supplier satisfaction in strategic partnerships. The quality and extent of the shared information are important to the relationship (Monczka et al., 1998). Eckerd et al. (2012) found a significant relationship between the amount of information shared and the supplier's satisfaction. A high degree of information sharing will be rewarded with a higher level of supplier satisfaction.

A large share of sales suggests that the supplier is delivering an important or critical product, which improves inter-organizational communication (Ellis, Henke Jr, & Kull, 2012). Information sharing also increases financial performance (Corsten & Felde, 2005). However, one could argue that this is due to information exchange (Corsten & Felde, 2005) or to the importance of the product to the buyer (Ellis, Henke Jr, & Kull, 2012). The amount of information exchanged is probably highly dependent on the kind product that is sold (Squire, Cousins, & Brown, 2009).

Knowledge transfer as form of information exchange could be very interesting for the supplier (Nollet, Rebolledo, & Popel, 2012), as Grundfoss showed by helping its electronics suppliers to share knowledge about mechanical technology which the supplier did not possess (Christiansen & Maltz, 2002). Cooperation between companies influences the amount of knowledge transfer between companies. The exchange of tacit information, which requires high levels of

communication between buyers and suppliers, will improve with a higher level of trust (Squire, Cousins, & Brown, 2009).

Information sharing encourages trust in the long-term nature of a relationship. Firms are signaling and demonstrating their own trustworthiness and the trustworthiness of the other party when they share information. Information sharing can protect a firm from unethical behavior on the part of the other party, which is a form of risk reduction (Eckerd & Hill, 2012). However, information exchange is sensitive to misuse by the other party (Cannon & Perreault Jr, 1999). Trust should ensure that shared information will not be misused to reduce the competitive advantages of the specific relationship. Without trust, companies will try to reduce the transparency of key processes (Squire, Cousins, & Brown, 2009).

To summarize, information exchange is important to the relationship between buyers and suppliers for daily operations and to avoid possible conflicts (Monczka et al., 1998). The hypothesis for information exchange has been formulated as follows:

H_4 = Information exchange is positively related to the preferred customer status of a company.

Network function

Dyadic relationships between buyers and suppliers do not exist in isolation (Holm, Eriksson, & Johanson, 1999). Companies are embedded in a wider network of industrial resources and relationships. In an evaluation of a potential relationship in a supply chain, it is incomplete to incorporate only the dyadic relationship between the companies in question. Those companies also have relationships with other companies that also could benefit the other organization. Such a network has two types of advantages. First of all, when buyers cooperate, economies of scale are possible. This can support suppliers' efforts to achieve expensive technological innovations. Secondly, firms' connections are integrated in this network of companies. This constellation of firms will co-produce value for both companies (Holm, Eriksson, & Johanson, 1999). This supply chain structure will not only connect two companies in a buyer-supplier relationship but will also give access to the (social) network of companies in which they are embedded (for example, the supplier of one's supplier) (Eckerd & Hill, 2012) (Roseira, Brito, & Ford, 2013). This 'network function' could extend the resources that are accessible and influence a company to achieve its goals (Roseira, Brito, & Ford, 2013).

The network in which a buyer-supplier relationship is situated has direct implications on the social relations of the companies (Gulati & Sytch, 2007). It is important that the companies see the other parties in the network as relevant for them (Roseira, Brito, & Ford, 2013). A network offers an effective means of learning, information dissemination, and innovation (Roseira, Brito, & Ford, 2013). As an example, Novo Nordisk enzymes Inc. helps suppliers to sell to other customers, which make the product more attractive for the supplier. Also, extensive contacts demonstrate commitment to the supplier (Christiansen & Maltz, 2002). On an operational level, everything needs to be well organized, but a good relationship must also be developed to create a network effect. Supplier satisfaction is primarily driven by the relationship rather than by performance (Nollet, Rebolledo, & Popel, 2012).

A supply chain consists of a complete network of relationships between companies and not only the dyadic relationship between buyer and supplier (Baxter, 2012). Access to other parties is important to extend business. The smaller customer could gain admission to specific markets which

are interesting for the supplier in terms of potentially opening new markets. For instance, buyers could choose to become sales references for their key suppliers (Christiansen & Maltz, 2002).

A case study by Steinle & Schiele (2008) showed another effect of what a network can do for a company. This case study at technology-orientated companies looked at a case of specialized local suppliers with a regionally orientated supply chain. In this case, a medical company was strongly embedded in this regional agglomerate of companies, which gave it high value by rapid and flexible reactions of those supplier. This case study showed that preferred customer status is easier to realize in a stronger, local network. In this case study, the medical company gained competitive advantages from its favorable position in the supply network. Becoming the preferred customer is less likely with a remote supplier (Steinle & Schiele, 2008).

Buyers also commonly use this network of buyers and suppliers to influence sub-suppliers of suppliers to improve or to fix the quality of their products (Roseira, Brito, & Ford, 2013). The 'network function' of a buyer could be valuable for a supplier (Holm, Eriksson, & Johanson, 1999). However, this network needs to be relevant. This network offers an effective means of learning, information dissemination, and innovation (Roseira, Brito, & Ford, 2013). It is important to develop a good relationship to create a network effect. Satisfaction of the supplier is primarily driven by the relationship rather than by performance (Nollet, Rebolledo, & Popel, 2012). The hypothesis for the network function has been formulated as:

H_5 = Network function is positively related to the preferred customer status of a company.

Trust

In this section we will describe what trust is and how it influences the relationship between buyer and supplier. Trust can be described as follows:

"Trust is defined as a willingness to rely on an exchange partner in whom one has confidence" (Moorman , Deshpandé, & Zaltman, 1993, p. 82).

This quote basically describes how much confidence a party has in the exchange partner's reliability and integrity (Morgan & Hunt, 1994). Nagati et al. (2013) found empirical evidence for a positive relationship between trust and preferred customer status. However, there is limited empirical evidence that trust will improve the buyer-supplier relationship and have an impact on it (Johnston et al., 2004).

Trust is often mentioned in studies about business relationships, and it is very important to maintain a business relationship (Viitaharju & Lähdesmäki, 2012). Given the investment the supplier must make in a new buyer, it is important that trust exist in the relationship. The literature shows that trust is an important factor for companies in allocating resources to a particular buyer. In this situation, the supplier will give more information to the buyer (Baxter, 2012; Nagati & Rebolledo, 2013). Trust enables a higher capacity for collaboration, adaption, and commitment. This capacity reduces friction in day-to-day operations and improves coordination (Corsten & Felde, 2005).

According to Monczka et al. (1998), trust is very important for fostering and nurturing an alliance with a supplier. This is a time-consuming task that is often underestimated by buyers. Trust is also shown as a predictor for success in a buyer-supplier alliance (Monczka et al., 1998). However, trust in the management of a relationship is fragile and tenuous (Johnston et al., 2004).

The first contact in a purchase relationship is often based on the product itself. A good product will reduce the risk for a buyer and is a good starting point in developing trust. Difficulties in the development of trust can stem from the fact that the experiences and perceptions of both parties are not identical (Viitaharju & Lähdesmäki, 2012). According to research by Viitaharju et al. (2012) focusing on a retail supply chain, it was found that trust could easily develop when the product was highly attractive for the buyer. But a wrong pricing of a product (too low or too high) will damage trust in the relationship. Additional services provided along with the supplied product will increase the perception of trustworthiness.

Previous experiences in relationships with other comparable companies could influence the development of trust. It is difficult and challenging for the small party with limited economic resources to fulfill the expectations of the larger party. Often, a small size is seen as an indicator of a lack of competence. In small companies, the competence of the owner and business are closely related (Viitaharju & Lähdesmäki, 2012).

Viitaharju et al. (2012) showed that asymmetrical company sizes are a major contributor to mistrust. But in this case, the supplier was the weaker party. Trust in the buyer is also necessary, because the supplier does not want sensitive information to be misused by other companies (Baxter, 2012; Nagati & Rebolledo, 2013). Trust will also lower the cost to maintain the relationship, because safeguards against opportunism can be lowered (Monczka et al., 1998; Corsten & Felde, 2005).

To summarize, a supplier's trust in its buyer is a predictor for cooperative behaviors in supplier-buyer relationships (Johnston et al., 2004). Trust can lead to competitive advantage for both parties in a relationship (Viitaharju & Lähdesmäki, 2012). We will use the following hypothesis to test the effect of trust on preferred customer status:

H_6 = Trust is positively related to the preferred customer status of a company.

Commitment

Commitment is the belief on the part of an exchange partner that an ongoing relationship is important to maintain. It is often demonstrated by committing resources to that relationship (Morgan & Hunt, 1994; Monczka et al., 1998). The difference between trust and commitment is that commitment is a result of trust, with the objective to establish and maintain relationships (Morgan & Hunt, 1994).

