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Master Thesis

Exploring the relational antecedents of supplier satisfaction

Abstract: Due to increased competition for excellent suppliers, buyers increasingly have to market themselves to suppliers to obtain the best prices and resources. To achieve this, firms should keep their suppliers satisfied. This can be done by offering good growth opportunity, profitability, relational behaviour, and operative excellence. This thesis focuses on the relational antecedents to supplier satisfaction and examines the effects of three variables: size asymmetry, expectations, and likeability. In a survey of four Dutch high tech firms and their key suppliers, it was found that expectations play no significant role in determining supplier satisfaction. This finding contradicts the Disconfirmation paradigm, but it may result from measurement issues. Contrary to expectations, suppliers seem to prefer working with buyers larger than them. This finding is surprising considering existing literature, which suggests smaller suppliers are at a disadvantage. Finally, likeability exhibits strong direct and indirect effects on supplier satisfaction and its relational antecedents. This finding agrees with recent literature that found positive effects of likeability on business relationships. The findings show that managers should employ likeable purchasers to manage key supplier relationships, and call for more research on the role of likeability in supply relationships.

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1. Introduction: The growing importance of suppliers has lead to relationship-based supply management practice and research

Several trends in supply management have changed the purchasing landscape over the past decades. As international trade has become commonplace, firms are increasingly sourcing globally instead of locally to find cheaper or better suppliers.[1] For supply managers, this means that they must increase their search capabilities to find the global most competitive suppliers, while dealing with increased lead time and communication difficulties.[2] Next to this, the trend of supply base reduction has seen firms reduce the number of suppliers, intensifying cooperation with those who remain.[3] Suppliers are now creating more value relative to OEMs, supplying systems and subsystems rather than individual parts.[4] Consequently, manufacturers have become more dependent on their suppliers. Suppliers are becoming the source of innovation, and the suppliers' input largely determines the quality of an OEM's final product. Clearly, the market looks fundamentally different than it did 30 years ago.[5] Buyers now have a smaller selection of suppliers, on whom they are more dependent. They compete for excellent suppliers on a global scale. With the playing field seemingly shifted in favour of the world-class suppliers, how can buying firms secure access to their capabilities, knowledge, and supply? One way to tackle this issue is by becoming a preferred customer.[6] To accomplish this, firms must first make themselves attractive to suppliers, so that they will choose to partner with the buying firm over its competitors. When in a relationship, the buying firm should make sure the supplier becomes and remains satisfied. Only then can the buying firm become the 'customer of choice' or 'preferred customer' of their supplier. According to theory, making sure that suppliers are satisfied is a necessary step on the way to becoming a preferred customer.[7]

The amount of research attention that supplier satisfaction has received so far is limited compared to that of its counterpart customer satisfaction, which is surprising considering its potential effects. Apart from the role it plays in achieving preferred customer status, supplier

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[1] Steinle and Schiele (2008, p. 3).
[2] See Steinle and Schiele (2008, p. 10).
[3] Sarkar and Mohapatra (2006, pp. 148-149).
[4] See Veloso and Kumar (2002, p. 8).
[5] See Roberts (2001, p. 31).
[6] See Steinle and Schiele (2008, p. 11).
[7] See Hüttinger, Schiele, and Veldman (2012).

satisfaction is regarded a requisite for optimal supplier performance, paving the way to increased performance of both parties, greater relational investments by suppliers and increased customer satisfaction.[8] In recent years, researchers have begun to explore the concept of supplier satisfaction, yielding insight into its dimensions, antecedents and measurement.[9] Two recent studies, by Hüttinger, Schiele, and Schröer (2014) and Vos, Schiele, and Hüttinger (2016), empirically investigated several factors that determine supplier satisfaction. They concluded that supplier satisfaction is a multidimensional construct, with economic, relational and operative antecedents, each with one or more factors contributing to it.[10] This paper will start from the findings of Vos et al. (2016), who reproduced the research of Hüttinger et al. (2014) and identified the structure among these three dimensions and their subdimensions.

This thesis will focus only on the relational dimension. This choice was made because relational factors are subjective and less understood than operative and economic factors. For example, research has shown that buyers and suppliers have different perspectives of the behaviour in a supply relationship.[11] Furthermore, relational factors can have different effects depending on the type or preference of a supplier.[12] Additionally, recent literature acknowledges that some relational factors are not yet fully understood, and ambiguity exists between them.[13] Therefore, the research outcomes of relational factors are less predictable, more interesting, and potentially more useful. The objective of the study is to further explain how to achieve supplier satisfaction and improve our understanding of how the relational antecedents of supplier satisfaction are influenced. A model is tested that incorporates the relational variables used by Vos et al. (2016). It tests their effects on supplier satisfaction, and three independent variables are added, testing their effects on the relational antecedents of supplier satisfaction. Three different independent variables have been selected: size asymmetry, expectations, and likeability. Size asymmetry, a structural factor, has been found to affect supply relationships due to cognitive, structural and market factors; this paper will test the notion that large suppliers have more satisfying relationships with their customers.

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[8] See Benton and Maloni (2005); Pulles and Hartman (2017); Wong (2000).
[9] See Essig and Amann (2009); Maunu (2003).
[10] See Hüttinger et al. (2014); Vos et al. (2016).
[11] See Campbell (1997, p. 427); Harland (1996, p. 73).
[12] See Essig and Amann (2009, p. 105).
[13] Suh and Houston (2010, p. 744); See C. Zhang, Viswanathan, and Henke Jr (2011, p. 319).

Expectations play a key part in Social Exchange Theory and the Expectation Disconfirmation Theory. It will be tested whether suppliers that enter with higher expectations have a more positive or negative assessment of the relationship, wherein a distinction is made between normative and predictive expectations. Likeability, a cognitive factor, has received attention in psychology and marketing literature, but little in the purchasing literature. A recent study found a strong effect on willingness to cooperate, thus its effect on relational aspects of supplier satisfaction is hypothesised and tested.[14]

This thesis makes the following contributions to the supplier satisfaction literature. First, the study is set in a new context. The research of Hüttinger et al. (2014) and Vos et al. (2016) was carried out in the automotive and chemical industry respectively; this thesis uses data collected from four buying firms and their key suppliers, who are in the high-tech manufacturing industry. Second, it finds that the effect of size asymmetry may be opposite to what is often assumed. Whereas research on asymmetry has repeatedly found that small suppliers are at a disadvantage, these findings suggest that suppliers are more satisfied with larger buyers. It is argued that the negative effects of size asymmetry, such as an unfavourable power balance, may not weigh up to the upsides, such as better joint problem solving. Finally, the study adds likeability as a new factor and shows that it can be placed alongside support, involvement and reliability as an antecedent of relational behaviour. The thesis has two practical implications which are useful for firms trying to become a preferred customer. First, because small suppliers (relative to their customers) were more satisfied than relatively large suppliers, buying firms may have more chances of becoming a preferred customer with small suppliers. Second, the study highlights the strong effects of likeability on satisfaction, and recommends that buying firms make themselves more likeable to increase supplier satisfaction and move to a preferred status.

A survey, based on the one used by Hüttinger et al. (2014) and Vos et al. (2016), was distributed amongst suppliers of four Dutch high-tech manufacturing firms in diverse industries. The data was then analysed using PLS-SEM, wherein the effects of size asymmetry, expectations, and likeability on supplier satisfaction and its relational antecedents were analysed. The results highlight a strong relationship between likeability,

[14] See Pulles and Hartman (2017, p. 61).

reliability, relational behaviour and supplier satisfaction. Expectations were not found to have significant effects; size asymmetry positively affected supplier satisfaction, contrary to the hypotheses. In a focused model incorporating only likeability, it was found that the construct may be seen as a dimension of relational behaviour.

The rest of this paper is structured as follows. First, a literature review will discuss supplier satisfaction and the investigated antecedents and effects to date. Then, the extant literature will be used to develop hypotheses to form a theoretical model. Finally, the model will be tested and revised using data collected from the focal firms' suppliers, and the implications and limitations of the study will be discussed.

2. Theory: Supplier satisfaction can lead to competitive advantages

2.1. Supplier satisfaction research is a young and underdeveloped field

Although the research on supplier satisfaction is relatively young, it is clearly a multidimensional construct, with many possible antecedents.[15] This might explain why there is no universally agreed definition, as an inclusive definition would be very broad. Benton and Maloni (2005) defined supplier satisfaction as *"a feeling of equity with the supply chain relationship no matter what power imbalances exists between the buyer–seller dyad."*[16] This rather narrow definition, although frequently cited, focuses only on the power aspect of satisfaction.[17] A more recent definition was provided by Schiele, Calvi, and Gibbert (2012), who defined supplier satisfaction as *"a condition that is achieved if the quality of outcomes from a buyer-supplier relationship meets or exceeds the supplier's expectations"*.[18] This definition, derived from Social Exchange Theory (SET), incorporates earlier definitions. It also gives more insight into the process of achieving satisfaction, without focusing on a specific dimension such as that of Benton and Maloni (2005), which focused on power. Therefore, the definition by Schiele et al. (2012) is most suitable to use in this research.

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[15] See Hüttinger et al. (2012, p. 1201); Vos et al. (2016, p. 4620).
[16] Benton and Maloni (2005, p. 2).
[17] Essig and Amann (2009, p. 105); See Paul, Semeijn, and Ernstson (2010, p. 19).
[18] See Schiele et al. (2012, p. 10).

A study by Essig and Amann (2009) identified only ten studies that focused on supplier satisfaction, the earliest of which was published in 1998.[19] Clearly, supplier satisfaction is a young and underdeveloped field, although several new papers on the topic have been published over the past years. For this reason, much of the work is exploratory in nature. Two early papers, by Wong (2000) and Forker and Stannack (2000), recognised that supplier satisfaction is important for healthy supply relationships, although the results varied strongly: whereas Wong (2000) found that a commitment to supplier satisfaction eventually contributed to customer satisfaction by eliciting the full support of suppliers, Forker and Stannack (2000) concluded that such collaborative relationships were less effective than arms-length relationships.[20] Other papers have focused on how to measure supplier satisfaction and have explored its antecedents.[21] A recent development in the supplier satisfaction field is its integration into the preferred customer cycle: according to this view, a firm can become the customer of choice of its strategic suppliers, through customer attractiveness and supplier satisfaction respectively, to obtain strategic benefits vis-à-vis its competitors in the form of advantageous pricing and preferential access to supplier resources.[22]

2.1.1. Supplier satisfaction is a multidimensional construct with hard and soft factors

Maunu (2003) created an overview of supplier satisfaction dimensions, shown in Table 1. This overview, based on a series of interviews and a questionnaire, distinguishes between two categories, business-related and communication-related dimension.[23] The business-related, or hard dimensions, encompass those characteristics of the relationship that are quantifiable or tangible. The category contains profitability, agreements, early supplier involvement (ESI), business continuity, and forecasting/planning. The communication-related, or soft dimensions, are intangible. This category comprises role & responsibilities, openness & trust, feedback, and company values. Maunu used the resulting dimensions to construct a survey to be used as a management tool for measuring supplier satisfaction.

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[19] See Essig and Amann (2009, p. 104).
[20] See Forker and Stannack (2000, pp. 31,34); Wong (2000, p. 430).
[21] See Benton and Maloni (2005, p. 15); Essig and Amann (2009, p. 106); Maunu (2003, p. 97).
[22] See Pulles, Schiele, Veldman, and Hüttinger (2016, p. 136); Schiele, Veldman, and Hüttinger (2011, p. 15).
[23] See Maunu (2003, p. 95).

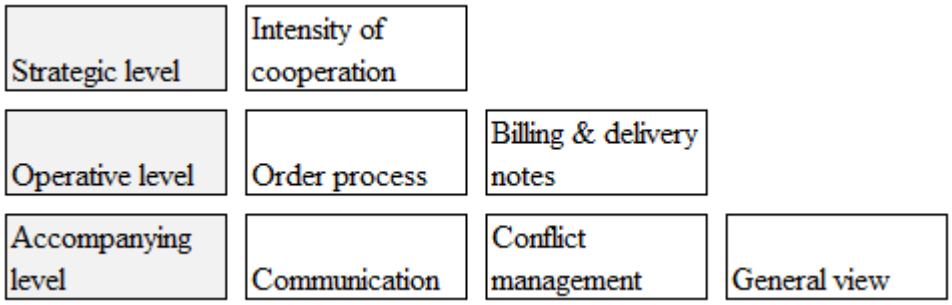
Table 1 Dimensions of supplier satisfaction (Maunu, 2003, p. 95)

Business-related (hard-based)	**Communication-related (soft-based)**
Profitability	Role & responsibilities
Agreements	Openness & trust
Early supplier involvement	Feedback
Business continuity	Company values
Forecasting/planning	

Essig and Amann (2009) created a supplier satisfaction index, based on theoretical dimensions including those of Maunu (2003), and interviews with supply chain experts in a case company and its suppliers.[24] The index, shown in Figure 1, measures supplier satisfaction along three dimensions: the strategic, operative and accompanying level. At the strategic level is an indicator group called intensity of cooperation, which includes indicators like number of contacts and ESI. At the operative level are two indicator groups: order process, which contains items such as ordering procedure, time schedule, payment habits, and the billing & delivery process, which includes delivery effort and payment procedure, amongst others.[25] The accompanying level contains three indicator groups. Communication includes for example image and business competence; conflict management consists only of quality of reaction; the general view is included to validate the responses of the specific dimensions.[26] Although this index looks very different from the measurement model shown before, it was constructed based on earlier literature, including the model above, and shares many indicators. Furthermore, a similar distinction between hard and soft factors can be found: the operative level consists of hard factors, while the accompanying level is comprised of soft factors. However, the strategic and operative level are instantly recognisable to managers, making this tool more suited for practitioners.

[24] See Essig and Amann (2009, p. 106).
[25] See Essig and Amann (2009, p. 109).
[26] See Essig and Amann (2009, pp. 105,111-112).

Figure 1 Supplier satisfaction index, adapted from Essig and Amann (2009, p. 106)

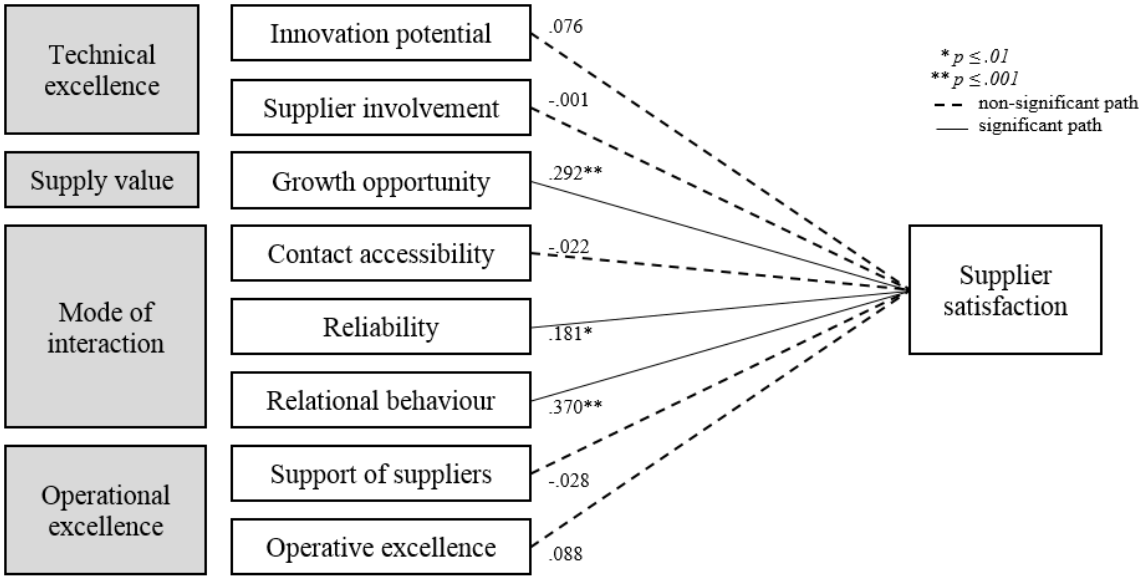


2.1.2. The main antecedents of supplier satisfaction are profitability, growth opportunity, relational behaviour and operative excellence

In a review of customer attractiveness, supplier satisfaction and preferred customer literature, Hüttinger et al. (2012) listed the drivers of supplier satisfaction that had been researched until then. The 28 identified drivers were categorised into four groups: *Technical excellence* indicates in how far a customer is leading in terms of technical know-how and development and uses this knowledge to improve its suppliers' performance. This category includes drivers such as early supplier involvement and supplier development. *Supply value* covers the economic aspects of the relationship, such as profitability, long-term horizons and dedicated investments. *Mode of interaction* includes such factors as communication and information exchange. Finally, *Operational excellence* encompasses day-to-day drivers like forecasting and payment habits.[27] In theory, if a purchasing firm takes care that it performs well on these four areas, its suppliers will probably be satisfied.

[27] See Hüttinger et al. (2012, p. 1201).

Figure 2 Supplier satisfaction antecedents found by Hüttinger et al. (2014, p. 711)

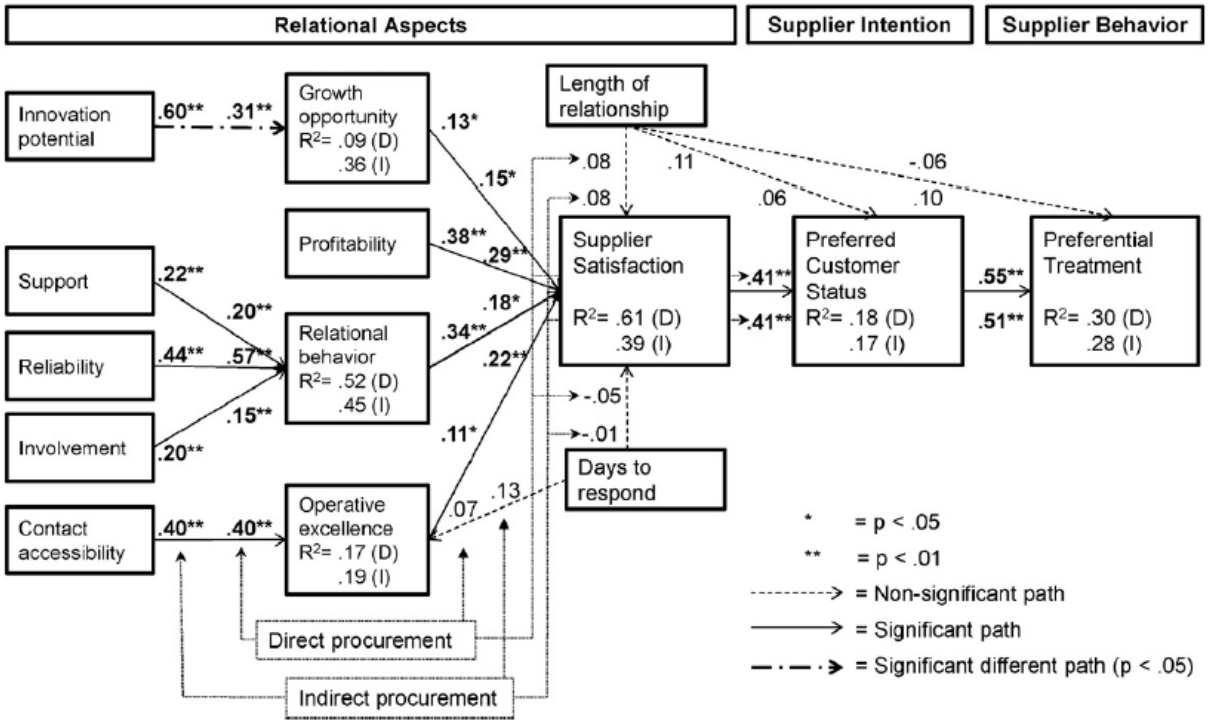


In a study investigating the antecedents of preferential customer treatment, Hüttinger et al. (2014) included several drivers of supplier satisfaction.[28] The drivers represent all four groups discussed above, although not all groups are equally represented. This is because the drivers were chosen based on a world café with practitioners. Their findings are shown in Figure 2. Out of the eight investigated variables, only three provided a significant effect, namely growth opportunity, reliability, and relational behaviour.[29] According to these results, operational and technical excellence had no effect on supplier satisfaction. Two years later, Vos et al. (2016) replicated the study in the context of indirect procurement, and added profitability (part of the group supply value) as a predictor. Though their findings were initially similar to those of Hüttinger et al. (2014), a rearranging of the variables made a great difference, as shown in Figure 3. Rather than modelling the direct effect of each predictor, the authors introduced multiple tiers, which led to more significant paths. The study found that supplier satisfaction was influenced by the first-tier factors growth potential, profitability, relational behaviour and operative excellence. In turn, growth opportunity, relational behaviour and operative excellence have one or more subdimensions. The study gives a clear distinction between economic, operative and relational factors and provides

[28] See Hüttinger et al. (2014, p. 701).
[29] See Hüttinger et al. (2014, p. 711).

insight how the antecedents of supplier satisfaction relate to each other, as Figure 3 shows.[30] Now that the antecedents of supplier satisfaction have been discussed, the following section will elaborate the known outcomes of supplier satisfaction.

Figure 3 Research model from Vos et al. (2016, p. 2460)



2.1.3. Supplier satisfaction is an intermediate step on the road to becoming a preferred customer

Early studies on supplier satisfaction drew varying conclusions about its importance. One stated that although suppliers in cooperative relationships were more satisfied, competitive relationships led to increased performance.[31] Another study found that satisfied suppliers put more effort into supply relationships, which eventually benefits performance and can lead to increased customer satisfaction.[32] The latter view is generally adopted in the supplier satisfaction literature, with later studies finding more benefits of increased satisfaction. For instance, Benton and Maloni (2005) showed that increasing supplier satisfaction benefits the

[30] See Vos et al. (2016, p. 4621).
[31] See Forker and Stannack (2000, p. 37).
[32] See Wong (2000, p. 431).

entire supply chain.[33] Nyaga, Lynch, Marshall, and Ambrose (2013) provide an explanation why supplier satisfaction yields better performance, based on reciprocity: when a supplier feels a relationship is satisfactory, they are more likely to feel socially indebted to put in more effort themselves.[34]

In their literature review of customer attractiveness, supplier satisfaction, and preferred customer status, Hüttinger et al. (2012) proposed an integrated model of preferential buyer treatment. This model shows the antecedents and results of supplier satisfaction, and it sees the concept as an intermediate step on the way to a preferred customer status. According to this model, shown in Figure 4, a buying firm influences suppliers' expectations and perceptions before the relationship by making itself more attractive. Once in a relationship, the buyer must meet the suppliers' expectations to induce supplier satisfaction. The measurement models discussed earlier can be used in this stage to assess the level of satisfaction and find where to improve it. The final stage, becoming a preferred customer, is reserved for those customers with exceptional value creation and strategic compatibility.[35] Each stage has drivers which are unique to it, but economic value and relationship quality must be consistently good to advance to the next stage. In this context, each previous step is necessary but not sufficient to reach the next; although preferred customer status is the ideal outcome of increased supplier satisfaction, it is not guaranteed. To reach this stage, the firms' value creation and strategic compatibility are compared to those of other customers.[36]

When buyers pay no attention to their suppliers' level of satisfaction, a situation opposite to preferred status may occur. Suppliers will probably choose to make relational investments in satisfying relationships to reciprocate the benefits, and may choose to move their resources away from unsatisfying relationships.[37] This is the risk that buyers run when they neglect suppliers' wishes, and it can be considered as yet another reason to pay attention to supplier satisfaction: if such a situation occurs, the buyer may put themselves at a competitive disadvantage due to less benevolent prices and increased supply risk compared to its rivals. In conclusion, high supplier satisfaction can provide a competitive advantage to

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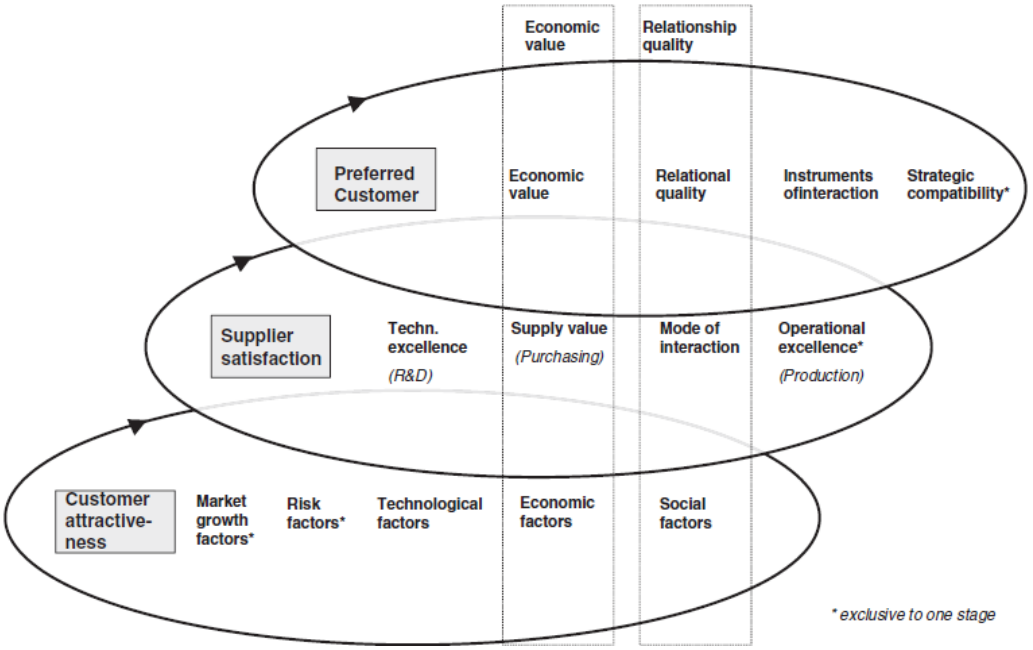
[33] See Benton and Maloni (2005, p. 18).
[34] See Nyaga et al. (2013, p. 2); Pulles et al. (2016, p. 131).
[35] See Hüttinger et al. (2012, pp. 1202-1203)
[36] See Hüttinger et al. (2012, p. 1203).
[37] Ellegaard and Koch (2012, p. 149); See Pulles et al. (2016, pp. 131-132).

buyers, while low supplier satisfaction can lead to a competitive disadvantage. Thus, the case for managing supplier satisfaction is clear.

Figure 4 The road to preferred customer status (Hüttinger et al., 2012, p. 1203)



2.2. Likeable people are friendly and pleasant to be around

The previous section discussed the antecedents and effects of supplier satisfaction; the following sections will focus on the three independent variables included in this study. Each will be defined and the literature so far summarised, starting with likeability. There are several definitions of likeability in use. Nicholson, Compeau, and Sethi (2001) defined 'liking' quite extensively, as seen from the point of the purchaser: *"Liking is the global affective attachment that the buyer has for the [representative]."*[38] According to the authors, liking is an emotional connection that goes beyond seeing another person as a suitable business partner, but has more to do with fondness and affection. If one person likes another, then they would want to be around them even if they did not do business with them.[39] Nguyen, Melewar, and Chen (2013) have defined likeability for brands. In this context, likeability is sometimes regarded as a persuasion tactic, a way of presenting brands more favourably. However, the authors posit that it is mostly behavioural traits that determine

[38] Nicholson et al. (2001, p. 5).
[39] See Nicholson et al. (2001, p. 5).

likeability, as they identified several dimensions and subdimensions which will be discussed in section 2.2.2. They finally whittled down their definition of brand likeability to *"the degree of perceived appeal a customer has for a brand"*.[40]

However, the most popular definition of likeability is an older one, provided by Doney and Cannon (1997), who defined salesperson likeability as *"the buyer's assessment that people in the buying firm find the salesperson friendly, nice, and pleasant to be around"*.[41] This definition has been used by many researchers since: Tellefsen and Thomas (2005) used it in a study of commitment, Jena and Guin (2010) applied it in a study of relationship continuity intentions, Ramadhan and Samadhi (2016) used the definition as an antecedent of interpersonal trust; and Pulles and Hartman (2017) applied it in a study of likeability's effects on negotiation outcomes.[42] The definition can be applied to every individual, and although it is linked to concepts such as friendship and attractiveness, it is a distinct construct.[43]

2.2.1. Likeability is related to trust in buyer-supplier relationships

Until recently, the concept of likeability in business research was mainly applied in marketing literature, where researchers have found that it plays a role in many aspects of advertising. For example, the likeability of advertisements has a significant positive effect on their effectiveness;[44] Furthermore, the likeability of celebrity endorsers greatly increases people's likeability of advertisements;[45] and it has been shown that brand likeability increases consumers' purchase intention.[46] An early study by Hawes, Mast, and Swan (1989) applied likeability dyadically in a business-to-business context. In a study on the antecedents of buyer trust in buyer-supplier relationships, they found that salesperson likeability played a role in determining buyer trust according to both buyers and salespeople. While it was ranked lowest out of five predictors by both groups, salespeople considered salesperson likeability to be much more important than did purchasers.[47]

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[40] See Nguyen et al. (2013, p. 383).
[41] See Doney and Cannon (1997, p. 40).
[42] Jena and Guin (2010, p. 9); See Pulles and Hartman (2017, p. 2); Ramadhan and Samadhi (2016, p. 857); Tellefsen and Thomas (2005, p. 27).
[43] See Pulles and Hartman (2017, p. 2).
[44] SeeMeng-Jinn Chen, Grube, Bersamin, Waiters, and Keefe (2005, p. 561).
[45] See Silvera and Austad (2004, p. 1520).
[46] See Nguyen, Choudhury, and Melewar (2015, p. 35).
[47] See Hawes et al. (1989, p. 5).

Since then, several more authors have researched the relationship between trust and likeability, with similar results.[48]

2.2.2. The main antecedents of likebility are attractiveness, credibility, quality, and attitudinal similarity

Swan, Trawick, and Silva (1985) studied the ways in which industrial salespeople gained their customers' trust. They found that likeability was a component of trustworthiness, although the salespeople in their study gave it the lowest importance rating.[49] The results showed the ways in which salespeople increased their likeability and applied it in a model of gaining customer trust during the first call.[50] Later research into likeability found that it is strongly linked to perceived attitudinal similarity. The reasoning behind this finding was that we can easily identify with similar people, and thus we tend to like them more.[51] Later research tested the effect of five driver variables on the affective (likeability) and cognitive components (competence) of reputation among Chinese consumers. Interestingly, quality had a greater impact on perception of likeability than on competence; and attractiveness led to an increased perception of competence, but not to increased likeability. The study further revealed that CSR contributed greatly to perceived likeability, and it also showed a very strong relationship between firm performance and perceived likeability of the firm.[52]

Nguyen et al. (2013) tested the source credibility and source attractiveness models. The source credibility model states that information from a credible source has a greater impact on the recipients' beliefs and opinions. The model suggests that likeability occurs when the source in an exchange is credible. The source attractiveness model states that a well-liked (i.e. attractive) source increases the effectiveness of a message.[53] The authors found that attractiveness and credibility were both important attributes of likeability, supporting the source credibility and source attractiveness models.[54] Thus, likeability is enhanced by attitudinal similarity, performance, attractiveness and credibility.

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[48] See Doney and Cannon (1997, p. 45); Nicholson et al. (2001, p. 10); Ramadhan and Samadhi (2016, p. 589).
[49] See Swan et al. (1985, pp. 204,209).
[50] See Swan et al. (1985, pp. 209-210).
[51] See Nicholson et al. (2001, p. 6).
[52] See Y. Zhang (2009, p. 35); Y. Zhang and Schwaiger (2009, pp. 3,8).
[53] See Nguyen et al. (2013, p. 371).
[54] See Nguyen et al. (2013, p. 380).