A supplier's commitment to a buyer will have an influence on the decisions the supplier makes. Baxter (2012) found a positive effect of commitment on the preferred customer status of a buyer.

Rapid development of technology demands the corresponding development of resources. Buyers and suppliers need to take long-term perspectives in developing their prospective business relationships with each other. Long-term relationships are common in a business environment. Often, suppliers have a small set of buyers that are responsible for a large part of their market share. A relationship between parties starts when a company takes the initiative, and the other commits resources to the relationship insofar as the first responds with additional commitment. This will continue during the development of cooperation. The level of commitment perceived in the other party strongly influences the amount of commitment given (Holm, Eriksson, & Johanson, 1999). A buyer's commitment will also support the supplier's commitment. Commitment could provide a competitive advantage for both parties (Ghijsen, Semeijn, & Ernstson, 2010).

The development of commitment is a time-consuming process and created through interaction between the parties. The mutuality of the commitment is very important (Holm, Eriksson, & Johanson, 1999). Holm et al. (1999) found that mutual commitment has a strong effect on mutual dependence, which has a strong effect on relationship value creation. Commitment increases value creation, but it is important not to become dependent on the other party. Suppliers' dependence is positively correlated with commitment (Ghijsen, Semeijn, & Ernstson, 2010). Commitment is closely related to the effort that a party puts into a relationship (Baxter, 2012).

Suppliers are often cautious to commit to a relationship with a buyer without incentives (Ghijsen, Semeijn, & Ernstson, 2010). However, promises encourage suppliers to commit to buyers' needs and wishes (Ghijsen, Semeijn, & Ernstson, 2010). This also demonstrates a long-term orientation, which should be beneficial in the future (Ghijsen, Semeijn, & Ernstson, 2010). Commitment entails vulnerability, for which only trustworthy parties qualify (Morgan & Hunt, 1994).

One way for a buyer to demonstrate its commitment to a supplier is to show its reliability by keeping promises, acting consistently, and not letting the supplier down. The underlying concept is that reliability reduces risk and therefore improves the attractiveness of the customer.

Concluding this review, commitment is the supplier's belief that the relationship is important to maintain. This commitment will ensure allocation of resources to the relationship (Morgan & Hunt, 1994), with a focus on the long-term for both the buyer and supplier (Ghijsen, Semeijn, & Ernstson, 2010). We will use the following hypothesis to test this effect:

H_7 = Commitment is positively related to the preferred customer status of a company.

2.5 Conceptual model

In the previous literature review, we proposed seven variables that influence the preferred customer status of a company. A graphical representation of the conceptual model is shown in figure 6.

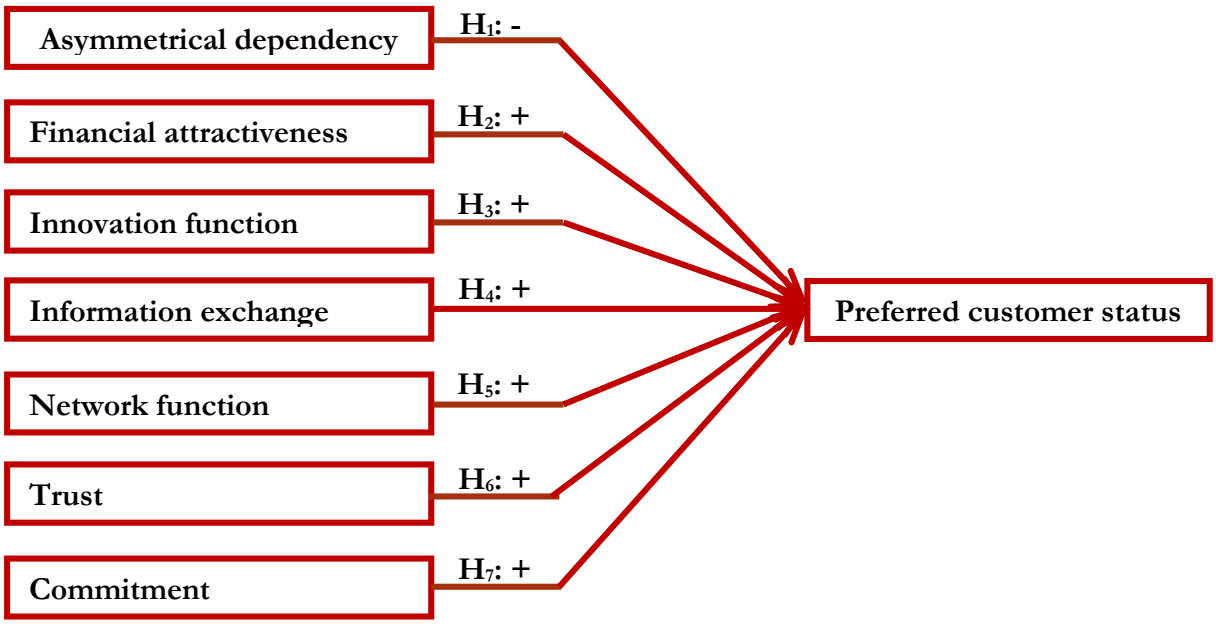

Figure 6 - Conceptual model

In this literature review, we constructed the following hypotheses to find evidence and the effect size on how the above variables influence the preferred customer status of a company.

H_1 = A higher asymmetrical dependence is negatively related to the preferred customer status of a company.

H_2 = Financial attractiveness is positively related to the preferred customer status of a company.

H_3 = Innovation function is positively related to the preferred customer status of a company.

H_4 = Information exchange is positively related to the preferred customer status of a company.

H_5 = Network function is positively related to the preferred customer status of a company.

H_6 = Trust is positively related to the preferred customer status of a company.

H_7 = Commitment is positively related to the preferred customer status of a company.

2.6 Specific research objective

The purpose of this study is to contribute to the research on whether asymmetrical dependency is negatively related to the preferred customer status of a company. This study will do so by testing the proposition that the greater the asymmetrical dependency, the more likely it is for an SME buyer to be considered less attractive in the supply chain. It will additionally contribute to research on how the following six variables: 'financial attractiveness,' 'innovation function,' 'information exchange,' 'network function,' 'trust,' and 'commitment' raise the preferred customer status of a company. The study will do so by testing the proposition that the higher these variables are, the more attractive a company is as a buyer.

3 Methodology

This chapter will describe the research design of this thesis. It explains the overall strategy, how instances were selected, and how the variables will be measured. Finally, this chapter discusses how we will determine asymmetrical dependency and analyze the data.

3.1 Research strategy

Asymmetrical dependency will not be the only factor affecting the preferred customer status of a buyer in the supply chain. As mentioned previously in the literature review, we have proposed several additional variables that should also influence preferred customer status. These variables do not comprise an all-inclusive list. Therefore, the research questions have been formulated probabilistically. The optimal research strategy is an experiment influencing one variable so as to simulate the effect on the dependent variable (Dul & Hak, 2012). In this case, the timeframe and the complexity of building a real-life supply chain are not feasible to simulate. The next best research approach is a survey strategy with a large N that will enable the generalization of survey outcomes (Dul & Hak, 2012).

3.2 Selection of instances

Given that this thesis's subject deals with influences on a buyer's preferred customer status in a purchasing relationship between companies, it is impossible to create a survey containing all instances of the domain from buyer-supplier relationship. Due to practical considerations and data-access possibilities, this research examines a small part of the domain.

This part of the domain is the supply chain of one small company, as introduced in chapter 1.1. This company acts as a buyer. In this research, the unit of analysis will be companies that have a relationship with NDF as suppliers.

From the Enterprise Resource Planning (ERP) database of all suppliers, a selection was extracted. The selection of suppliers was based on whether they were active, regular suppliers of the materials and services used for development, production, and manufacturing after January 1, 2012. This active status was determined by checking whether the ERP system contained a purchase order and/or invoice after this date.

The selection resulted in a list of 184 suppliers that were contacted with an online questionnaire. Some suppliers had several regular purchase contact persons, all of whom were approached, in order to increase the response rate. In total, 252 questionnaires were sent out.

If more than one response is received from an individual company, double responses will be handled according to the following method, designed to result in only one response from each company/instance:

1. If both questionnaires are complete, the answers will be averaged.
2. If one questionnaire is complete, and one is incomplete, the incomplete version will be deleted.
3. If both questionnaires are incomplete, the one with the most data will be utilized.

This selection/reduction technique should avoid a scenario in which a single company misbalances the survey.

The information retrieved from individual respondents will be treated confidentially but not anonymously. This is necessary so as to be able to enrich the data on respondents. For each respondent the dependence score in the view of the buyer will be added. The reporting of this survey will be done anonymously.

It is likely that there will be a non-response bias in the complete population. To improve the response rate, a reminder will be sent after two weeks to actively encourage instances that did not respond.

Because this questionnaire will not be anonymous, one risk is that respondents will give politically correct answers. However, more honest answers could possibly improve future relationships with suppliers, which would be advantageous for submitters.

3.3 Measurement

This is an empirical study, in which variables will be measured quantitatively. Data will be collected via an online questionnaire for suppliers and their counterpart at the buyer. Additional data from the ERP purchasing system will be added to these responses.

3.3.1 Variables

Variables will be measured with a Likert scale. Three to five individual questions will be included in the questionnaire for each variable. For all variables (except 'network function'), questions were chosen that have been used in previous research and have thus been proven to be reliable with a Cronbach's alpha greater than 0,7. Those questions used in previous research will be slightly adapted to improve the fit for the current research. For the 'network function' variable, no relevant and reliable examples for questions have been identified. Some new questions were developed based on questions regarding the other variables. For the edited and new constructs, the internal reliability will be verified with an exploratory principle component factor (Kootstra, 2004) and Cronbach alpha (George & Mallery, 2003) analyses.

Variable	Reference
Dependency in the view of the supplier	(Lusch & Brown, 1996) (Ghijsen, Semeijn, & Ernstson, 2010)
Dependency in the view of the buyer	(Lusch & Brown, 1996)
Preferred customer status	(Baxter, 2012)
Financial attractiveness	(Baxter, 2012)
Innovation function	(Schiele, Veldman, & Hüttinger, 2011)
Information transfer/exchange	(Eckerd & Hill, 2012)
Network function	Newly developed in this research
Trust	(Corsten & Felde, 2005)
Commitment	(Ghijsen, Semeijn, & Ernstson, 2010)

Table 5 – References for the variable questions

To ensure consistency between the variables in the questionnaire, all questions will be transformed to a 5-point Likert scale. Preferred customer status and financial attractiveness will range from 'much lower' to 'much higher.' The other variables will range from 'strongly disagree' to 'strongly agree.'

3.3.2 Asymmetrical dependence

After receiving the questionnaires, two variables will indicate the buyer's level of dependence. One variable will give the buyer's opinion, and the other will give the supplier's opinion. As explained in the literature review, this research is concerned with the misbalance of this relationship. For this reason, both values will be combined to determine if there is an asymmetry in the dependence of the purchase relationship between buyer and seller (see figure 7):

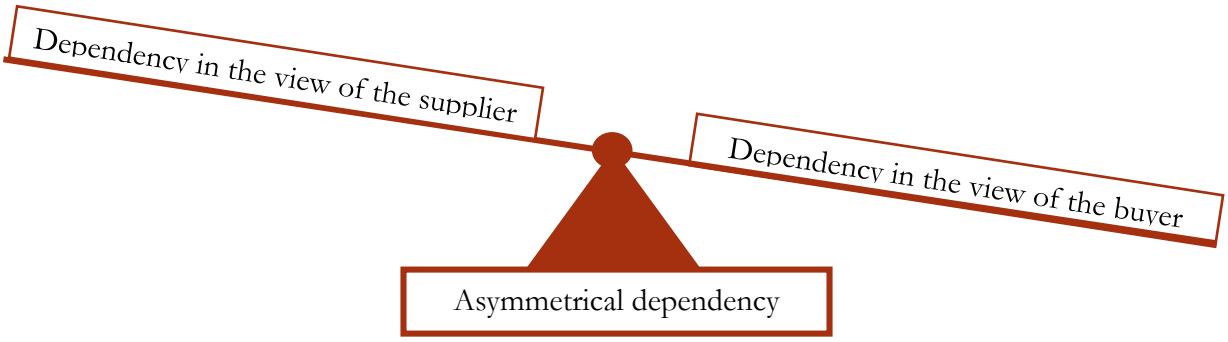

Figure 7 - Graphical representation of asymmetrical dependency

To avoid a negative number for the value for asymmetrical dependency, an offset of 5 will be given. The minimum score will be 1, indicating asymmetrical dependence, with the supplier as the dependent party. A score of 5 will represent a balanced, symmetrical relationship between buyer and supplier. Scores higher than 5 to 9 will represent a relationship where the buyer is the dependent party. This will result in the following formula to calculate the asymmetrical dependency score (see figure 8).

$$Asymetrical\ dependency = 5 + Dependency\ in\ view\ of\ the\ buyer - Dependency\ in\ the\ view\ of\ the\ supplier$$

Figure 8 - Mathematical representation of asymmetrical dependency

3.3.3 Control variables

In this research, control variables will be utilized to measure the influence of some common variables affecting purchase relationships. Significant influence of the control variables on the regressions could disturb the results.

Turnover

Turnover in a specific relationship could have a major influence on that relationship. Turnover is calculated from purchasing-system data. This value is made relative by dividing the purchased value by the total purchased value from the period January 1, 2012 to May 1, 2014. This will avoid making competitively sensitive information public.

Company size

Companies will be ranked according to the EU classification of SME companies. See table 6 (EU, 2005). In order to gather this information, the questionnaire will ask about the number of employees and turnover categories.

Company category	Employees	Turnover
Large	≥ 250	> € 50 m
Medium-sized	< 250	≤ € 50 m
Small	< 50	≤ € 10 m
Micro	< 10	≤ € 2 m

Table 6 - Company classification (EU, 2005)

3.4 Data analysis

Data collected via the online questionnaire will be analyzed with IBM SPSS Statistics version 21. These inferential statistics will aim to provide some conclusions regarding the complete population and not only for the tested relationship between buyer and suppliers (Vocht, 2013). First, data for all items and constructs will be reported, along with descriptive statistics.

To check the validity of the variables' constructs, the individual items will be tested. A confirmatory factor and a Cronbach's alpha analysis will help judge which items are relevant (Kootstra, 2004). This test will be done using data received from suppliers. The data on dependency in the view of the buyer will be collected from three respondents representing the buyer. To check if there is a correlation between the judgments of all three respondents, the inter-rater reliability will be calculated (Shrout & Fleiss, 1979). These analyses should help to improve the statistical reliability of the data before further analysis is conducted and final conclusions are drawn.

To determine the individual relationships between all constructs, the Pearson's correlation coefficient will be calculated. This will give an indication of linear correlations between variables (Vocht, 2013).

A multiple linear regression analysis with all variables, including control variables, should provide evidence for the influence, direction, and effect size of the independent and control variables on the dependent variable.

4 Results

In this chapter, we will discuss the results gathered from questionnaire given to one buyer's suppliers. The objective is to find support for the hypotheses as shown in chapter 2. In this section we will first report the responses. We will explain how the reliability of the items and constructs were checked. It will be reported whether there was an asymmetrical balance in dependence between the buyer and suppliers as assumed, and the correlations between the individual constructs will be calculated. Finally, we will check whether the independent variables influences the preferred customer status, as assumed by the literature review.

4.1 Response

In the four weeks the questionnaire was open, we received 68 responses, including 8 double responses from the same company. After two weeks, a reminder was sent to companies that did not respond to the first e-mail request. This was done so as to improve the response rate. The double responses were handled, and after this cleanup of the data we had a dataset with responses from 60 companies, of which 46 were complete (see table 7). A response rate of 25,0% for an online questionnaire can be seen as a satisfactory result (Deutkens et al., 2004).

Response		Frequency	Percent
Questionnaires sent to companies		184 Companies	
Responses		60 Companies	32,6%
	Complete	46 Companies	25,0%
	Incomplete	14 Companies	7,6%

Table 7 – Responses to supplier questionnaire

The distribution of different company sizes within the dataset appears to be equally distributed from micro to large companies (see figure 9). This distribution is based on the number of employees at the different companies. In terms of turnover, the distribution is almost identical, but some respondents did not want to give their company's turnover category.

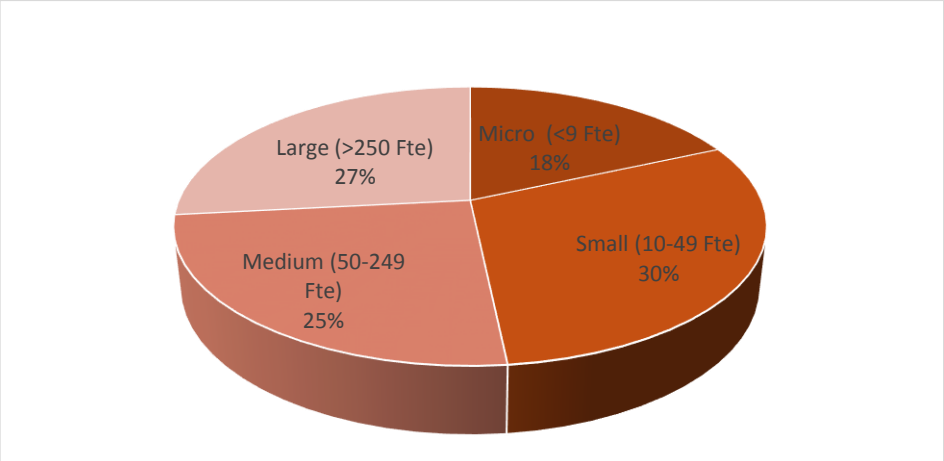

Figure 9 - Distribution of company size based on FTE (EU, 2005)

4.2 Reliability of the constructs

An exploratory factor analysis was used to find related factors in the dataset from the suppliers. This was done to ensure consistency in the underlying variables to get valid constructs. Analysis was conducted on 25 of the 29 Likert scale questions gathered in the supplier questionnaire. The other items were removed during the analysis to improve (maximize) the factor loading of the remaining items (Kootstra, 2004).