2.2.3. Likeability plays a mediating role between similarity of business values and trust

One of the most discussed effects of likeability is its effect on trust. One of the first articles that discussed this relation was by Swan et al. (1985). The authors found that while likeability was considered least important in their set of 7 salesperson attributes, salespeople did consider it when trying to gain customer trust. The authors proposed a model of optimising customer trust during initial calls. Likeability plays an important role in this, because it can be demonstrated immediately, while other factors such as dependability cannot.[55] Four years later, Hawes et al. (1989) found a similar moderate effect of likeability on trust, adding that there was a difference between buyers and suppliers in how they perceived it: suppliers estimated the effect of likeability on trust to be higher than buyers. Later research by Doney and Cannon (1997) found that likeability as well as similarity increase a buying firm's trust in salespeople.[56] In contrast to (Swan et al.) and (Hawes et al.) they found likeability to be a strong predictor of trust. The authors gave two possible explanations for this effect: first, buyers attribute more favourable motives to salespeople they like or perceive to be similar to them; second, buyers feel more confident in predicting the behaviour of likeable and similar salespeople.[57] Nicholson et al. (2001) further increased the understanding of likeability's role in building trust: the authors proposed a model in which liking played a mediating role between similarity of business values, frequency of interaction and trust. The authors then tested this model in a sample of younger and older relationships, and compared the effects. This showed that liking indeed plays a significant mediating role. It also showed that the nature of sales relationships changes over time: whereas in the early stages of relationships trust is based more on the similarity of business values, in older relationships it is based more on affection.[58]

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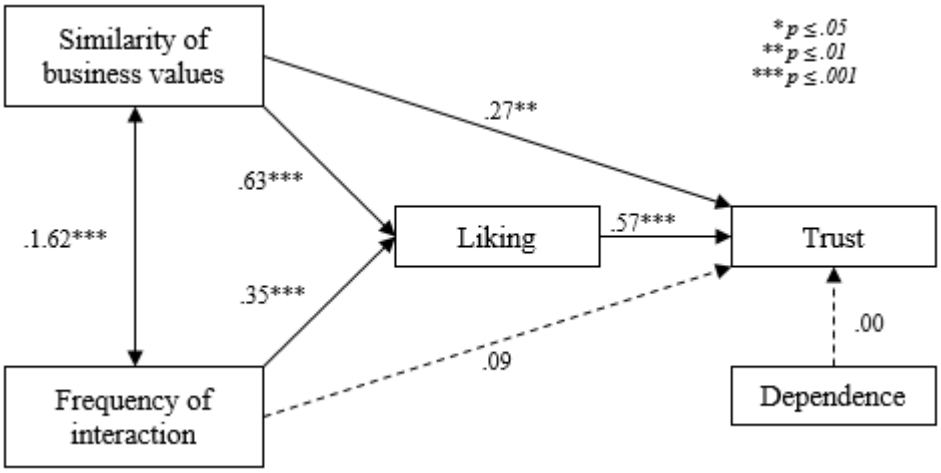
[55] See Swan et al. (1985, p. 210).
[56] See Doney and Cannon (1997, p. 44).
[57] Doney and Cannon (1997, p. 47).
[58] Nicholson et al. (2001, pp. 10-11).

Figure 5 Mediating effect of likeability in young relationships (adapted from Nicholson et al., 2001, p. 11)

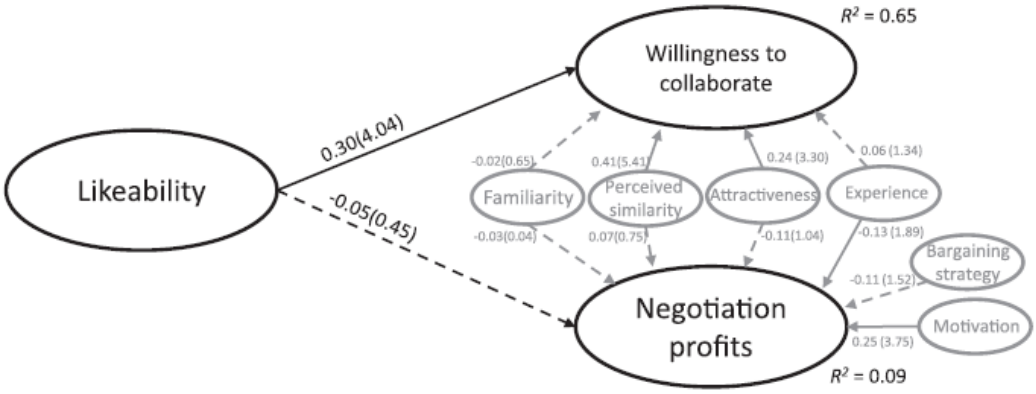


However, not all researchers have agreed that likeability is the main determinant of trust. Jarzabkowski, Smets, and Spee (2012) argued that while we rely on likeability to determine trust in personal relationships, it is not the basis of trust in business relationships. The authors posited that in the latter, the most important antecedents are trust in another's business practice and their business context.[59] Pulles and Hartman (2017) specifically set out to explore the effects of likeability in business interactions via simulated negotiation exercises. Their model and results are summarised in Figure 6 below.[60] They found that while likeability had a significant effect on a partner's willingness to collaborate, it did not show a positive effect on negotiation profits; motivation was found to be the strongest determinant of negotiation profit. With these findings, the authors concluded that boundary spanners should be chosen or trained depending on the goal of the firm: long-term relationships thrive when managed by likeable employees, while short-term results are best achieved by those who are most motivated.[61] Finally, research on corporate reputation and brand loyalty shows that firms and brands can also be likeable. In fact, likeability was found to have strong positive effects. Not only can it lead to increased attachments, satisfaction, and brand love, but it has been found that likeability has a greater impact on customer loyalty than a firm's competence.[62] In conclusion, likeability has a positive effect on different levels: in boundary-

[59] See Jarzabkowski et al. (2012, p. 6).
[60] See Pulles and Hartman (2017, p. 61).
[61] See Pulles and Hartman (2017, p. 61).
[62] See Nguyen et al. (2013, p. 380); Y. Zhang (2009, p. 8).

spanning relationships it can increase trust and willingness to collaborate, while on firm level it can lead to increased brand love and loyalty.[63]

Figure 6 The effect of likeability in negotiation (Pulles & Hartman, 2017, p. 61)



t-values between parentheses; dashed arrows indicate non-significant relationships

2.3. Small and large firms have structural differences

The previous section explored the extant literature on likeability; this section will elaborate on the second new variable, firm size, and how firm size affects companies. Firm size has played a role in many studies, sometimes as a dependent variable, but usually as a moderator or independent variable.[64] A recurring question in firm size research, is whether small or large firms are at an advantage, or how small firms can keep up with large firms.[65] It has been found that structural differences exist between small and large firms, which affect information exchange and creativity. An early paper posited that large firms formed "departmental thought worlds" that selectively filter information and prevent communication and cooperation with other functions due to the interpretative difficulties that emerge between these thought worlds. Along with large firms' greater reliance on routines, this hampers creativity and innovation.[66] However, a later paper suggested the opposite is true: it was found that firm size has a positive effect on information sharing and joint problem solving. The authors explained that larger firms have formal mechanisms to

[63] Nguyen et al. (2013, p. 380).
[64] See Johnsen and Ford (2008, p. 473); Nooteboom (1993, p. 283).
[65] Lee and Johnsen (2012, pp. 2-4).
[66] See Dougherty (1992, pp. 191,192).

facilitate information exchange, and more specialisation due to greater division of labour, both of which increase the intensity with which information is shared. However, the authors also agreed that increased bureaucracy may inhibit internal communication in large firms.[67] Rogers (2004) posited that small firms are faster at recognising opportunities, they are more flexible in adjusting their research plans, and they have more flexibility in adjusting their reward structure to encourage innovativeness in their employees. Because of this speed and flexibility, small firms often have a higher number of innovations per employee.[68] Conclusively, there is no complete agreement, and it seems that the structural differences between large firms create advantages and pitfalls for both large and small companies.

2.3.1. Firm size affects competitiveness through market factors

Aside from structural factors, firm size affects companies through market factors. Nooteboom (1993) viewed firm size from a Transaction Cost Economics (TCE) perspective, and discussed several advantages of small and large firms within this framework. The obvious shortcomings of small firms are their small volumes and limited scope: the former means fixed costs cannot be spread as thin; the latter makes small firms more exposed to market fluctuations compared to diversified industry behemoths. Another disadvantage from the TCE perspective is higher threshold costs. The costs of doing business (making offers, setting up contracts etc.) are present regardless of transaction size, thus tipping the scales in favour of larger firms.[69] However, small firms do have some advantages: they often have a stronger entrepreneurial drive, they tend to be less risk-averse, they have great perseverance, they are more flexible, their workforce is more motivated due to the absence of bureaucracy and specialisation, and management is much closer to the customers and the shop floor.[70] The main advantages of large firms are their economies of scale and scope, and their experience brought on by uninterrupted production.[71] Ming-Jer Chen and Hambrick (1995) added more arguments for small firms' competitive advantages: the authors noted that small firms are faster than their large counterparts.[72] They agreed that small firms have more

[67] See Claycomb and Frankwick (2004, p. 22).
[68] See Rogers (2004, p. 143).
[69] See Nooteboom (1993, p. 288).
[70] Barringer (1997, pp. 72-73); See Nooteboom (1993, p. 287).
[71] See Nooteboom (1993, pp. 285,286).
[72] See Ming-Jer Chen and Hambrick (1995, p. 473).

flexibility, in production as well as pricing, and also concurred that small firms are less risk-averse.[73] Conversely, the authors agreed with the economies of scale and experience enjoyed by large firms, and added brand recognition and market power as advantages of greater firm size. The authors listed bureaucracy and unwieldy information systems as challenges for large firms.[74] These advantages and disadvantages have been confirmed in later research.[75]

2.3.2. Small firms face challenges in many aspects of supply relationships

While both small and large firms have their own advantages with regards to structural and market factors, relational factors mainly favour large firms. As firms see the advantages of moving from adversarial to cooperative relationships, researchers have explored the effects of such relational exchange on the performance of small firms. In a theoretical paper, Barringer (1997) proposed a framework of relational exchange consisting of five dimensions: long-term orientation, mutual dependence, minimal number of exchange partners, mutual trust, and open communication. The authors then explained the advantages and disadvantages of each for small firms[76] Long-term orientation reduces partner search costs, provides price and production stability, and facilitates cooperation; however, it may lead to clashing priorities between small and large firms, and there is an opportunity cost when selecting a partner. Mutual dependence allows small firms to use the production potential and expertise of large channel partners and encourages buyers to assist small suppliers; on the downside, aggressive partners may press for cost reductions, and joint planning reduces decision autonomy. A minimal number of exchange partners provides economies of scale and increases trust, but it reduces flexibility and leads to strategic vulnerability. Mutual trust lowers transaction costs, and in contrast to the other dimensions, it is not associated with any negative effects. Finally, open communication facilitates conflict management and encourages networking, but it results in the sharing of confidential information and may be costly.[77] Jena and Guin (2010) researched the effect of supplier size on buyer trust and relationship continuity. The authors reasoned that large suppliers are perceived as more trustworthy, because their size indicates that many other businesses trust

[73] See Ming-Jer Chen and Hambrick (1995, p. 455).
[74] See Ming-Jer Chen and Hambrick (1995, pp. 455,473).
[75] See Larson, Carr, and Dhariwal (2005, p. 19); Miles, Preece, and Baetz (1999, p. 21).
[76] See Barringer (1997, pp. 70-71).
[77] See Barringer (1997, pp. 70,71).

them enough to do business. This implies that the supplier consistently delivers on its promises, because an opportunistic supplier would not be able to retain customers.[78] Lee and Johnsen (2012) focused on the development of asymmetric supply relationships where the buyer has a size advantage. The authors discussed eight relationship characteristics, shown in Table 2, and theorised that small suppliers were at a disadvantage in nearly every aspect of relationships. However, five case studies of Taiwanese suppliers and their large customers showed that this does not necessarily inhibit relationship development. Although the exploratory stage of the supply relationships was characterised by differing goals, and limited commitment, adaptation and communication, the dyads moved through a developing stage to a stable stage, in which the eight characteristics had markedly improved, for example by establishing strategic alignment, and high levels of transparency and information sharing.[79]

A recent study investigated the perceptual differences between buyers and suppliers in their perception of the relationship, by examining the effects of size asymmetry and relational capital (mutual trust, respect, and friendship between alliance partners) on perceived opportunism and perceived performance.[80] Although suppliers' perception of buyer opportunism and performance did not appear to be influenced by size asymmetry, buyer perceptions of supplier performance were significantly affected by a difference in size. Unexpectedly, the effect was negative in both asymmetry situations: buyers view both larger and smaller suppliers as performing worse.[81]

[78] See Jena and Guin (2010, p. 13).
[79] See Lee and Johnsen (2012, p. 6).
[80] Kale, Singh, and Perlmutter (2000, p. 221); See Villena and Craighead (2017, pp. 491,493).
[81] See Villena and Craighead (2017, p. 504).

Table 2 Relationship characteristics and the risks for small suppliers Lee and Johnsen (2012, pp. 2-4)

Relationship characteristic	Challenges posed by size asymmetry
Mutuality	Supplier may not be permitted to contribute to strategy development
Particularity	Customer may control supplier product, technology and process development
Cooperation	Supplier input is limited, cooperation may focus only on buyer's concerns
Conflict	Supplier may avoid conflict for fear of relationship termination
Intensity	Supplier may not have sufficient staff to enhance the relationship
Interpersonal inconsistency	Buyer has limited and reactive communication, idea exchange is difficult
Power/dependence	Asymmetric distribution of power can lead to uneven distribution of relationship benefits
Trust	Suppliers may be unable to contribute to expanding trust

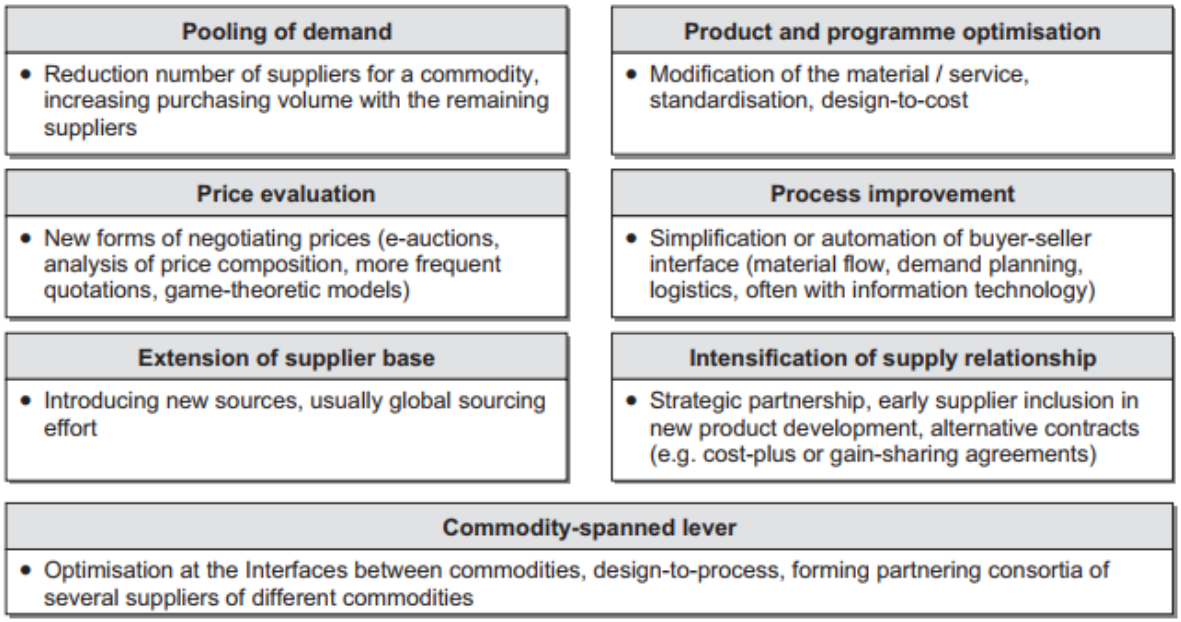
2.3.3. Small firms may have trouble finding an effective supply management strategy