The 'Kaiser-Meyer Olkin' measure is 0,640, which is greater than 0,5, suggesting an adequate sample size (Kootstra, 2004). The results are shown in table 8, which resulted in an eight-factor solution for our eight variables.

Separate Cronbach's alphas were calculated for each construct. This is a value for the internal consistency between the items of a construct. A score for the Cronbach's alpha larger than 0,7 is commonly assumed as the basic standard for internal reliability. A score higher than 0,8 can be classified as good (George & Mallery, 2003).

In the analyses of the supplier component, the optimal score for the Cronbach's alpha were identical with the factor analyses, except for one question in the 'network' construct. By removing question N3, the Cronbach's alpha for the 'network' construct could be improved from 0,808 to 0,819. Due to the already relatively good value and the small improvement in the Cronbach's alpha, the question was not removed. The Cronbach's alpha was also calculated for the buyer questionnaire. The results from both analyses are shown in table 9 and table 10. As shown, the Cronbach's alpha for each item was well above 0,7, and most are even higher then 0,8, which is fairly good. Based on this, the instruments can be considered internally consistent (George & Mallery, 2003).

Because the questions for the 'buyer's dependence on supplier' construct were all answered by the three same employees of the buyer (including the researcher) similarities should be expected between those answers. Not necessarily human raters will interpret the questions and scores as identical (Shrout & Fleiss, 1979). The intraclass correlation coefficient (ICC) was used to measure the reliability (consistency) between different raters. The rating of the score is based on the same ranking as Kaplan (Shrout & Fleiss, 1979), which resulted in moderate agreement (Landis & Koch, 1977) between the individual raters for the 'buyer's dependence on supplier' construct.

Exploratory factor analysis								
	Component							
Item	1	2	3	4	5	6	7	8
Preferred customer status								
P1		0,597						
P2		0,796						
P3		0,819						
P4		0,799						
Financial attractiveness								
F1	0,538						0,543	
F2							0,836	
F3							0,819	
F4	0,543						0,563	
Innovation function								
I2						0,781		
I3						0,880		
Information exchange								
E1					0,771			
E2					0,539			
E3					0,854			
E4					0,618			
Network function								
N1				0,866				
N2				0,831				
N3				0,673				
Trust								
T2								0,713
T4								0,656
Commitment								
C1			0,825					
C2			0,778					
C3			0,669					
Supplier's dependence on buyer								
DS2	0,922							
DS3	0,850							
DS4	0,822							
Eigen values	**7,23**	**3,62**	**2,37**	**1,85**	**1,48**	**1,43**	**1,11**	**0,99**
Percentage of total variance	**28,92**	**14,46**	**9,47**	**7,39**	**5,91**	**5,73**	**4,44**	**3,96**
Note: Factor loadings < 0,5 were suppressed								

Table 8 – Exploratory factor analysis on the supplier questionnaire

4.3 Descriptive statistics

All items were measured with a 5-point Likert scale, with scoring from 1 to 5 to enable easy comparison. Table 9 and table 10 present the mean, standard deviation, and Cronbach's alpha from the buyer and supplier questionnaires. Table 10 also provides the ICC for the buyer's questionnaire. The descriptive statistics of the removed items are also mentioned but not included in the constructs.

Item	Mean	SD	Cronbach's alpha
Preferred customer status	2,92	0,468	0,873
Financial attractiveness	1,99	0,619	0,813
Innovation function	3,38	0,524	0,803
Information exchange	3,51	0,558	0,768
Network function	2,83	0,705	0,808
Trust	3,58	0,571	0,782
Commitment	3,82	0,560	0,794
Supplier's dependence on buyer	2,12	0,806	0,889

Table 9 - Descriptive statistics from the supplier questionnaire

Item	Mean	SD	Cronbach's alpha	ICC
Buyer's dependence on supplier	3,67	0,877	0,879	0,476
Note: Only data was used for which a response was also received from the supplier itself.				

Table 10 - Descriptive statistics from the buyer questionnaire

4.4 Dependence asymmetry

An assumption behind this research is that this specific buyer is relatively more dependent on the supplier, than the supplier on the buyer. Each respondent was asked about the dependence of the other party.

A paired-sample t-test was conducted to compare the dependency of the supplier on the buyer and of the buyer on the supplier. In figure 10 the frequency of scores from both dependence constructs are shown in a histogram. There was a significant difference in the scores for supplier dependence on the buyer (M=2,12, SD=0,806) and for buyer dependence on the supplier (M=3,64, SD=0,816); [t(45)=-9,11, p=0,000]. These results suggest that the dependence of the buyer on the supplier is higher than in the opposite direction, which confirms the hypothesis.

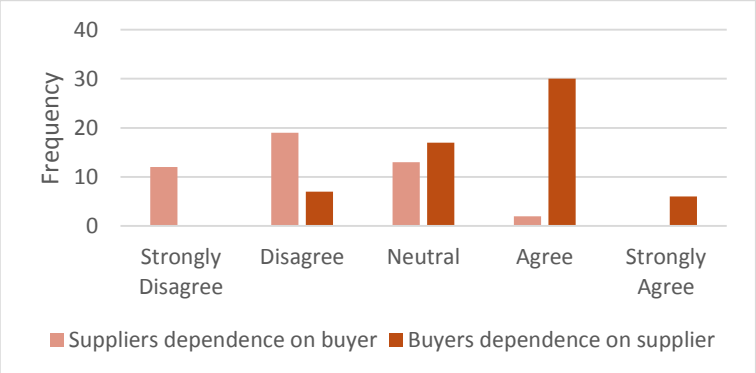

Figure 10 - Results of questionnaire regarding dependence on other party

Based on the formula shown in figure 8, the ratio of asymmetrical dependency was calculated. The descriptive statistics are shown in table 11, and the histogram with the frequencies is shown in in figure 11. Clearly visible is that the buyer is misbalanced in dependence with almost all suppliers, with the buyer as the dependent party.

Construct	Mean	SD
Buyer's dependence on supplier	3,64	0,816
Supplier's dependence on buyer	2,12	0,806
Dependence asymmetry	6,52	1,132

Table 11 - Descriptive statistics for dependency

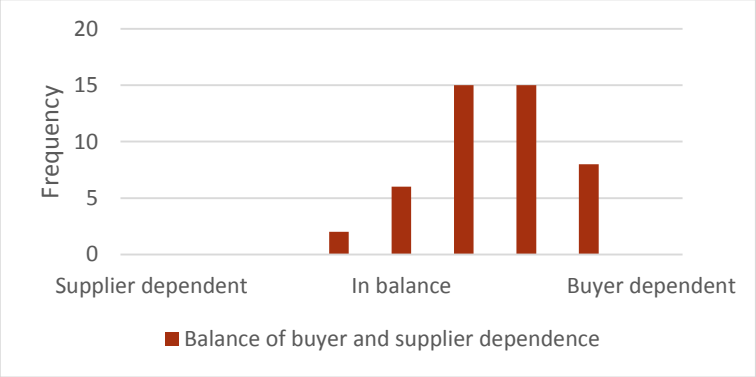

Figure 11 - Dependence asymmetry

4.5 Correlations

Bivariate analyses of the items assess the linear correlations between two variables. The correlation is a measure of the direction and strength of the relationship between those variables. Pearson's correlation coefficient gives an indication of linear correlations between those variables. (Vocht, 2013). Table 12 shows correlations for the variables in this research.

Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. Preferred customer status	1							
2. Dependence asymmetry	-0,38**	1						
3. Financial attractiveness	0,40**	-0,45**	1					
4. Innovation	0,17	-0,06	0,34*	1				
5. Information exchange	0,29*	-0,15	0,45**	0,41**	1			
6. Network function	0,52**	-0,14	0,17	0,13	0,17	1		
7. Trust	0,06	0,00	0,37*	0,58**	0,50**	-0,04	1	
8. Commitment	0,47**	-0,23	0,41**	0,37*	0,43**	0,23	0,40**	1
****. Significant at p < 0,01 level (2-tailed).**								
***. Significant at p < 0,05 level (2-tailed).**								

Table 12 – Pearson's correlation coefficients

4.5.1 Dependence asymmetry > Preferred customer status

In hypothesis 1 it was assumed that there is a negative relationship between dependence asymmetry and the preferred customer status of the buyer. The data confirmed this hypothesis with a moderate (Dancey & Reidy, 2011) negative linear correlation [r=-0,38, n=46, p=0,010] between preferred customer status and dependence asymmetry.