Due to a combination of structural, market and relational effects, small firms are at a disadvantage when entering new supply relationships. Due to their relative paucity of resources, small firms have a worse position in alliance forming negotiation, and are thus likely to get worse conditions than large competitors and partners.[82] Small and large firms often have very different demands, which makes it hard to satisfy both sides. Often, small firms end up having to follow the rules and norms of larger business partners, effectively making them hostages of their larger supply partners. This may be a necessary evil however, as large customers or suppliers can help them grow.[83] Small supplier firms are also less likely

[82] See Miles et al. (1999, p. 22).
[83] See Johnsen and Ford (2008, p. 472).

to have advanced information tools such as EDI, which puts them at a disadvantage compared to large suppliers.[84]

Figure 7 Seven sourcing levers (Schiele, 2007, p. 280)



More striking is the apparent disadvantage that small firms have when determining and executing a supply management strategy, as is evident when looking at purchasing models such as the seven sourcing levers shown in Figure 7. Based on small firms' restrictions in production volumes, human capital, knowledge and resources, many options are less effective than they would be for large firms. Pooling demand is less likely to be effective for small firms, as their purchase volumes are a fraction of those of corporate competitors.[85] Thus, it will not provide them with a much stronger negotiating position. Price evaluation will be difficult to carry out, as this takes expertise and resources. Whereas multinational firms may have an entire department devoted to evaluating supplier pricing, small firms most likely do not have the resources or people to carry out such evaluations.[86] Extending the supply base does not make much sense for small firms: aside from the search costs, the firm would likely need more time to manage its larger supply base. Product and process optimisation are possible: small firms are known to be innovative and flexible; however,

[84] See Larson et al. (2005, p. 26).
[85] Nooteboom (1993, p. 283).
[86] See Hudson, Smart, and Bourne (2001, p. 1105).

large investments or expansive projects will be difficult due to small firms' limited time and resources.[87] Intensification of supply relationships will be difficult, as their suppliers may prefer to partner with large customers with higher volumes and better market access. In conclusion, size asymmetry affects firms through structural, market and relational effects. Although structural differences and market effects provide advantages and drawbacks to both small and large firms, research suggests that small firms may draw the short end of the stick in supply relationships, and face more difficulties in executing their supply management strategies.

2.4. Expectations are a twodimensional construct and act as a reference point for evaluating events

The previous section discussed firm size and size asymmetry in the current business literature. This section introduces the third and final new variable, expectations, and what research on expectations so far has uncovered. There are several definitions of expectations, and they can be grouped into two kinds. Yi and La (2004) defined expectations as *"a belief probability of what the consequences of an event will be"*.[88] The authors contrasted this definition with that of the service quality gap model, which defines expectations as *"what customers feel they should be offered"*.[89] The difference between the two types of expectations are that the former refers to what someone believes *will* happen, whereas the second refers to what they think *should* happen. Spreng, MacKenzie, and Olshavsky (1996) named a similar difference, and stated that some see expectations as a perception of the likelihood of some event occurring, whereas others add an estimation of the 'goodness'or 'badness' of said event. Again, this adds a dimension to the concept of expectations, which not only includes likelihood, but also desirability of an outcome. Eventually, the authors distinguished between expectations and desires, and explained this difference in a consumer product setting. In this case, expectations were defined as beliefs about the likelihood that a product is associated with certain attributes or benefits, where desires are evaluations of the extent to which the attributes lead to the attainment of one's values.[90] The two recurring

[87] See Thong (2001, p. 145).
[88] Yi and La (2004, p. 355).
[89] Yi and La (2004, pp. 354-355).
[90] Spreng et al. (1996, p. 17).

types of expectations are now known as predictive and normative expectations respectively. Consumers (and ostensibly firms) evaluate a transaction based on what they expect will happen (predictive expectations), what they believe should happen (normative expectations), and finally, on what they perceive to have happened.[91] As will be discussed in section 2.4.3, this evaluation will lead to (dis)satisfaction. Studies have found that normative and predictive expectations are distinct dimensions, and that they both contribute to the evaluations that people make after transactions. Therefore, both types should be used to represent the evaluation process.[92] Furthermore, there is not only a clear conceptual difference between predictive expectations and normative expectations, there is also a difference in their orientation and stability: predictive expectations are decidedly future-oriented and prone to change; in contrast, normative expectations are present-oriented, and much more stable.[93]

2.4.1. The outcomes of expectation research to date vary greatly, which may be due to differences in conceptualisation

Much of the expectations-satisfaction research so far has contradictory findings. For instance, Voss, Parasuraman, and Grewal (1998) highlighted 6 papers studying the expectation-satisfaction link. Of these, one found a direct link, three did not find significant effects, and two found an indirect effect through disconfirmation – although both studies found opposite effects. The authors concluded that support for a direct expectation-satisfaction link was sparse.[94] Some of the papers used multiple expectations in their models, but all treated expectations as a single dimension, which is in line with Yi and La (2004)'s observation that the customer satisfaction research mostly uses predictive expectations.[95] However, researchers have argued that ignoring the multidimensionality of expectations obfuscates the results, and this could help to explain why the literature was inconclusive.[96] Oliver (1981) suggested two different dimensions of expectations: the probability that an event occurred, and the desirability of that event. This classification is similar to the

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[91] See Steward, Morgan, Crosby, and Kumar (2010, p. 25).
[92] Steward et al. (2010, p. 25).
[93] Spreng et al. (1996, p. 17).
[94] See Voss et al. (1998, pp. 46,49).
[95] See Yi and La (2004, p. 355).
[96] See Spreng et al. (1996, p. 16).

predictive-normative division described in the previous section: the probability of an event occurring will lead to a prediction, and a normative expectation (how it ought to be) will influence the desirability of the event. The authors illustrated the importance of including desirability using the example of a store clerk: some people will appreciate being approach by a store clerk when they are shopping, but some will not. Therefore, the same probability of being approach by a clerk will be a positive expectation for some, but a negative expectation for others. Despite the importance of desires in determining the effect of expectations, few studies included the dimension.[97] However, out of five studies highlighted by Spreng et al. (1996), three stated that desire congruence had a stronger effect on satisfaction than expectations congruence, and two even found that expectations congruence had no significant effect on satisfaction.[98] The authors conducted their own study and found support for the importance of expectations congruence as well as desires congruence (shown in Figure 9 in section 2.4.3).

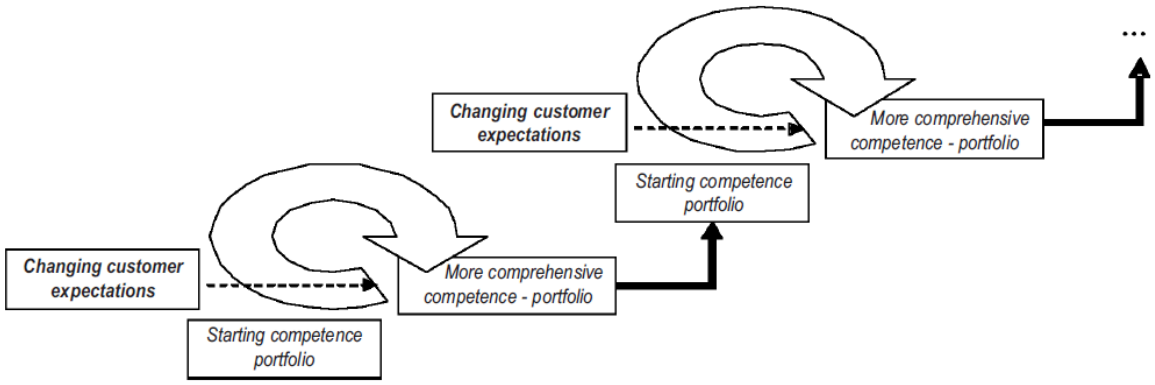
2.4.2. Expectations are formed by prior experiences and communications

There are different views on the origin of expectations. Some authors view them as outcomes of experience, personal needs and word-of-mouth communication, whereas others see expectations as the result of a belief process.[99] Other sources of expectations that have been names are vicarious experience, and commercial communication.[100] It has also been stated that the sources of predictive and normative expectations are different; predictive expectations are specific to the category, firm or transaction. According to the literature, they are formed by prior exchange experiences, and constantly updated. In contrast, normative expectations seem to be influenced by cultural norms and values.[101]
It should be stressed that expectations are not static. People continuously learn new information about other people or firms, which will change their future expectations.[102] Predictive expectations are most likely to change, as they are not rooted in personal and

[97] See Spreng et al. (1996, pp. 16,19).
[98] Barbeau (1985, p. 31); Locke (1967, p. 133); Myers (1991, p. 41); Spreng et al. (1996, p. 19); Spreng and Olshavsky (1993, p. 175); Westbrook and Reilly (1983).
[99] See Wang, Kayande, and Jap (2010, p. 1111).
[100] See Steward et al. (2010, p. 25).
[101] See Steward et al. (2010, pp. 25-26)
[102] See Bhattacherjee (2001, p. 354).

cultural beliefs, such as normative expectations. As such, they may even change direction entirely, whereas normative expectations are said to remain the same or increase.[103] The expectations that form after new information is acquired are commonly referred to as adjusted expectations. Chikan and Gelei (2010) explained how adjusted customer expectations influence company strategy, as shown in Figure 8. According to this model, a firm's competence portfolio becomes obsolete as its customers' expectations change. Firms should thus continually update their strategic capabilities and align them with customer expectations to remain competitive in the long run.[104]

Figure 8 Changing customer expectations and the implications for company strategy (Chikan & Gelei, 2010, p. 35)



2.4.3. Expectations increase supplier satisfaction when they are met and reduce it when they are not met

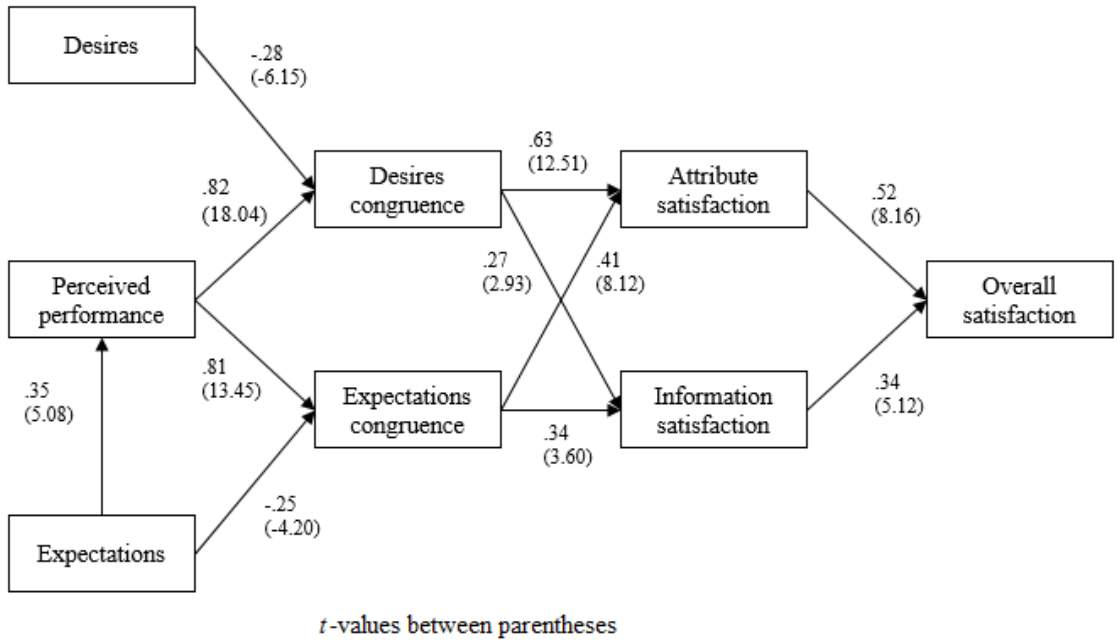
As stated earlier, the effects of expectations are disputed, with some researchers observing direct effects on satisfaction, some finding no effects, and others finding indirect effects. The simplest view is that satisfaction occurs when performance is compared to the expectation.[105] In this linear model, there are two ways of achieving satisfaction: increasing performance, or lowering expectations.[106] Logically, increasing expectations or decreasing performance will cause dissatisfaction. However, the relationship does not appear to be so simple, and researchers have observed several moderating and mediating effects. For example, Voss et al. (1998) examined the influence of price on the expectation-satisfaction relationship. This

[103] See Yi and La (2004, p. 355).
[104] See Chikan and Gelei (2010, p. 40).
[105] See Spreng et al. (1996, p. 15).
[106] See Bhattacherjee (2001, p. 354).

lead to the surprising observation that a more favourable price perception decreased satisfaction. They further concluded that price-performance consistency is a moderator between expectations and assessments; in fact, the relationship was only significant when price and performance were consistent.[107] Other researchers found that adjusted expectations mediate the relationship between customer satisfaction and repurchase intention.[108]

A popular theory to explain the effect of expectations is the disconfirmation paradigm, or Expectation Confirmation Theory (ECT).[109] According to this theory, which originated in consumer satisfaction research, the feeling of satisfaction arises when buyers compare a product's performance to their expectations, which form a frame of reference for its performance.[110] First the buyer forms an expectation about a product; they then use the product and form a perception of its performance; (dis)confirmation of the expectation occurs; and finally, the level of confirmation causes (dis)satisfaction.[111] Within this paradigm, the concepts of normative expectations (also referred to as desires) and predictive expectations have similar effects, as shown in Figure 9.

Figure 9 The effect of normative and predictive expectations on satisfaction (adapted from Spreng et al., 1996, p. 25)



[107] See Voss et al. (1998, p. 55).
[108] See Yi and La (2004, p. 367).
[109] See Oliver (1981, p. 28).
[110] Spreng et al. (1996, p. 15); Steward et al. (2010, p. 25).
[111] Bhattacherjee (2001, p. 353)

Some moderating variables have been identified in the disconfirmation paradigm: for example, loyal customers tend to consider disconfirmation less than loyal customers.[112] Furthermore, customers with low expectations have been found to blame the firm more often for failure, whereas customers with high expectations tend to be more tolerant of failure. This finding suggests that expectations may have a self-fulfilling effect, which affects the evaluation of outcomes along with the disconfirmation effect.[113] Researchers have recognised this as a challenging aspect of the ECT – to find the sum effect that expectations have on satisfaction.[114]

The finding of adjusted expectations implies that increasing performance too much may hurt firms in the long run, as expectations could rise to the point where they cannot be met anymore.[115] Finally, there is a very surprising, more recent finding by Wang et al. (2010). In a study of manufacturing firm partnerships, the authors found that partner behaviour that deviated greatly from the expected behaviour resulted in lower perceived partner performance – even if the behaviour was much better than expected. The authors theorised that a firm's behaviour is much better than expected, their partner will wonder why they are behaving so well, and may become suspicious. This finding shows that the effects of expectations may not be linear as the disconfirmation paradigm suggests.[116] In conclusion, expectations can be influenced by past experiences and communications. They form a reference framework by which events are compared and then evaluated. Expectations can be divided into normative and predictive expectations, each with their own characteristics. The next section will explain how the hypotheses were derived, and it will introduce the research model.

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[112] Yi and La (2004, p. 367).
[113] See Choi and Mattila (2008, pp. 26,28).
[114] See Spreng et al. (1996, p. 19).
[115] Rust and Oliver (2000, p. 91); See Yi and La (2004, p. 355).
[116] See Wang et al. (2010, p. 1120).