4.5.2 Other correlations with preferred customer status

The variables 'financial attractiveness' [r=0,40, n=46, p=0,006], 'network' [r=0,52, n=46, p=0,000], and 'commitment' [r=0,47, n=46, p=0,001] had a moderate (Dancey & Reidy, 2011) and positive significant correlation with preferred customer status. The 'information exchange' [r=0,29, n=46, p=0,050] variable showed a weak (Dancey & Reidy, 2011) significant correlation with the preferred customer status.

4.5.3 Correlations with dependence asymmetry

Besides the preferred customer status, 'financial attractiveness' [r=0,45, n=46, p=0,002] was the only other variable significantly correlated with dependence asymmetry. This variable showed a negative and moderate (Dancey & Reidy, 2011) correlation.

4.6 Multiple regression

A multiple regression was conducted to see if the variables predicted preferred customer status. However, a first step was analyzing the data so as to arrive at a reliable regression.

Outliers negatively influence the regression coefficient. An analysis of standard residuals was carried out to show those outliers. The standard residual (min=-2,11, max=1,69) showed no outliers in the data, because all data was between -3 and 3, the standard border values for outliers in SPSS (Vocht, 2013).

Multicollinearity is a statistical problem that can occur in a multiple linear regression when two or more independent variables are correlated. This could cause difficulties indicating the predictive value of the individual variables. It does not have an influence on the predictive value of the complete model (Dalen & Leede, 2009). As a rule of thumb, according to Dalen & Leede (2009), a VIF value higher than 5 is a strong indication of multicollinearity. After testing this dataset, there was no indication of multicollinearity. The highest score was for the dummy of large companies (Tolerance=0,508, VIF=1,970), well below 5.

Auto or series correlation is an effect where variables have adjacent observations. Because a time factor is available, it was not very likely that it would be found. The data met this assumption that there was no autocorrelation, because the Durbin-Watson score was close to 2 (Durbin-Watson value=2,018) (Dalen & Leede, 2009).

The histogram of standardized residuals indicated that the data was approximately normally distributed, as did the normal P-P plot of standardized residuals, which showed points that were close to the line. This means there is homogeneity of variance (Vocht, 2013). Both are shown in figure 12. The scatterplot of standardized predicted values in figure 13 shows that our prediction model meets the assumptions of linearity (Vocht, 2013).

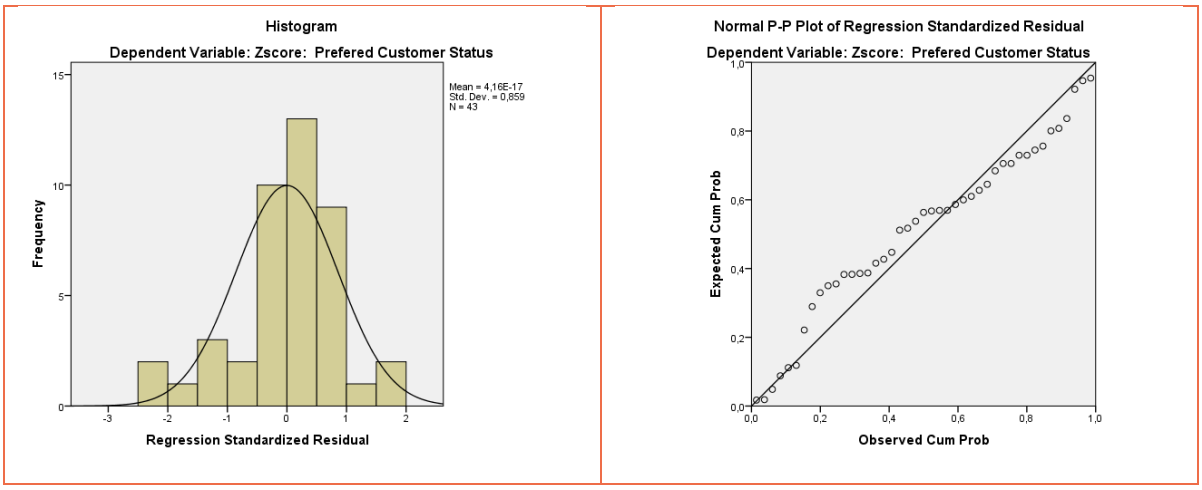

Figure 12 - Histogram and P-P plot of the standardized residuals

The first multiple regression (name: control) with only the control variables was not significant. After this, a multiple regression was conducted with all variables (name: model). The regressions are shown in table 13

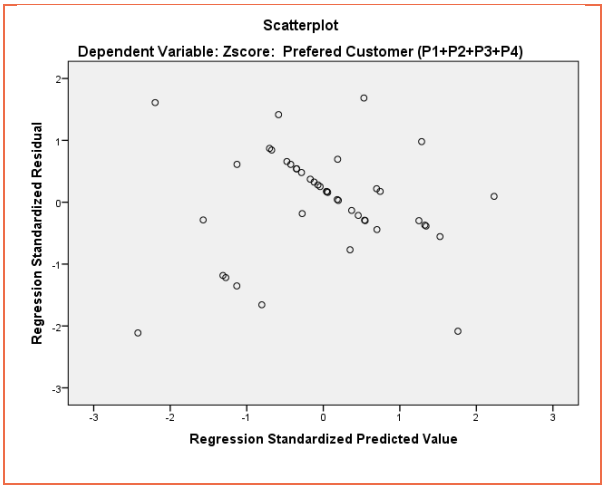

Figure 13 - Scatterplot of standardized predicted values

After the analyses were conducted, it was found that the variables 'dependence asymmetry,' 'financial attractiveness,' 'innovation,' 'information exchange,' 'network,' and 'trust,' and 'commitment' explain a significant amount (55%) of variance in preferred customer status ($F(11, 30)= 3{,}32$, $p<0{,}01$, $R^2=0{,}55$, $R^2_{Adjusted}=0{,}38$).

The variables 'network' (B=0,39, β =0,37, p=0,013) and 'commitment' (B=0,37, β =0,34, p=0,031) showed significant effects on preferred customer status. The other individual variables did not report significant effects.

Variable	Control	Model
Turnover in relationship	0,21	0,09
Company size: Micro	-0,09	0,01
Company size: Medium	-0,10	0,01
Company size: Large	-0,16	0,01
Dependence asymmetry		-0,18
Financial attractiveness		0,17
Innovation		0,00
Information exchange		0,08
Network		0,39*
Trust		-0,06
Commitment		0,37*
R^2	0,08	0.55
Adj R^2	-0,02	0,38
F	0,77	3,32**
****. Significant at p < 0,01 level (2-tailed).**		
***. Significant at p < 0,05 level (2-tailed).**		

Table 13 - Multiple regression (B-value)

5 Discussion

In the previous chapter the results of the research where presented. In this chapter we will discuss the impact and relevance for the scientific theory and managerial implications.

5.1 Theoretical implications

Asymmetry in a buyer – supplier relationship is a relatively new area in scientific research (Chia-Jung & Rhona, 2012). This will imply that the influential variables are not established in literature. There is an assumption that the preferred customer status of a buyer will be influenced by several monetary and non-monetary factors (Moody, 1992; Walter, Ritter, & Gemünden, 2001). We added the assumption that asymmetrical dependence will have a negative influence on the preferred customer status.

In this research we found significant correlations of the variables 'dependence asymmetry', 'financial attractiveness', 'information exchange', 'network' and 'commitment' with the 'preferred customer status' of a company. This indicates that those variables coincide.

The basic conceptual model is based on multiple independent variables, including the asymmetrical dependence which will influence the 'preferred customer status' of a company. According to the multiple regression analyses, those independent variables explain a large amount (55%) of the variance in the preferred customer status. However, only the variables 'network exchange' and 'commitment' significantly influence the preferred customer status of a company.

In this research the regression analysis was unable to demonstrate that asymmetrical dependence influences the preferred customer status. The difficulty in this data set is that almost all suppliers included in this research are the stronger party, upon which buyers are dependant.

This study did not show evidence for financial attractiveness, however there is much literature evidence suggesting it should be very important and necessary to survive (Carter, 1998; Walter et al., 2003; Purchase, Butler, & Alexander, 2011; Nollet, Rebolledo, & Popel, 2012; Rocca, Caruana, & Snehota, 2012). Ellis et al. (2012) found no significant relationship between the share of sales and the preferred customer status either in their research.