3. Hypothesis development: Size asymmetry, likeability and expectations may influence supplier satisfaction and its relational antecedents

3.1. The research models by Hüttinger et al. (2014) and Vos et al. (2016) are used as a starting point

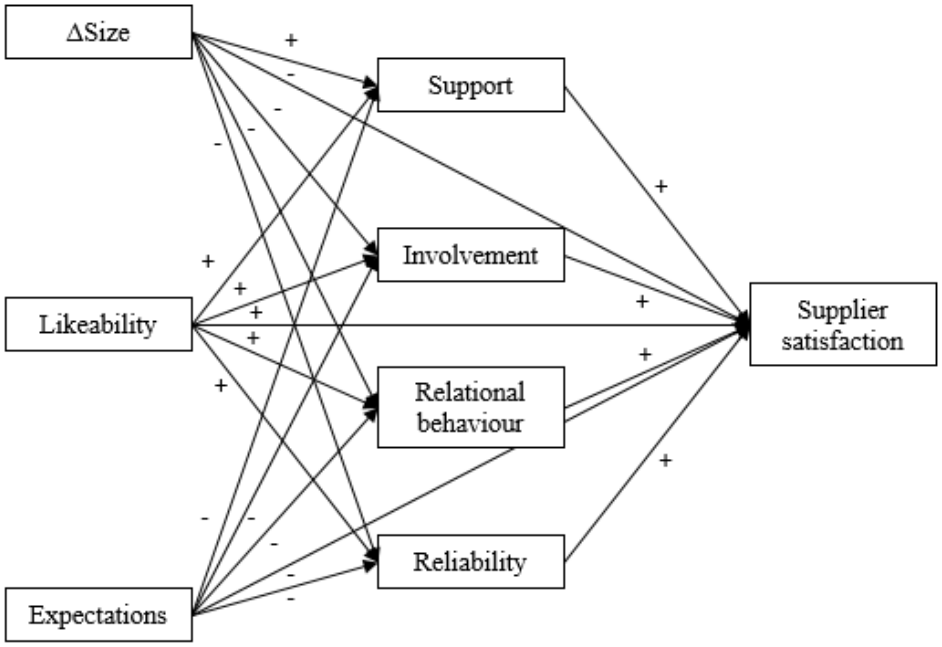
From the literature review it becomes clear that firm size, likeability and expectations can have varying effects on relationships and satisfaction. To gain new insights, this section will derive hypotheses regarding the effect of each variable on supplier satisfaction. Since this thesis is inspired by the research of Hüttinger et al. (2014) and Vos et al. (2016), it will use their findings as a starting point. (Hüttinger et al.) investigated the direct effects of eight relational factors on supplier satisfaction, the results of which are shown in Figure 2. The factors were derived from a world café where buyers on one of three tables discussed the antecedents of supplier satisfaction according to their experience. The resulting eight antecedents were then compared to extant literature to find theoretical support. The authors concluded that growth opportunity, reliability and relational behaviour had significant effects on supplier satisfaction. The importance of growth was explained through high volumes and the reference effect that large customers have; reliability was deemed important due to the importance of adhering to agreements; and relational behaviour was seen as an important antecedent because cooperative relationships are more satisfying than competitive ones.[117] In a replication of the study, Vos et al. (2016) found that all eight variables had an effect, when some were grouped as subdimensions. As shown in Figure 3, growth opportunity, relational behaviour and operative excellence each consist of one or more subdimensions.[118]

As mentioned in the introduction, this thesis focuses on relational behaviour and its subdimensions. The effects of buyer likeability, supplier expectations, and buyer-supplier size asymmetry on supplier satisfaction and its relational antecedents will be tested. Based on existing literature, it is hypothesised that size asymmetry (defined as a larger buyer) has a negative effect on supplier satisfaction; it is expected that buyer likeability has a positive effect on supplier satisfaction; and it is expected that higher expectations of the supplier

[117] See Hüttinger et al. (2014, pp. 704-705).
[118] See Vos et al. (2016, p. 4620).

reduce supplier satisfaction. The hypotheses regarding all three independent variables will be derived in the following sections; they are shown in the research model in Figure 10.

Figure 10 Research model



3.2. Likeability is expected to increase supplier satisfaction and its relational antecedents

There is evidence that likeability has a strong effect on buyer-supplier relationships. Tellefsen and Thomas (2005) found that buyers are strongly influenced by the degree to which the enjoy doing business with someone. There are several different arguments to support the likeability-satisfaction relationship. The above authors explained that likeable supply partners provide a more pleasing social experience than unlikeable ones. It is therefore hypothesised that higher buyer likeability leads suppliers to perceive better relational behaviour from the buyer. Next to this, several studies have found that being likeable leads to increased trust.[119] Nicholson et al. (2001) explained this relationship by stating that more favourable motives are assigned to likeable people.[120] This suggests that likeability does not only make it easier to build relationships – it warps the perceptions that

[119] See Jarzabkowski et al. (2012, p. 6); Ramadhan and Samadhi (2016, p. 859).
[120] See Nicholson et al. (2001, p. 5).

others form. According to the authors this increases trust, which would lead to better perceptions of reliability. Therefore, it is hypothesised that increased buyer likeability also leads to an increased perception of buyer reliability. Supply relationships with more trust are linked to enhanced flexibility in arrangements, better shared planning and improved joint responsibility. Thus, improved relational factors (in this case trust) in a supply relationship can have a positive effect on operative factors. As both operative and relational factors are important determinants of supplier satisfaction, it is hypothesised that increased buyer likeability leads to higher supplier satisfaction.[121] Additionally, Doney and Cannon (1997) stated that likeability increased the confidence in predicting partner behaviour.[122] Thus, it reduces uncertainty in the relationship, which removes the need for safeguards and so increases performance. A recent study investigated the effects of likeability on negotiation profit and willingness to collaborate, comparable to a 'hard' and 'soft' side of relationships respectively. Likeability had no significant effect on negotiation profits (only motivation did), but it had a significant positive effect on willingness to collaborate.[123] Although it is surprising that likeability did not influence negotiation profit, the strong positive link with willingness to collaborate suggests that suppliers will be more eager to partner with likeable buyers for new product development. Therefore, it is expected that buyer likeability leads to increased supplier involvement. The variable support is harder to explain. Buyers who support their suppliers may be perceived as more likeable. Conversely, buyers who are naturally likeable may be more generous and helpful, and more readily support their suppliers. However, existing likeability literature does not provide a convincing argument for either relationship. A likeability-support relationship will be modelled for completeness, but a significant effect is not expected.

The expected relationships above are summarised in the following hypotheses:

H1. Buyer likeability has a positive effect on supplier satisfaction

H1a. Buyer likeability has a positive effect on buyer involvement

H1b. Buyer likeability has a positive effect on buyer relational behaviour

H1c. Buyer likeability has a positive effect on buyer reliability

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[121] See Johnston, McCutcheon, Stuart, and Kerwood (2004, p. 32); Vos et al. (2016, p. 4621).
[122] See Doney and Cannon (1997, p. 40); Swan and Nolan (1985, p. 45).
[123] See Pulles and Hartman (2017, p. 61).

3.3. Size asymmetry is expected to have a negative effect on supplier satisfaction

Size asymmetry has been found to significantly affect relationship dynamics. Firstly, large suppliers are in a stronger position to negotiate with small buyers. This is due to their higher capacity and the economies of scale that they can achieve with it, but large suppliers are also less dependent on a single customer, which further strengthens their position. If the suppliers take advantage of this position, they are likely to negotiate better deals, which results in higher prices and a value distribution that is more beneficial for the supplier.[124] This strong bargaining position may also help to extract more value from ongoing relationships: large suppliers will probably find it easier to pass on price increases to small customers, and they have been found to feel more in control of the relationship. Therefore, it is expected that when the buying firm is larger than the supplier, this has a negative effect on supplier satisfaction. Size asymmetry will be measured as buyer turnover minus supplier turnover, therefore when a buying firm has a greater turnover than its supplier, this will be termed 'positive size asymmetry'. When a supplier has more turnover than the buying firm, it is referred to as 'negative size asymmetry'.

There are several reasons why small suppliers might not be so satisfied in relationships with much larger buying firms. Their weaker bargaining power means they have smaller chances of getting as much value from the same relationship as a larger competitor. Furthermore, large buyers may exploit their power to press for price reductions or adaptations, to which small suppliers cannot easily say no.[125] Thus, it is expected that positive size difference leads to opportunism from the buyer, which would lead the supplier to perceive worse relational behaviour of the buyer. Such behaviour may also reduce the supplier's trust in the buyer, and it is therefore expected that positive size difference has a negative effect on supplier perceptions of the buyer's reliability.[126] Finally, it has been found that large buyers sometimes limit the strategic independence of their small suppliers, effectively locking them in and taking away the decision autonomy of the supplier.[127] This is also likely to decrease supplier satisfaction.

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[124] See Villena and Craighead (2017, p. 493).
[125] See Lee and Johnsen (2012, pp. 3-4).
[126] See Kwon and Suh (2005, p. 31).
[127] See Johnsen and Ford (2008, p. 482).

Another reason why size asymmetry may influence satisfaction is based on the interactions in the supply relationship. A larger supplier has the capacity to do more business with its customers, which leads to a greater frequency of interactions, and thereby more opportunities to build a relationship. This corresponds to an earlier study that showed that buyers typically have closer relationships with large suppliers.[128] Therefore, it is expected that positive size difference has a negative effect on involvement. The same study also demonstrated that large suppliers are often more well-connected to their customers via EDI systems, portals and B2B tools.[129] These systems greatly reduce the operational workload and the amount of errors in supplying, increasing the operational performance. In contrast, small suppliers are less likely to have advanced e-procurement systems, and they may not be integrated with the large customers' systems. This results in a higher operational workload and more error-prone processes, and supports the expectation that positive size asymmetry reduces supplier satisfaction.[130]

On the other hand, large buyers are more likely to have the necessary resources for supplier development, and they are more likely to develop small suppliers than larger ones, who can acquire the knowledge themselves. Therefore, it is expected that a positive size difference has a positive effect on suppliers' perceptions of buyer support.

Based on the arguments above, the following hypotheses are drawn. As stated before, positive size asymmetry means that the buying firm is larger (has a greater turnover) than the supplier.

H2. Positive size difference has a negative effect on supplier satisfaction.

H2a. Positive size difference has a positive effect on buyer support.

H2b. Positive size difference has a negative effect on buyer involvement.

H2c. Positive size difference has a negative effect on buyer relational behaviour.

H2d. Positive size difference has a negative effect on buyer reliability.

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[128] See Larson et al. (2005, p. 20).
[129] See Larson et al. (2005, p. 25).
[130] See Villena and Craighead (2017, p. 495).

3.4. Normative and predictive expectations are both expected to have a negative effect on supplier satisfaction due to the disconfirmation effect

There are two commonly used theoretical frameworks that explain the effect of expectations in business relationships. Firstly, expectations play a role in Social Exchange Theory (SET). This theory describes how the expected costs and benefits of interactions determine the behaviour of the actors in them. Each interaction has an expected reward and an expected cost. According to SET, individuals will repeat transactions when the outcome is rewarding, and avoid them in the future when they are punished.[131] SET is a widely used theoretical framework in business research, supporting the importance of expectations in business transactions.[132] The framework has frequently been used in customer attractiveness research but it has seen less application in supplier satisfaction literature, although the principles can also be applied in existing relationships.[133] According to SET, suppliers will weigh the expected benefits and costs of supplying to a certain firm when deciding to enter a supply relationship. Once a supply relationship is established, buying firms and their suppliers will continue their relationship as long as the transactions keep giving sufficient rewards with acceptable costs. Thus, expectations play a role beyond relationship initiation.

The second theoretical framework is the disconfirmation paradigm. This theory states that expectations play a role in determining satisfaction through disconfirmation. Expectations are formed before an event, based on prior experience, interpersonal and commercial communications. They are then used as a reference framework by which events are compared and finally evaluated.[134] The difference between the initial expectation and the evaluation of the event determines the level of satisfaction: performance above expectations will lead to satisfaction, and performance below expectations will induce dissatisfaction. SET shows the importance of expectations in entering and maintaining relationships; the disconfirmation paradigm focuses specifically on their role in determining satisfaction. Both normative and predictive expectations have been found to contribute to the evaluation process, and research has shown that incorporating both types of expectations gives a more accurate representation of the underlying process. Therefore, predictive and normative

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[131] See Griffith, Harvey, and Lusch (2006, pp. 86-87).
[132] See for example Griffith et al. (2006, p. 86); Lambe, Wittmann, and Spekman (2001, p. 4).
[133] See Hüttinger et al. (2012, p. 1197).
[134] See Steward et al. (2010, p. 25).

expectations are separately included in the research. The disconfirmation effects are largely expected to be similar, but the outcome might be affected: predictive expectations measure the performance that suppliers thought the buying firms would have, whereas normative expectations measure the performance that the buyers ought to have. Therefore, predictive expectations (held by a single supplier) will probably vary from buyer to buyer. In contrast, normative expectations should be constant for each supplier, regardless of their customers. Failing to measure both may lead to misinterpretation of the data. For example, a supplier may be dissatisfied when their predictive expectations are low, but their normative expectations are very high. This would create puzzling data if only predictive expectations are measured, and hence both will be included. Both types of expectations are expected to behave in the same way, i.e. higher predictive expectations will lead to lower supplier satisfaction, and higher normative expectations will also lead to lower supplier satisfaction.

The disconfirmation paradigm has seen extensive application in satisfaction research, but expectations play only minor roles in research on supplier development, early supplier involvement, trust and relational behaviour. The relevant findings suggest that disconfirmation plays a role. For example, it has been found that raising expectations of suppliers during supplier development has a negative effect on their perceived operational performance.[135] However, the effect of suppliers' expectations on their perception of buyer support, involvement, buyer reliability and buyer relational behaviour have not been researched. To generate hypotheses concerning these variables, it will be assumed that expectations have the same disconfirmation effect. Thus, it is hypothesised that when suppliers have higher expectations of the buyer, it leads to a lower assessment of the buyer's support, involvement, relational behaviour and reliability. This leads to the following hypotheses:

H3. Supplier expectations have a negative effect on supplier satisfaction.
H3a. Supplier expectations have a negative effect on buyer support.
H3b. Supplier expectations have a negative effect on buyer involvement.
H3c. Supplier expectations have a negative effect on buyer relational behaviour.
H3d. Supplier expectations have a negative effect on buyer reliability.

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[135] See Li, Humphreys, Yeung, and Cheng (2007, p. 41).

4. Methods: A supplier satisfaction survey was carried out among suppliers of four firms

4.1. A questionnaire was developed based on existing research

The previous section discussed the hypothesised effects of the three focal variables on supplier satisfaction and its relational antecedents. This section will describe data collection and quality. The data for this study was collected using a questionnaire based on the supplier satisfaction questionnaire used by Hüttinger et al. (2014) and Vos et al. (2016). Several items were omitted and added to the questionnaire, to limit its length and add the focal independent variables. The items growth potential, economic performance, preferential treatment, and preferential resource allocation were not included because they are not relevant to this research. Measures of likeability, normative and predictive expectations were added to the questionnaire. The items used to measure likeability are copied from a recent article on likeability by Pulles and Hartman (2017). The items ask the supplier whether they like the customer, and whether the customer is friendly, nice, polite, and nice to be around.[136] Normative and predictive expectations were selected from the SERVQUAL questionnaire by Parasuraman, Zeithaml, and Berry (1988). The original scale consists of 22 questions, however the questionnaire used in the study was quite long, therefore not all questions could be included. To limit the questionnaire's length, five questions were selected from the scale. These questions were chosen to represent tangible expectations (presentation, quality), and intangible expectations (dependability, safety, behaviour). The suppliers were asked whether they feel the customer should have up-to-date equipment, their facilities should be visually appealing, the customer should be dependable, they should feel safe in dealing with the customer, and the customer's employees should be polite.[137] The questionnaire uses a multi item scale, which is reflective for all questions except for expectations. For the full questionnaire, see the Appendix. After the above adjustments were made, the questionnaire was reviewed by three of the participating supply management practitioners, which resulted in the removal of two indicators deemed to be redundant from supplier satisfaction; one indicator was added to accessibility. Except for firm size and trust (%), all questions used a

[136] See Doney and Cannon (1997, p. 49); Pulles and Hartman (2017, p. 62).
[137] See Parasuraman et al. (1988, p. 38).

five-point Likert scale. Size difference was calculated using only turnover, because the different measures of size did not create a construct with an acceptable Cronbach's alpha. Because the turnover distribution was skewed, the variables for buyer and supplier turnover were transformed by taking the base 10 logarithm of buyer and supplier turnover, and subtracting the supplier value from the buyer value. For example, a *ΔSize* value of 1 means the buying firm has 10x more turnover than the supplier; a value of -2 means the supplier firm has 100x more turnover than the buyer. The logarithm base value 10 was chosen for its easy interpretability.

4.2. Data collection took place in four medium to large high-tech Dutch manufacturing firms and their key suppliers

The questionnaire was distributed to key suppliers of 4 buying firms operating in the Netherlands. The buying firms are all high-tech engineering and manufacturing companies, ranging in size from medium to large. Some information on the firms' activities and size can be found in the Appendix. Participants received an e-mail with a link to an online survey, available in Dutch and English. Two reminders were sent, two and four weeks after sending the initial invitation. After removing incomplete responses, 88 completed questionnaires out of 210 remained, for a total response rate of 42%. The items 'supplier firm turnover' and 'supplier number of employees' contained some outliers. For example, some suppliers had entered 0 turnover or 0 employees. These values were removed. Finally, suppliers filled out a control question that asked whether they know the buyer well enough to answer the questions. Responses with a 1 (strongly disagree) or 2 (somewhat disagree) on this question were removed from the dataset. After removing the invalid data, a total of 83 responses remained. Respondent characteristics are shown in Table 3.

Table 3 Respondent characteristics

Supplier turnover (million €)		N=48	Supplier industry	N=83
<1	4%		Metalworking	11%
1-10	33%		Industrial automation	10%
10-100	46%		Wholesale	10%
>100	17%		Manufacturing	9%
Supplier no. of employees		N=58	Precision engineering	9%
<100	57%		Services	7%

100-1,000	28%	Trading	6%
1,000-10,000	12%	Electrical engineering	5%
>10,000	3%	Mechanical engineering	5%
Length of relationship (years)	N=83	Packaging	5%
1-5	10%	High-tech	5%
5-10	14%	Logistics	3%
10-20	45%	Plastics	3%
>20	31%	Other	13%

4.3. Data quality assessments indicate low construct validity but acceptable reliability and discriminant validity

To assess construct validity of the data, Principal Component factor analyses (PCA) were carried out using both an orthogonal and oblique rotation.[138] Acceptable construct validity is indicated by high loadings of indicators on their proposed construct, low loadings on all other constructs, and the absence of cross-loadings. The variable *Buying firm* was omitted from the analysis as it was measured using a set of dummy variables.

Table 14 displays the rotated component matrix using Varimax rotation; Table 15 shows the structure matrix resulting from Oblimin rotation. With a sample size of 83, factor loadings must be higher than 0.6 to be significant; a value of 0.7 or above is desired and indicates well-defined constructs.[139] Significant loadings are highlighted dark grey; for indicators with no significant component loadings, the highest loading is highlighted light grey. The PCAs show several problems with construct validity. First, the components of expectations show that the constructs both do not load significantly on one component. Normative expectations forms one factor, but with insignificant loadings. Predictive expectations forms two factors, but with significant loadings. This can be explained by the formative indicators: two questions ask about tangible expectations, and three ask about intangible expectations. Other problems occur with reliability, relational behaviour and supplier satisfaction. Each

[138] See Petter, Straub, and Rai (2007, p. 641).
[139] See J. Hair, Black, Babin, and Anderson (2014, p. 115).

construct has one or more insignificant loadings and relatively high cross-loadings. The indicator questions of these constructs can be grouped in themes, which might explain this effect. For example, the first two questions of reliability are about negotiation, whereas the last two are not. Nonetheless, this means that construct validity cannot be established for all constructs. This is particularly problematic for the factors representing normative and predictive expectations, as it has been argued that confusing the two can obfuscate research outcomes.[140] Therefore, normative expectations will be removed from further analysis. Although this construct seems to be measured better than predictive expectations, the two factors forming predictive expectations are explainable. Additionally, the disconfirmation paradigm is based on predictive expectations, making it the most logical construct to retain.[141] Removing all errant indicators from the other constructs would reduce the number of indicators per question too much. Thus, the other indicators are retained, but we will note that the validity of the findings is limited.

To further test the research model in Figure 10, Partial Least Squares Structural Equation Modelling (PLS-SEM) was used. This SEM variant is more robust and works better with small sample sizes than Covariance-Based SEM (CB-SEM).[142] Since this thesis has a small sample size (83), PLS-SEM is the preferred tool.

The dataset was imported into SmartPLS 3, where data quality was assessed using a PLS run and bootstrapping.[143] Missing values were replaced listwise; hypothesis tests were performed one-tailed, and 1,000 bootstrap samples were generated to compute significance levels for the path coefficients and quality indices. Table 5 summarises several quality measures. Cronbach's alpha is commonly used to assess internal consistency of the constructs. However, the PLS model is not tau-equivalent as this test assumes, which will result in an underestimation of the scale reliability.[144] Still, all constructs are above the generally accepted threshold value of 0.7, indicating acceptable internal consistency of the scales.[145] Composite Reliability (CR), the second reliability measure, does not assume tau-

[140] See Spreng et al. (1996, p. 15).
[141] See Yi and La (2004, p. 355)
[142] See J. F. Hair, Ringle, and Sarstedt (2011, p. 143).
[143] Ringle, Wende, and Becker (2015).
[144] Graham (2006, p. 930); Henseler, Hubona, and Ray (2016, p. 10).
[145] See J. Hair et al. (2014, p. 121); Henseler et al. (2016, p. 12).

equivalence, so it provides more accurate information, shown in the second column. The average variance extracted (AVE) is above the threshold value of 0.5 for all variables, indicating that the variance due to measurement error is smaller than the variance captured by the constructs themselves, thus convergent validity may be assumed.[146] The Variance Inflation Factor (VIF) scores provide information on collinearity in the constructs. The inner VIF scores of most constructs are not much higher than 1, indicating acceptable collinearity.[147] The outer VIF scores of predictive expectations (the only formative measure) are quite high, with a maximum of 4.750. This indicates that there could be multicollinearity among the indicators of the construct. The indicator correlations show that three indicators are highly correlated, which explains the high VIF.

Table 4 Correlations among constructs (one-tailed)

		1	2	3	4	5	6	7	8	9
1	Size difference	1								
2	Predictive expectations	.**237***	1							
3	Likeability	-.154	.**274***	1						
4	Support	.109	.**372****	.094	1					
5	Involvement	.104	.092	.080	.**219***	1				
6	Reliability	.016	.175	.**400****	.**288***	.**250***	1			
7	Relational behaviour	.025	.**289****	.**527****	.**377****	.**390****	.**584****	1		
8	Supplier satisfaction	.169	.**272***	.**498***	.**310****	.**338****	.**650****	.**665****	1	
9	Relationship length	.017	-.163	-.139	-.142	-.074	-.**214***	-.075	-.029	1

* = significant at p < .05; ** = significant at p < .01

[146] See Fornell and Larcker (1981, p. 46); Henseler et al. (2016, p. 12).
[147] See Henseler et al. (2016, p. 11).

Table 5 Quality criteria

		Cronbach's α	CR	AVE	VIF
1	Size difference	1	1	1	1.253
2	Predictive expectations	-	-	-	1.503
3	Likeability	.908	.932	.732	1.708
4	Support	.790	.873	.697	1.502
5	Involvement	.871	.921	.794	1.346
6	Reliability	.825	.884	.656	1.818
7	Relational behaviour	.840	.880	.514	2.367
8	Supplier satisfaction	.874	.914	.727	-
9	Relationship length	1	1	1	1.194

CR = Composite Reliability; AVE = Average Variance Extracted; VIF = Variance Inflation Factor (highest inner VIFs reported).

The discriminant validity of the proposed constructs is assessed using the Heterotrait-Monotrait ratio of correlations (HTMT). This ratio has been shown to be more reliable than the traditional Fornell-Larcker criterion in detecting discriminant validity in PLS.[148] A conservative threshold for ruling out discriminant validity is a HTMT ratio below 0.85; as Table 6 shows, the highest HTMT ratio is 0.744, which is below the threshold.[149] Thus, discriminant validity is established.

Table 6 HTMT ratios of the constructs

		1	2	3	4	5	6	7	8
1	Involvement								
2	Likeability	.089							
3	Relational behaviour	.456	.601						
4	Relationship length	.088	.170	.094					
5	Reliability	.277	.459	.686	.240				
6	Supplier satisfaction	.378	.540	.735	.044	.744			
7	Support	.276	.135	.439	.134	.329	.336		
8	Size difference	.106	.162	.073	.017	.089	.229	.160	

[148] See Henseler, Ringle, and Sarstedt (2015, pp. 119,124).
[149] See Henseler et al. (2015, p. 121).

4.4. Model fit indices indicate a poor fit

Table 7 Model fit indices of the initial research model

		T	p
SRMR	.129	13.653	.000
d_{ULS}	11.078	9.754	.000
χ^2	1023.321		
NFI	.531		

Absolute model fit indicates how well a specified model reproduces the observed data by testing the null hypothesis that the reproduced covariance matrix is the same as the observed one.[150] Thus, a non-significant p-value indicates good model fit. It is assessed by using the Standardised Root Mean Square Residual (SRMR) and Unweighted Least Squares discrepancy (d_{ULS}) indices. The threshold for an acceptable SRMR value is below 0.08.[151] At .129, the SRMR value suggests a problem with model fit, although the combination of small sample size and low number of variables biases this value upward.[152] As Table 7 shows, the p-value of d_{ULS} is significant, indicating poor model fit. Incremental fit indicates how well the proposed model compares to a null model wherein all variables are uncorrelated.[153] Here it is assessed using the Normed Fit Index (NFI), whereby values above 0.9 indicate acceptable model fit. The value of .531 indicates that incremental fit cannot be established, although the NFI has been criticised for its underestimation in small samples.[154]

5. Results: Despite poor fit, the initial model shows likeability as a strong predictor of reliability, relational behaviour and supplier satisfaction

The path coefficients of the initial research model, which examined the effects of size difference, likeability and predictive expectations on supplier satisfaction, are displayed in Table 8; Figure 11 shows the model with significant paths highlighted. The control variables consist of 1 variable measuring the length of the supply relationship in years, and a dummy variable to account for the different buying firms participating in the research. Four firms

[150] See J. Hair et al. (2014, pp. 578-579).
[151] See Henseler et al. (2016, p. 12).
[152] See J. Hair et al. (2014, p. 584).
[153] See J. Hair et al. (2014, p. 580).
[154] See Iacobucci (2010, p. 97).

are included in the dataset; therefore, three dummy variables were used for firm 1, firm 2 and firm 3, which will be treated as one control variable 'buyer'. The control variable buyer was found to have no significant effect on supplier satisfaction; relationship length has a weak, but significant positive effect on supplier satisfaction ($\beta = .152,\ T = 1.870,\ p = .031$).

From this model, likeability appears to be the most important predictor variable, with three significant effects. It has a small direct effect on supplier satisfaction ($\beta = .224,\ T = 1.791,\ p = .037$) and large effects on reliability ($\beta = .398,\ T = 3.313,\ p < .001$) and relational behaviour ($\beta = .501,\ T = 6.387, p < .001$). Thus, *H1*, *H1b*, and *H1c* are supported; the hypothesised positive effects on involvement was not found. Therefore, hypothesis *H1a* is rejected. Likeability also does not have a significant effect on support, which is as expected. Size difference has a moderate direct effect on supplier satisfaction ($\beta = .215,\ T = 2.106,\ p = .018$); however, the path coefficient is positive, whereas a negative effect was hypothesised. Size asymmetry has no significant effects on any of the mediator variables. Therefore, hypotheses *H2*, *H2a*, *H2b*, *H2c*, and *H2d* are rejected. The unexpected positive effect of size asymmetry on supplier satisfaction will be elaborated in the discussion. Predictive expectations have no significant effects on supplier satisfaction or any of the mediators. Therefore, *H3*, *H3a*, *H3b*, *H3c*, and *H3d* are rejected.

Figure 11 Results of the initial research model (one-tailed)

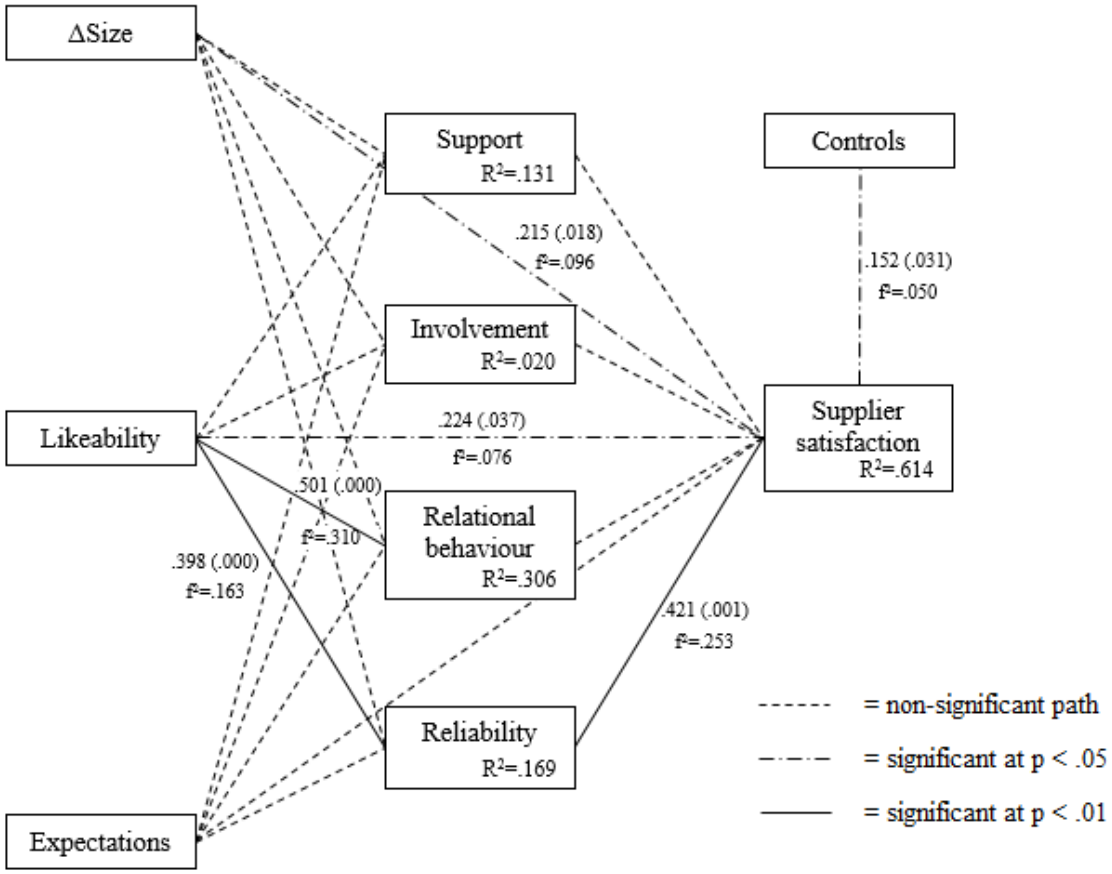

Table 8 Results of the initial research model

	β	σ	T	p-value
F1 → SS	.061	.119	.514	.304
F2 → SS	.097	.103	.940	.174
F3 → SS	-.003	.087	.040	.484
IN → SS	.085	.090	.945	.172
LI → IN	.088	.134	.656	.256
LI → RB	**.501**	**.078**	**6.387**	**.000**
LI → RL	**.398**	**.120**	**3.313**	**.000**
LI → SS	**.224**	**.125**	**1.791**	**.037**
LI → SU	-.009	.145	.059	.476
PE → IN	.022	.245	.089	.464
PE → RB	.132	.200	.660	.255
PE → RL	.046	.211	.219	.413
PE → SS	.015	.111	.140	.444
PE → SU	.358	.268	1.334	.091
RB → SS	.206	.138	1.500	.067
RE → SS	**.152**	**.081**	**1.870**	**.031**
RL → SS	**.421**	**.133**	**3.178**	**.001**
SU → SS	.075	.104	.725	.234
ΔS → IN	.113	.124	.913	.181
ΔS → RB	.064	.088	.728	.233
ΔS → RL	.061	.127	.483	.315
ΔS → SS	**.215**	**.102**	**2.106**	**.018**
ΔS → SU	.022	.153	.147	.442