Otherwise the literature is also suggesting that financial attractiveness is maybe a too small concept which only includes monetary effects. Lindgreen & Wynstra (2005) show interest in a wider concept of value, not including the financial attractiveness but the sum of all contributions and losses. However, this concept is very difficult to measure.

It is not clear if the lack of evidence for the financial attractiveness variable is caused by the fact that the buyer in this research is already a small party and the suppliers think that this will not change, or that the limited number of responses has influenced this. There are possibilities to suggest that a single buyer in himself is not interesting as concluded in this research. However, a combination of several unattractive buyers could be interesting for this supplier, by acting as triads (Bastl, Johnson, & Choi, 2013).

The innovation function is not significant is this research. Possibly this is caused by the supplier not liking product innovations suggested by buyers (Wagner & Bode, 2014). Suppliers also hesitate to use other parties for innovation, to avoid a lock-in for instance (Schiele, Veldman, & Hüttinger, 2011). This is the reason why suppliers are protective and use safeguards to avoid influences of buyers (Wagner & Bode, 2014).

Variable information exchange is not significant in this research, however it is important in the relation between buyer and supplier for daily operations, and to avoid possible conflicts (Monczka *et al.*, 1998). The necessity for this information exchange may not contribute to the preferred customer status, but the lack of such exchange could damage the relationship. Salmi (2006) showed that if there is a lack of information exchange the relationship between buyer and supplier is harmed.

As argued in the literature section, the network function significantly influences the preferred customer status of the buyer. This goes to show that the network of the buyer is important for the suppliers (Holm, Eriksson, & Johanson, 1999). Strangely, Roseira *et al.* (2013) argue that this network function should offer an effective means of learning, information dissemination and innovation. All variables which were not significant in this research, however possibly clouded by this variable.

Trust is an expectation of the risk a supplier faces when engaging with the buyer (Powers & Reagan, 2007). However the risk for most suppliers in this research is limited due to the relative small turnover for most companies. Hence, trust may not show up as a significant relationship.

Commitment is the other significant variable and is the belief of the supplier that the relationship is important to maintain (Morgan & Hunt, 1994). Commitment is critical in relationships between international buyers and suppliers (Salmi, 2006). However, Baxter (2012) found evidence that commitment had a stronger effect than financial attractiveness on the preferred customer treatment as antecedent for customer attractiveness. This could also explain the non-significant relation of financial attractiveness.

The control parameters of firm size and turnover did not prove to influence the 'preferred customer status', despite the suggestions of Walter *et al.* (2001) and Caniëls *et al.* (2005).

Some literature finds evidence from the fact that the variables tested in this thesis moderate the relationship, which in turn influences the preferred customer status (Squire, Cousins, & Brown, 2009). With this dataset, this moderating model was also tested (see enclosure 3), however there was no significant influence tested in this model; we did not find support for the proposition of Squire *et al.* (2009).

5.2 Managerial implications

As shown in this study, buyers are not always the stronger party in a relationship with a supplier. This influences how to handle the relationship with suppliers. Those relationships are dynamic and will change over time. But this is a normal manifestation in a commercial relationship (Purchase, Butler, & Alexander, 2011). It is necessary for buyers to regularly update and evaluate their position as buyers (Kraljic, 1983).

The starting point for this research was to search for opportunities to improve the preferred customer status for buyers towards suppliers. Preferably this should include some variables which could influence and improve the buyers' status. If someone is an attractive buyer for a supplier, the main objective is get good prices (Lusch & Brown, 1996). But the supplier will also provide additional benefits and advantages as compared with the other buyers (Schiele, Veldman, & Hüttinger, 2011). By investing of the supplier in a buyer they hope the opposite and to get supplier of choice (Rozemeijer, 2009).

The challenge is to find variables which are possible to manipulate for each specific company. According to this research a buyer should focus on the network and commitment variable to improve the preferred customer status. Both variables will demand social skills from the employees to extend the network and create commitment for the other party.

Normally you would expect that financial attractiveness is also an important variable which will influence the preferred customer status. In this specific research we did not find significant evidence for this. We did find an indication that the financial attractiveness depends on the asymmetry of the dependence. In other words there is more dependence where there is less financial attractiveness. But changing financial attractiveness is very difficult. For SME companies it is often not easy to generate the buying power which is necessary to gain priority treatment. (Purchase, Butler, & Alexander, 2011). However SME companies need to find other ways to gain value for the supplier. This research shows that the network function of the buyer is relevant for the suppliers (Holm, Eriksson, & Johanson, 1999) and commitment is critical in relationships between international buyers and suppliers (Salmi, 2006). This could gain additional value for the suppliers.

6 Conclusion

Our study highlights the importance of the preferred customer status of a buyer in a supply chain relationship. With the conducted analyses it was found that the variables "dependence asymmetry, financial attractiveness, innovation, information exchange, network, trust and commitment" explain a significant amount of 55% of the variance in the preferred customer status. Concluding this research, we can state that we showed evidence that the variable 'network exchange' and 'commitment' significantly influence the preferred customer status. Literature also suggests a significant relation for asymmetrical dependence, financial attractiveness, innovation function, information exchange and trust. However, based on these results, this study cannot support that proposition. For these variables there was no significant influence on the preferred customer status of a company.

6.1 Limitations of the research

Of course this research (as all others) will have its limitations, which we will discuss in this section.

Asymmetric relationship is a relatively new research area which is less clear (Chia-Jung & Rhona, 2012). Additional research is necessary to finalize the generally accepted concepts and constructs. The concept of 'attractiveness' could be too generic and be confusing with other constructs (Rozemeijer, 2009).

It is not clear if the lack of evidence for financial attractiveness is caused by the fact that the buyer in this research is already a small party, and the suppliers do not think that it can become more attractive. Or that the 'financial attractiveness' is really less important for them or is overwhelmed by the commitment variable (Baxter, 2012).

This research is based on the suppliers of one single SME company in the high tech industry. Also, the response to the questionnaire was limited. This implies that the study cannot be generalized for the entire population (Dul & Hak, 2012). It may be limited to some companies and industries.

6.2 Recommendations for further research

This thesis contributes to the supply management literature, however it is always possible to reflect and suggest additional research

For future research we suggest to do replications at the supply base of other companies and markets to test if the results are also valid for other companies and markets, in order to confirm and generalize the results. The results of this research did not show many significant variables. The explanation of the complete model was relative high and explained a significant amount of 55% from the variance in the preferred customer status. This suggests that the conceptual model deserves additional research to clarify the variables which really influence the preferred customer status.

In the literature it is not clear, but for the management practice it would be practical to find moderating factors, which could positively influence the customer attractiveness despite another negative variable. Testing for moderating factors on the current data set did not give evidence for moderating factors. Despite this result, this moderating factor should be very useful in daily managerial practice.

References

Bastl, M., Johnson, M., & Choi, T. Y. (2013). Who's seeking whom? Coalition behaviour of a weaker pplayer in buyer-supplier relationships. *Journal of Supply Chain Management*, 8-28.

Baxter, R. (2012). How can business buyers attrect sellers'resources? Emperical evidence for preferred customer treatment from suppliers. *Industrial Marketing Management*, 1249-1258. doi:1.1016/j.indmarman.2012.10.009

Belaya, V., Gagalyuk, T., & Hanf, J. (2009). Measuring Asymmetrical Power Distribution in Supply Chain Networks: What Is the Appropriate Method? *Journal of Relationsip Marketing*, 165-193. doi:10.1080/15332660902876927

Bensaou, M. (1999). Portfolios of Buyer-Supplier Relationships. *Sloan Management Review*, 35-44.

Benton, W., & Maloni, M. (2005). The influence of power driven buyer/seller relationships op supply chain satisfaction. *Journal of Operations Management*, 1-22. doi:10.1016/j.jom.2004.09.002

Bew, R. (2007). The New Customer of Choice Imperative: Ensuring Supply Availability, Productivity Gains, and Supplier Innovation. *92d Annual International Supply Management Conference.*

Caniëls, M. C., & Gelderman, C. J. (2005). Power and interdepencence in Kraljic's purchasing portfolio matrix. *IPSERA 2005 Conference.*

Cannon, J. P., & Perreault Jr, W. D. (1999). Buyer-Seller Relationships in Business Markets. *Journal of Marketing Research*, 439-460.

Carter, S. (1998). *Successful Purchasing in a week.* London: Hodder & Stoughton.

Chia-Jung, L., & Rhona, J. E. (2012). Asymetric customer-supplier relationship develpment in Taiwanense electronics firms. *Industrial Marketing Management*, 692-705. doi:10.1016/j.indmarman.2011.09.017

Christiansen, P., & Maltz, A. (2002). Becoming an "Interesting" Customer: Procurement Strategies for Buyers without Leverage. *International Joernal of Logistics Research and Applications:A Leading Journal of Supply Chain Management*, 175-195. doi:10.1080/13675560210148678

Corsten, D., & Felde, J. (2005). Exploring the performance effects of key-supplier collaboration. An emperical investigation into Swiss buyer-supplier relationships. *International Journal of Physical Distribution & Logistics Management*, 445-461. doi:10.1108/09600030510611666

Dalen, J. v., & Leede, E. d. (2009). *Statistisch Onderzoek met Spss for Windows.* Den Haag: Boom Lemna Uitgevers.

Dancey, C., & Reidy, J. (2011). *Statistics Without Maths for Psychology* (5th ed.). Pearson Education Limited.

Deutkens, E., Ruyter, K. d., Wetzels, M., & Oosterveld, P. (2004). Response rate and response quality of internet-based surveys: an experimental study. *Marketing letters*, 21-36. doi:10.1023/B:MARK.0000021968.86465.00

Dul, J., & Hak, T. (2012). *Case Study Methodology in Business Research* (2nd ed.). Routledge.

Eckerd, S., & Hill, J. A. (2012). The buyer-supplier social contract: information sharing as a deterrent to unetical behaviors. *Internation Journal of Operations & Production Management*, 238-255. doi:10.1108/01443571211208641

Ellis, S. C., Henke Jr, J. W., & Kull, T. J. (2012). The effect of buyer behaviors on preferred customer status and access to supplier technological innovation: An emperical study of supplier perceptions. *Industrial Marketing Management*, 1259-1269. doi:10.1016/j.indmarman.2012.10.010

Emerson, R. M. (1964). Power-Dependence Relations: Two Experiments. *Sociometry*, 282-298. doi:10.2307/2785619

Essig, M., & Amann, M. (2009). Supplier datisfaction: Conceptual basics and explorative findings. *Journal of Purchasing & Supply Management*, 103-113. doi:10.1016/j.pursup.2009.01.001

EU. (2005). *The new SME definition, user guide and model declaration.* Retrieved 04 2014, from European Commision, what is an SME?: http://www.ec.europa.eu/enterprise/policies/sme/files/sme_definition/sme_user_guide_en.pdf

Gelderman, C. J. (2000). Rethinking Kraljic: towards a purchasing portfolio model, based on mutual buyer-supplier dependence. *Danish Purchasing & Logistics Forum*, 9-15.

Gelderman, C. J., & Weele, A. J. (2003). Handling measurment issues and strategic directions in Kraljic's purchasing portfolio model. *Journal of Purchasing & Supply Management*, 207-216. doi:10.1016/j.pursup.2003.07.001

Gelderman, C. J., & Weele, A. J. (2004). Determinants of dependence in dyadic buyersupplier relationships. *13th International IPSERA Conference.* Catania, Italy.

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.).* Boston: Allyn & Bacon.

Ghijsen, P. W., Semeijn, J., & Ernstson, S. (2010). Supplier satisfaction and commitment: The role of influence strategies and supplier development. *Journal of Purchasing & Supply Management*, 17-26. doi:10.1016/j.pursup.2009.06.002

Gulati, R., & Sytch, M. (2007). Dependence asymmetry and joint dependence in interorganizational relationships: effect of embeddedness on a manufacturer's performance in procurements relationships. *Administrative Science Quarterly*, 32-69. doi:10.2189/asqu.52.1.32

Haag, E. (2013). *Collegesheets van de RSM PTO Colleges.* Rotterdam: Erasmus Universiteit.

Hallikas, J., Puumalainen, K., Vesterinen, T., & Virolainen, V.-M. (2005). Risk-based classification of supplier relationships. *Journal of Purchasing & Supply Management*, 72-82. doi:10.1016/j,pursup.2005.10.005

Hippel, E. v. (1998). *The sources of innovation.* New York: Oxford University Press. Retrieved 05 14, 2014, from http://web.mit.edu/evhippel/www/books/sources/von_hippel-1988-sources_of_innovation.pdf

Holm, D. B., Eriksson, K., & Johanson, J. (1999). Creating Value through Mutual Commitment to Business Network Relationships. *Strategic Management Journal*, 467-486.

Johnsen, R. E., & Ford, D. (2008). Exploring the concept of assymmetry: A typologie for analysing customer-supplier relationships. *Industrial Marketing Management*, 471-483. doi:10.1016/j.indmarman.2007.05.004

Johnston, D. A., McCutcheon, D. M., Stuart, F. I., & Kerwood, H. (2004). Effects of supplier trust on performance of cooperative supplier relationships. *Journal of Operations Management*, 23-38. doi:10.1016/j.jom.2003.12.001

Kibbeling, M. I., Gelderman, C. J., Ulijn, J. M., & Weele, A. J. (2009). A Dutch–French comparison of dependence, trust and commitment in buyer–supplier relationships: a purchasing portfolio approach. *International Journal of Business and Globalisation*, 353-373. doi:10.1504/IJBG.2009.024609

Kootstra, G. J. (2004). *Exploratory Factor Analysis: Theory and Application.* Rijksuniversiteit Groningen. Retrieved 07 21, 2014, from http://www.let.rug.nl/~nerbonne/teach/rema-stats-meth-seminar/Factor-Analysis-Kootstra-04.PDF

Kraljic, P. (1983). Purchasing must become supply management. *Harvard Business Review*, 109-117.

Landis, J. R., & Koch, G. G. (1977). The Measurment of Observer Agreement for Categorical Data. *Biometrics*, 159-174.

Lee, C.-J., & Johnsen, R. E. (2011). Asymmetric customer-supplier relationship development in Taiwanese electronic firms. *Industrial Marketing Management*, 692-705. doi:10.1016/j.indmarman.2011.09.017

Lindgreen, A., & Wynstra, F. (2005). Value in business markets: What do we know? Where are we going? *Industrial Marketing Management*, 732-748. doi:10.10166/j.indmarman.2005.01.001

Lusch, R. F., & Brown, J. R. (1996). Interdependency, Contracting and Relational Behavior in Marketing Channels. *Journal of Marketing*, 19-38. doi:10.2307/1251899

Luzzini, D., Caniato, F., Ronchi, S., & Spina, G. (2012). A transaction costs approach to purchasing portfolio management. *International Journal of Operations & Production Management*, 1015-1042. doi:10.1108/01443571211265684

Monczka, R. M., Petersen, K. J., Handfield, R. B., & Ragatz, G. L. (1998). Succes Factors in Strategic Supplier Alliances: The Buying Company Perspective. *Decision Sciences*, 553-577.

Moody, P. E. (1992). Customer Supplier Integration: Why Being an Excellent Customer Counts. *Business Horizons*, 52-57.

Moorman , C., Deshpandé, R., & Zaltman, G. (1993). Factors Affecting Trust in Market Reasearch Relationships. *Journal of Marketing*, 81-101.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 20-38.

Nagati, H., & Rebolledo, C. (2013). Supplier development effort: The suppliers point of view. *Industrial Marketing Management*, 180-188. doi:10.1016/jindmarman.2012.12.006

Nollet, J., Rebolledo, C., & Popel, V. (2012). Becoming a preferred customer one step at time. *Industrial Marketing Management*, 1186-1193. doi:10.1016/j.indmarman.2012.10.003

Nyaga, G. N., Lynch, D. F., Marshall, D., & Ambrose, E. (2013, July). Power asymmetry, adaptation and collaboration in dyadic relationships involving a powerfull partner. *Journal of Supply Chain Management*, 42-65. doi:10.1111/jscm.12011

Porter, M. E. (1985). *Competitive advantage.* Ney York: The Free Press.

Powers, T. L., & Reagan, W. R. (2007). Factors influencing succesful buyer-seller relationships. *Journal of Business Reserch*, 1234-1242. doi:10.1016/j.jbusres.2007.04.008

Purchase, S., Butler, B., & Alexander, P. (2011). Becoming Customer of Choice in the Helathcare Supply Chain. *Australia New Zealand Marketing Academy Conference 2011*. Perth, Western Australia: School of Marketing, Faculty of Business & Law, Tourism and Leisure, Edith Cowan University.

Ramsay, J., & Wagner, B. A. (2009). Organisational Supplying Behaviour: Understanding supplier needs, wants and preferences. *Journal of Purchasing &Supply Management*, 127-138. doi:10.1016/j.pursup.2009.02.001

Rocca, A. L., Caruana, A., & Snehota, I. (2012). Measuring customer attractiveness. *Industrial Marketing Management*, 1241-1248. doi:10.1016/j.indmarma.2012.10.008

Roseira, C., Brito, C., & Ford, D. (2013). Network pictures and supplier management: An empirical study. *Industrial Marketing Management*, 234-247. doi:10.1016/j.indmarman.2012.08.006

Rozemeijer, F. (2009, 03 27). Wie kust Doornroosje wakker? Oratie voor de NEVI leerstoel Purchasing and Supply Management.