IN = Involvement; SS = Supplier Satisfaction; LI = Likeability; RB = Relational Behaviour; RE = Relationship Length; RL = Reliability; SU = Support; PE = Predictive Expectations; ΔS = Size Difference

5.1. A focused model was tested to examine the effect of likeability, modeled as a dimension of relational behaviour

With only one significant effect among them, size difference and predictive expectations do not seem to be important in determining supplier satisfaction. However, likeability appears to be a good predictor of supplier satisfaction and two of its relational antecedents. Therefore, a more focused model will be tested to look closer at likeability and its effects. Furthermore, a layer will be added to this model. Vos et al. (2016) found that when all four relational factors (reliability, support, involvement, relational behaviour) were modeled to directly affect supplier satisfaction, only reliability showed significant path coefficients. However, when support, involvement and reliability were modeled as predictors of relational behaviour, the coefficients between the predictors, relational behaviour, and supplier

satisfaction all became significant.[155] The same hierarchy will be applied to the focused model to test whether the model's accuracy will improve. Likeability has a very strong relationship with relational behaviour and reliability, but not with support and involvement. It may be more appropriate to treat likeability as a subdimension of relational behaviour along with support, involvement, and reliability. This is how likeability was modeled in the focused research model, along with a direct link to supplier satisfaction to control for its direct effect. The focused research model was constructed in SmartPLS, and a PLS run with bootstrapping (1,000 samples, listwise missing value deletion) was performed. Two PCAs were again performed, one with Varimax rotation and one usin Oblimin, to test construct validity of this model. The results are shown in Table 16 and Table 17. Similar to the first model, most constructs are acceptable, except for relational behaviour and supplier satisfaction, which display high cross-loadings. Thus, the validity of the model is limited.

The resulting model is shown in Figure 12, the path coefficients are listed in Table 9. The variable *Support*, which did not have a significant effect on supplier satisfaction in the initial research model, is shown to be a dimension of relational behaviour ($\beta = .242;\ p = .007$). Involvement was not a significant predictor of supplier satisfaction in the initial research model, however the focused model shows that it is indeed a part of relational behaviour ($\beta = .171;\ p = .036$). The path coefficients show that reliability and likeability are both subdimensions of relational behaviour. Relational behaviour and likeability have a significant effect on supplier satisfaction. The control variable *Relationship length* has no significant effect on supplier satisfaction in the focused model. As expected, all path coefficients are positive. The coefficients and improved significane levels correspond with the findings of Vos et al. (2016).[156]

[155] See Vos et al. (2016, pp. 4618,4620).
[156] See Vos et al. (2016, p. 4620).

Figure 12 Results of the focused research model (one-tailed)

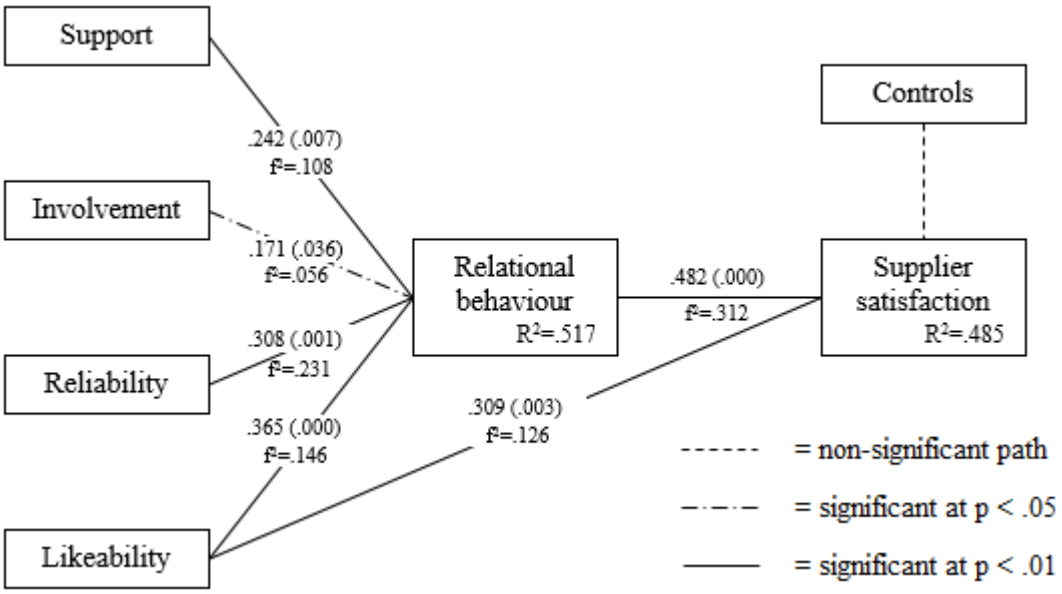

Table 9 Path coefficients of the focused research model (one-tailed)

	β	σ	T	p-value
F1 → SS	.066	.092	.710	.239
F2 → SS	-.060	.093	.649	.258
F3 → SS	-.004	.087	.046	.482
IN → RB	**.171**	**.095**	**1.806**	**.036**
LI → RB	**.365**	**.075**	**4.887**	**.000**
LI → SS	**.309**	**.113**	**2.741**	**.003**
RB → SS	**.482**	**.092**	**5.242**	**.000**
RE → SS	.036	.071	.509	.306
RL → RB	**.308**	**.100**	**3.073**	**.001**
SU → RB	**.242**	**.099**	**2.456**	**.007**

IN = Involvement; SS = Supplier Satisfaction; RB = Relational Behaviour; RL = Reliability; SU = Support; LI = Likeability; RE = Relationship Length; F1 = Firm 1; F2 = Firm 2; F3 = Firm 3.

Although the improved significance levels suggest that the focused model is more accurate, model fit must be compared to assess its value. The model fit indices of the focused research model will be compared to those of the initial model. The model fit comparison is shown in Table 10. The SRMR is lower than the initial model, but it is not below the commonly held threshold of .08. The d_{ULS} still has a very large T-value of 7.598, but there is an improvement over the initial model. Finally, the χ^2 is lower and the NFI is higher. Each model fit index has a better value for the focused model, but none of the indices meet the desired criteria to establish model fit. Possible explanations are that significant relaitonships are missing from the model, or it could be caused by the low construct validity of some of the constructs in the model. The R^2 of supplier satisfaction is lower than in the initial model (.485 compared

to .614), which is not surprising since the number of paths leading to it has reduced from seven to two. This means that in the initial model 61.4% of the variance in supplier satisfaction was explained; in the focused model it is reduced to 48.5%, which is to be expected considering the reduced amount of predictors. The R^2 of relational behaviour has increased from .306 to .517, which shows that its four subdimensions account for more than half of its variance.

Table 10 Model fit indices of the initial and focused research models

	Initial model			Focused model		
		T	p		T	P
SRMR	.129	13.653	.000	.088	11.840	.000
d_{ULS}	11.078	9.754	.000	3.624	7.224	.000
χ^2	1023.321			686.409		
NFI	.531			.604		

5.2. A mediation analysis shows that relational behaviour is a partial mediator for likeability and reliability

Four mediation analyses were performed to verify that relational behaviour indeed mediates the relationships between the four independent variables and supplier satisfaction in the focused research model. A mediation analysis, shown in Figure 13, is performed using four regressions, to test the relationships between the independent variable (X), the suspected mediator (M), and the dependent variable (Y).[157] The first tests for the direct effect of X on Y. The second tests for the effect of X on M. The third tests for the effect of M on Y. If all three effects are significant, a multiple regression is performed with X and M as independent variables, and Y as dependent variable. When X is no longer significant in the multiple regression, there is full mediation. When X is still significant, there is partial mediation. If any of the first three regressions yield insignificant coefficients, then mediation does not occur. The results are shown in Table 11. The B1 coefficients of the first three regressions are significant for all four independent variables, indicating that mediation occurs in each case. Support (the relationship between support and supplier satisfaction) and involvement are fully mediated, while reliability and likeability are partially mediated.

[157] Baron and Kenny (1986, pp. 1176-1177).

Figure 13 Mediation analysis (Baron & Kenny, 1986, p. 1176)

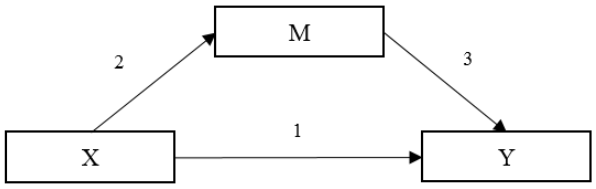

Table 11 Results of the mediation analysis

Support	B0	p-value	B1	p-value	B2 (M)	p-value
1 (X → Y)	4.407	0.000	0.204	0.002		
2 (X → M)	4.084	0.000	0.310	0.000		
3 (M → Y)	2.432	0.000	0.524	0.000		
4 (X+M→ Y)	2.374	0.000	0.050	0.380	0.498	0.000
Involvement	B0	p-value	B1	p-value	B2	p-value
1 (X → Y)	4.616	0.000	0.171	0.006		
2 (X → M)	4.551	0.000	0.214	0.005		
3 (M → Y)	2.432	0.000	0.524	0.000		
4 (X+M→ Y)	2.357	0.000	0.064	0.202	0.496	0.000
Reliability	B0	p-value	B1	p-value	B2	p-value
1 (X → Y)	2.882	0.000	0.457	0.000		
2 (X → M)	2.647	0.000	0.520	0.000		
3 (M → Y)	2.432	0.000	0.524	0.000		
4 (X+M→ Y)	1.945	0.000	0.273	0.000	0.354	0.000
Likeability	B0	p-value	B1	p-value	B2	p-value
1 (X → Y)	2.133	0.000	0.590	0.000		
2 (X → M)	1.708	0.013	0.689	0.000		
3 (M → Y)	2.432	0.000	0.524	0.000		
4 (X+M→ Y)	1.442	0.003	0.312	0.003	0.405	0.000

To explore the focused model further, two additional tests were performed. First, a regression analysis was done to examine the effects of the four independent variables on relational behaviour. Second, a surface analysis was performed to illuminate the interaction effect of likeability and relational behaviour. The results of the regression analysis are shown in Table 12. Two models were tested, one with only the control variables firm and relationship length, and one with the four predictors included. As model 2 shows, support, reliability and likeability are significant, and none of the control variables are significant. However, where the PLS model showed a moderate but significant relationship between involvement and relational behaviour, this regression does not find involvement to be significant.

Table 12 Regression analysis of relational behaviour (focused model)

		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	5.281	0.365		0.000**
	Buyer_1	0.320	0.295	0.132	0.280
	Buyer_2	0.210	0.211	0.130	0.324
	Buyer_3	-0.161	0.295	-0.066	0.587
	LN_Rel_Length	-0.035	0.122	-0.033	0.778
2	(Constant)	0.006	0.686		0.993
	Buyer_1	0.097	0.211	0.040	0.647
	Buyer_2	0.171	0.152	0.106	0.266
	Buyer_3	-0.278	0.210	-0.114	0.189
	LN_Rel_Length	0.071	0.088	0.067	0.426
	Focused_Construct_ Support	0.196	0.063	0.262	0.003**
	Focused_Construct_ Involvement	0.094	0.058	0.135	0.110
	Focused_Construct_ Reliability	0.306	0.085	0.333	0.001**
	Focused_Construct_ Likeability	0.469	0.119	0.350	0.000**

Independent variable: Focused_Construct_Satisfaction. * = $p < .05$, ** = $p < .01$

5.3. A response surface analysis was performed to further explore the effects of relational behaviour and likeability on supplier satisfaction

The focused research model (Figure 12) showed particularly strong relationships between the dependent variable supplier satisfaction, and the predictor variables relational behaviour and likeability. To explore these relationships further, a response surface analysis was performed. This analysis can be used to show the effects of multiple predictor variables on one dependent variable. It was used to show how supplier satisfaction was influenced by different combinations of high or low relational behaviour and likeability. Figure 14 shows the resulting graph. Both independent variables show a seemingly linear relationship with supplier satisfaction, which is highest when relational behaviour and likeability are both high, and lowest when relational behaviour and likeability are both low. The centred Y-axis (displaying likeability) is uninformative for values lower than 0, because almost none of the respondents rated their customer below 3 on likeability. The surface analysis shows that likeability and relational behaviour are almost perfectly mirrored. This suggests that they are

very similar, and it might even be that two variables are used to measure one overarching attribute of the buyers.

Figure 14 Response surface analysis of relational behaviour, likeability, and supplier satisfaction

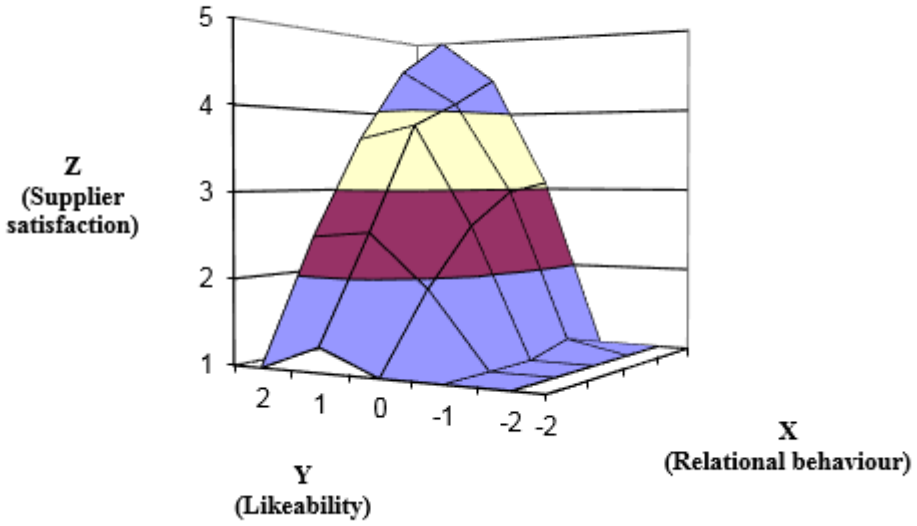

Table 13 Betas, standard errors and covariances of the response surface analysis

Variable Name		Unstandardized Betas	Standard Errors	Covariances	
	Constant	2.575		**b1b2**	-0.003
Relational behaviour	X (b1)	0.541	0.364	**b3b4**	-0.016
Likeability	Y (b2)	1.224	0.784	**b3b5**	0.005
	X^2 (b3)	-0.145	0.104	**b4b5**	-0.017
	XY (b4)	0.252	0.205		
	Y^2 (b5)	-0.346	0.206		
Sample Size: 83					

6. Discussion: Likeability and size asymmetry affect supplier satisfaction

The aim of this thesis was to explore the relational factors that enable supplier satisfaction and investigate the effect of three structural and cognitive factors on these relational factors and supplier satisfaction. The findings of Hüttinger et al. (2014) and Vos et al. (2016) were used as a starting point. This thesis focused on the influence of likeability, size asymmetry and expectations on supplier satisfaction, relational behaviour and its subdimensions.