Salmi, A. (2006). Organising international supplier relations: An exploratory study of Western purchasing in China. *Journal of Purchasing & Supply Management*, 197-208. doi:10.1016/j.pursup.2006.10.003

Schiele, H., Calvi, R., & Gibbert, M. (2012). Customer attractiveness, supplier satisfaction and preferred customer status: Introduction, definitions and an overarching framework. *Industrial Marketing Management*, 1178-1185. doi:10.1016/j.indmarman.2012.10.002

Schiele, H., Veldman, J., & Hüttinger, L. (2010). Customer attractiveness, supplier satisfaction and preferred customer status: review, concept and research agenda. *international IPSERA workshop on "Customer attractiveness, supplier satisfaction and customer value"* .

Schiele, H., Veldman, J., & Hüttinger, L. (2011). Supplier innovativeness and supplier pricing: the role of preferred customer status. *International Journal of Innovation Management*, 1-27. doi:10.1142/S1363919611003064

Shrout, P. E., & Fleiss, J. L. (1979). Intraclass Correlations: Uses in Assessing Rater Reliabilty. *Psychological Bulletin*, 420-428.

Squire, B., Cousins, P. D., & Brown, S. (2009). Cooperation and Knowledge Transfer within Buyer-Supplier Relationships: The Moderating Proporties of Trust, Relationship Duration and Supplier Performance. *British Journal of Management*, 461-477. doi:10.1111/j.1467-8551.2008.00595.x

Steinle, C., & Schiele, H. (2008). Limits to global sourcing? Strategic consequences of dependency on international suppliers: Cluster theory, resource-based view and case studies. *Journal of Purchasing & Supply Management*, 3-14. doi:10.1016/j.pursup.2008.01.001

Terpend, R., Krause, D. R., & Dooley, K. J. (2011). Managing buyer–supplier relationships: empirical patterns of strategy formulation in industrial purchasing. *Journal of Supply Chain Management*, 73-94. doi:10.1111/j.1745-493X.2010.03215.x

Viitaharju, L., & Lähdesmäki, M. (2012). Antecedents of trust iin asymemetrical business relationships; differing perceptions between food producers and retailers. *Marketing Intelligence & Planning*, 567-587. doi:10.1108/02634501211251061

Vocht, A. d. (2013). *Basishandboek SPSS 21*. Utrecht: Bijleveld press.

Wagner, S. M., & Bode, C. (2014). Supplier relationshop-specific invesments and the role of safeguards for supplier innovation sharing. *Journal of Operations Management*, 65-78. doi:10.1016/j.jom.2013.11.001

Walter, A., Müller, T. A., Helfert, G., & Ritter, T. (2003). Functions of industrial relationships and their impact on relationship quality. *Industrial Marketing Management*, 159-169.

Walter, A., Ritter, T., & Gemünden, H. (2001). Value Creation in Buyer–Seller Relationships: Theoretical Considerations and Empirical Results from a Supplier's Perspective. *Industrial Marketing Management*, 365-377. doi:10.1016/S0019-8501(01)00156-0

Weele, A. v. (2010). *Purchasing and supply chain management*. London: Cengage Learning.

Abbreviations

B = Buyer

CCFL = Cold Cathode Fluorescent lamps

ERP = Enterprise Resource Planning

ICC = Intraclass correlation coefficients

LED = Light Emitting Diode

NDF = NDF Special Light Products B.V. (company)

PSM = Purchase and supply management

S = Supplier

SD = Standard deviation

SME = Small and medium enterprises

VIF = Variance Influation Factor

Enclosure I – Supplier questionnaire

Firm size, according to the EU company classification (EU, 2005)

1. What is the number of employees in your company (FTE)?
    - Micro (< 9)
    - Small (10-49)
    - Medium-sized (50 - 249)
    - Large (> 250)
2. What is the turnover of your company?
    - Micro (≤ € 2 m)
    - Small (€ 3 m - € 10 m)
    - Medium-sized (€11 m - € 49 m)
    - Large (> € 50 m)

Customer financial attractiveness (Baxter, 2012)

(5-Scale Likert – Much lower / Lower / Average /Higher / Much higher)

Compared to your other customers, how would you rate NDF on the following areas:

3. F1 - The sales revenue NDF provide to your company.
4. F2 - The profitability of your organization's business with NDF.
5. F3 - Return on investment of your organization's business with NDF.
6. F4 - The size of NDF's business with you relative to your total business.

Commitment (Ghijsen, Semeijn, & Ernstson, 2010)

(5-Scale Likert – Strongly disagree / Disagree / Neutral /Agree / Strongly agree)

Please indicate to what extent you agree / disagree with the following statements:

7. C1 - You organization sees the relationship with NDF as a long-term alliance
8. C2 - You organization is committed to the preservation of a good relationship to NDF
9. C3 - You organization believes in NDF as a partner

Innovation (Schiele, Veldman, & Hüttinger, 2011)

(5-Scale Likert – Strongly disagree / Disagree / Neutral /Agree / Strongly agree)

Please indicate to what extent you agree / disagree with the following statements:

10. ~~I1 - The level of technological capability NDF possesses and is willing to use it for your products is high~~
11. I2 - NDF is willing to share key technological information
12. I3 - NDF is capable of supporting collaborative processes in product development.

Trust (Corsten & Felde, 2005)

(5-Scale Likert – Strongly disagree / Disagree / Neutral /Agree / Strongly agree)

Please indicate to what extent you agree / disagree with the following statements:

~~13. T1 - Both parties watch the others profitabilty~~
14. T2 - NDF has high integrety
~~15. T3 - There are doubts regarding to NDF motives~~
16. T4 - Both parties are willing to make mutual adaptions

Information exchange (Eckerd & Hill, 2012)

(5-Scale Likert – Strongly disagree / Disagree / Neutral /Agree / Strongly agree)

Please indicate to what extent you agree / disagree with the following statements:

17. E1 - In the relationship with NDF, it is expected that any information that might help to other party will be provided to-them?
18. E2 - Exchange of information with NDF takes place frequently?
19. E3 - It is expected that both parties will provide proprietary information if it can help the other party?
20. E4 - It is expected that we keep each other informed about events or changes that may affect the other party.

Supplier's dependence on buyer. (Ghijsen, Semeijn, & Ernstson, 2010) (Lusch & Brown, 1996)

(5-Scale Likert – Strongly disagree / Disagree / Neutral /Agree / Strongly agree)

Please indicate to what extent you agree / disagree with the following statements:

~~21. DS1 - NDF would by costly to lose as customer.~~
22. DS2 - We are depending on NDF as customer.
23. DS3 - NDF would be difficult to replace as customer.
24. DS4 - Success of our company is depending on NDF.

Network

(5-Scale Likert – Strongly disagree / Disagree / Neutral /Agree / Strongly agree)

Please indicate to what extent you agree / disagree with the following statements:

25. N1 - Your relation with NDF gives you access to new markets.
26. N2 - The network of NDF is valuable for your business.
~~27. N3 – You are doing business with an agglomorate of companies if which NDF is part.~~

Preferred customer status (Baxter, 2012)

Please consider your firm's relationship with NDF over the next 3 years. How high do you expect your firm's level of input of the following resources to be into the relationship, compared with your other customers?

28. P1 - Time input of your personnel
29. P2 - Your intangible inputs, such as your knowledge, skills, ingenuity, relationships
30. P3 - Physical items such as equipment you put into the relationship
31. P4 - Euro's your firm puts into the relationship

Enclosure 2 – Buyer questionnaire

Buyers dependence on supplier (Lusch & Brown, 1996)

(5-Scale Likert – Strongly disagree / Disagree / Neutral /Agree / Strongly agree)

To what extend do you agree with this statements:

1. DB1 - We are dependent on this supplier
2. DB2 - This supplier would be difficult to replace
3. DB3 - This supplier would be costly to replace

Enclosure 3 – Multiple linear regression with moderating model

Variable	Control	Model	Moderating
Turnover in relationship	0,21	0,09	0,11
Company size: Micro	-0,09	0,01	-0,02
Company size: Medium	-0,10	0,01	-0,01
Company size: Large	-0,16	0,01	-0,01
Dependence asymmetry		-0,18	-0,44*
Financial attractiveness		0,17	0,12
Innovation		0,00	0,07
Information exchange		0,08	0,16
Network		0,39*	0,28
Trust		-0,06	-0,15
Commitment		0,37*	0,18
Asymmetry x Financial attractiveness			-0,08
Asymmetry x Innovation			0,22
Asymmetry x Information exchange			0,25
Asymmetry x Network			-0,06
Asymmetry x Trust			0,05
Asymmetry x Commitment			-0,11
R^2	0,08	0.55	0,62
Adj R^2	-0,02	0,38	0,35
F	0,77	3,32**	2,29*
****. Significant at p < 0,01 level (2-tailed).**			
***. Significant at p < 0,05 level (2-tailed).**			