PLS-SEM was used to construct a model with the hypothesised effects, which was tested using SmartPLS.[158]

6.1. Although expectations play a key role in Social Exchange Theory and the disconfirmation paradigm, no support could be found for their effect on supplier satisfaction

Expectations were included in the research due to their role in Social Exchange Theory (SET) and the Disconfirmation Paradigm. SET posits that the expectations of cost and reward of different transactions determine which are repeated and which are avoided, thus driving behaviour. The disconfirmation paradigm argues that ex-ante expectations form a reference framework by which events are compared and evaluated. The higher the initial expectations, the less likely it becomes that satisfaction will occur, because higher expectations are less likely to be met. This logic was applied to supplier satisfaction and its antecedents. A distinction was made between normative (what should be) and predictive (what will be) expectations, to better reflect the suppliers' decision-making process.[159] It was expected that buyers would have difficulty living up to high supplier expectations, and therefore it was hypothesised that high supplier expectations would lead to a lower rating of buyer support, involvement, reliability, relational behaviour, and supplier satisfaction.

Assessments of the data quality indicated problems with the construct validity of normative and predictive expectations. This probably occurred because the questions used to measure the two constructs had very similar wording (see Appendix). Considering a remark by Spreng et al. (1996) that confounding normative and predictive expectations may lead to misleading findings, it was chosen to remove normative expectations from the analysis. Predictive expectations were retained because they form the basis of the disconfirmation paradigm. However, results showed no significant effects of predictive expectations on supplier satisfaction or any of its relational antecedents. This may be due to the suboptimal measurement of normative and predictive expectations.

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[158] Ringle et al. (2015).
[159] Spreng et al. (1996, p. 16).

6.2. Suppliers are more satisfied with larger customers

Size asymmetry was included in the research to investigate its effect on supplier satisfaction and supply relationships because is an influential factor in business relationships. Earlier research has found that small firms are at a disadvantage when partnering with larger companies. This can be due to market effects such as weaker negotiation positions, and a power balance in favour of the larger firm; and buyers are more likely to have close relationships with large suppliers, with whom they have more interactions and connections. Therefore, it was hypothesised that positive size asymmetry (operationalised as buyer turnover minus supplier turnover) leads to lower supplier satisfaction, reliability, involvement and relational behaviour. A positive effect was hypothesised for support: large buyers are more likely to offer supplier development to smaller suppliers than to larger ones, who have more resources and knowledge than them.

Size asymmetry did not have any significant effects on relational behaviour or its constituents. It did, however, have a significant positive effect on supplier satisfaction. This is quite surprising, as a negative effect was expected. In other words, the suppliers in the sample were more satisfied with larger customers. There are a few possible reasons why this may be the case. One such reason is omitted variable bias. This bias is introduced by excluding relevant variables from a regression. It can change the significance and even the sign of the remaining relationships.[160] This thesis focused only on relational antecedents to supplier satisfaction; growth potential, profitability and operative excellence were all excluded from the analysis. As all these variables have been shown to impact supplier satisfaction, they are all relevant and thus likely to impact the results of the research model.[161] Unfortunately, the effect cannot be controlled for, because the data is not available. Another possible explanation for the positive effect of larger buyers, is that the benefits of large customers simply outweighed the downsides. Large buyers have been associated with better joint problem solving and information sharing; and several coping strategies have been suggested to help small suppliers deal with larger buyers.[162] Perhaps the small suppliers in

[160] See Clarke (2005, p. 10).
[161] See Vos et al. (2016, p. 4620).
[162] See Claycomb and Frankwick (2004, p. 22); Johnsen and Ford (2008, pp. 477-481).

the sample are effective at dealing with the larger buyers; the buyers may simply refrain from exploiting their bargaining position over small suppliers.

6.3. Likeability has strong effects on supplier satisfaction

Likeability was included in this thesis because it has been found to strongly influence people's perceptions. Marketing literature has linked brand likeability to increased purchase intention, and a recent study showed that likeability in negotiation has a significant impact on willingness to collaborate. Considering these positive effects, it was hypothesised that buyer likeability would increase supplier satisfaction, relational behaviour and its subdimensions.

Out of the three predictor variables, likeability showed the strongest effects. The initial model showed that likeability positively influences supplier satisfaction directly, and indirectly through increased perception of relational behaviour and reliability. Likeability was not found to have a significant effect on support or involvement. Considering the dominant role of likeability in the initial research model (shown in Figure 11), a focused model was tested using only likeability and the control variables. This model followed a similar structure to that used by Vos et al. (2016), who found that it provided better results than their initial model, which replicated research by Hüttinger et al. (2014).[163] The results of the focused model, in which likeability was placed as an antecedent of relational behaviour, showed that support, involvement, reliability and likeability are all antecedents of relational behaviour; additionally, the direct positive relationship between likeability and supplier satisfaction remained significant. The results correspond with those of Vos et al. (2016), and show that that likeability has strong relational effects, and that it can be regarded as an antecedent of relational behaviour. Finally, a mediation analysis was performed on the four independent variables in the focused model. It showed that while support and involvement are fully mediated by relational behaviour, reliability and likeability have both indirect and direct effects on supplier satisfaction.

[163] See Hüttinger et al. (2014, p. 711); Vos et al. (2016, pp. 4618-4620).

7. Implications: likeability deserves more attention in purchasing literature

7.1. Implications for theory

The current thesis has several implications for theory. With regards to size, several researchers have investigated the effect of size asymmetry on relationships. There is a consensus that small suppliers are at a disadvantage in many aspects of a relationship.[164] However, the results do not support this view. Instead, it was found that suppliers are more satisfied with larger buyers. Although this effect may have been caused by omitted variables, the results also showed that size asymmetry has no effect on any of the relational antecedents to supplier satisfaction. This implies that contrary to what the literature suggests, small suppliers have no difficulty in relationships with large buyers; otherwise, they would not have been satisfied. The results did not show any significant effect of predictive expectations. Consequently, the disconfirmation paradigm is not supported. Finally, the strong effects of likeability on relational behaviour and supplier satisfaction show that its effects go beyond trust.

7.2. Implications for practice

This thesis has two implications for practice. First, it has shown that suppliers are happier with larger buyers. This knowledge can benefit both suppliers and buyers. The findings suggest that small suppliers are not necessarily treated poorly by large buyers. Furthermore, it suggests that large buyers who want to become preferred customers may have a better chance of accomplishing this when partnering with smaller suppliers. The second implication is the strong effects of liking. Although liking will not improve negotiation outcomes, it will improve perceived reliability and relational behaviour. Its direct and indirect effects on supplier satisfaction further show that being a likeable buyer contributes to becoming a preferred customer. To get the most out of their supply relationships and get a competitive advantage, managers should look for purchasers who are both motivated and likeable.

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[164] See Johnsen and Ford (2008, p. 482); Lee and Johnsen (2012, pp. 2-4).

8. Limitations and future research: better measurement of expectations is required for valid results

8.1. The inconclusive results of expectations may be due to poor operationalisation

The measurement of expectations resulted in several limitations. Firstly, the constructs predictive and normative expectations were not measured in an optimal way. Due to measuring expectations about tangible and intangible properties, the construct was split into two. Further, the questions were taken from earlier research and not developed specifically for this study. As a result, not all indicators were adequately related to the measured antecedents of supplier satisfaction. This means that the measurement of predictive and normative expectations was poor, which probably influenced the results. To properly measure expectations, reflective measurements should be developed that precisely measure the focal variables, in this case reliability, support, involvement, relational behaviour, and satisfaction. The second problem is the timing of the measurements. To measure how someone's expectations influence their evaluation of an event or relationship, ideally the expectation is measured before the event, and the evaluation is measured afterwards. In this thesis, the questionnaires were completed by suppliers who were already in a supply relationship with a focal buying firm. In some cases, the relationships had been established over 20 years ago. Even if the respondent can recollect their expectations from 20 years ago, there is an increasing chance that their expectations have changed over time due to the interaction with the buyer.[165] This effect, known as 'adjusted expectations', makes it difficult to gather valid data on expectations when they are measured afterwards. However, due to time restrictions a longitudinal study could not be performed. Another issue that reduces the validity of the expectations data, is that many suppliers were collaborating with the focal firms before the respondents joined the supplier firms. 47% Of respondents reported this to be the case. These respondents probably had no expectations of the supplier, and thus the answers will be less reliable. Unfortunately, controlling for this situation would reduce the sample size so much that finding any significant effects would be near impossible. For optimal measurement of expectations in future supply management research, researchers

[165] See Yi and La (2004, p. 355).

might try to perform a longitudinal study. This would not only improve the accuracy of expectation data; it would help to establish the causality of many relationships, increasing the insight into how supplier satisfaction is formed. Furthermore, to control for relationships longer than respondent tenure, future research may require much larger datasets, since it occurred very often.

The measuring of firm size also left something to be desired. Although size can be easily measured (using buyer and supplier turnover), problems still occurred because a response format was not specified. It was not possible to see whether a respondent reported in thousands, millions, or otherwise. This resulted in reported single-digit yearly turnovers, and consequently several size-related responses had to be removed. Contrary to the hypotheses, it was found that relatively larger buyers lead to more supplier satisfaction, although no significant effects were found on any of the relational antecedents of satisfaction. This suggests that size has a positive effect that is not relational; future research could investigate the effect of asymmetry on other aspects of supplier satisfaction, and identify more positive and negative effects. It would also be very interesting to explore the role of likeability in the forming stages of supply relationships, to see if it contributes to customer attractiveness, and during the later stages, to find its effect on becoming a preferred customer.

Finally, although likeability is an influential factor in determining supplier satisfaction, its exact role needs more attention. In this thesis it was concluded that likeability is a strong predictor and a subdimension of relational behaviour. However, likeability has such a high correlation with relational behaviour that the two constructs might represent similar attributes. The surface analysis showed an almost symmetrical shape, which reinforces this suspicion. Future likeability research could identify more effects and further illuminate the position of likeability, i.e. whether it should be regarded as a separate construct or if it is conceptually too similar to relational behaviour. Additionally, the causality of likeability needs more attention. Here it has been modelled as a pre-existing buyer attribute, however it may well be influenced by the buyer's behaviour. Future researchers could model likeability as a dependent factor to further explore the concept, its antecedents, and its effects.

8.2. Future research can investigate supplier satisfaction in other industries

Several limitations curb this study's findings. First, a small sample size was used. This means that the statistical tests had less power, and potential significant effects could not be found. This problem was further magnified by missing or invalid values. Another limitation is the poor model fit. This may in part be due to the small sample size, or the model might simply be wrong. It is also possible that omitted variable bias played a role. Operative performance, profitability, and growth potential were not included in the analysis, which can have substantial effects on the remaining coefficients and significance levels.[166] Sadly, the effects of omitted variables can only be speculated, and researchers can never be certain that all relevant variables are included. However, it would be best to include all variables that have been found to be relevant to reduce the chance of misinterpreting the data. The method of data collection, and the subject of the study itself, also present some challenges. The use of self-reported data means that there is a chance of social desirability bias; this is particularly likely due to the sensitive nature of buyer-supplier relationships and satisfaction. To increase respondents' privacy, the buying firms provided a sizeable set of suppliers to approach, of which they were not informed who responded and who did not; additionally, the suppliers were informed that their responses would be used to generate an anonymised supplier satisfaction report for the buyers, but the buyers did not get the individual responses. Finally, this study took place in a high-tech manufacturing context: the focal firms were all manufacturing firms, and most suppliers were also manufacturers. Future researchers could investigate whether the observed effects exist in other industries. They might apply the dimensions of supplier satisfaction in a service context, where factors might be more or less important than in a manufacturing context.

[166] See Clarke (2005, p. 10).

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Appendix

Table 14 Rotated component matrix of PCA with Varimax rotation (initial model)

	1	2	3	4	5	6	7	8	9	10
LNGTH_Relationship_230_1	-0.023	-0.101	-0.003	-0.086	-0.106	-0.124	0.050	0.128	0.088	-0.834
LogBuyerTurnover_minus_Log SupplierTurnover	-0.044	-0.245	-0.005	0.140	0.157	0.013	0.133	0.032	0.699	0.032
PC_Norm_Expectations_127_1	-0.184	0.135	0.548	-0.045	-0.078	0.345	0.467	-0.071	0.228	-0.160
PC_Norm_Expectations_127_2	-0.116	0.066	0.591	-0.155	0.017	0.231	0.492	-0.151	0.220	-0.094
PC_Norm_Expectations_127_3	-0.066	-0.021	0.897	0.238	-0.141	-0.017	-0.070	0.068	0.033	0.126
PC_Norm_Expectations_127_4	0.015	0.055	0.882	0.193	-0.080	0.007	0.095	-0.080	-0.004	-0.021
PC_Norm_Expectations_127_5	0.062	0.073	0.880	0.265	-0.044	-0.029	0.107	0.012	-0.103	0.004
PC_Pred_Expectations_127_1	0.035	0.009	0.080	0.207	-0.078	0.204	0.857	0.025	0.051	0.028
PC_Pred_Expectations_127_2	0.039	0.124	0.129	0.216	0.015	0.149	0.848	0.066	-0.039	-0.078
PC_Pred_Expectations_127_3	-0.023	0.093	0.290	0.855	-0.133	0.002	0.084	0.038	0.040	-0.044
PC_Pred_Expectations_127_4	0.055	0.247	0.203	0.842	-0.129	0.095	0.123	-0.012	0.139	0.080
PC_Pred_Expectations_127_5	0.017	0.269	0.214	0.783	-0.160	0.046	0.322	0.059	-0.076	-0.006
PC_Likeability_129_1	0.162	0.722	0.215	0.157	0.012	0.070	0.005	0.254	0.000	-0.239
PC_Likeability_129_2	0.119	0.868	0.033	0.068	-0.044	0.021	0.088	0.123	0.178	0.113
PC_Likeability_129_3	0.235	0.839	0.054	0.081	0.069	-0.030	0.038	0.168	-0.071	0.120
PC_Likeability_129_4	0.167	0.831	-0.025	0.198	0.040	-0.059	0.036	0.051	-0.091	-0.009
PC_Likeability_129_5	0.247	0.757	0.027	0.087	0.036	-0.030	0.118	-0.082	0.038	0.217
S_Collaboration_50_1	0.663	0.021	0.186	-0.072	0.066	0.214	-0.038	0.273	0.154	0.262
S_Collaboration_50_2	0.600	0.156	0.243	-0.202	0.007	0.255	-0.023	0.256	0.236	0.216
S_Collaboration_50_3	0.282	0.388	0.006	-0.166	-0.026	-0.081	-0.173	0.472	0.075	0.451
S_Collaboration_50_4	0.309	0.194	0.086	-0.331	-0.125	-0.054	0.037	0.447	0.304	0.478
S_Support_60_1	0.263	0.142	-0.006	0.051	-0.083	0.803	0.137	0.106	0.011	0.086
S_Support_60_2	0.073	-0.095	0.051	0.145	0.104	0.841	0.176	0.081	0.080	-0.016
S_Support_60_3	0.131	-0.098	0.055	-0.076	0.288	0.682	0.126	0.026	0.044	0.066
S_Involvement_70_2	0.204	0.113	-0.172	-0.203	0.790	0.141	0.064	-0.019	0.060	-0.031
S_Involvement_70_3	0.113	0.050	-0.061	-0.151	0.899	0.035	-0.021	0.099	0.013	0.091
S_Involvement_70_4	0.203	-0.059	-0.058	-0.005	0.795	0.109	-0.114	0.160	0.182	0.033
S_RelBehavior_80_1	0.590	0.390	-0.206	0.142	0.081	0.221	-0.093	0.134	-0.141	0.065
S_RelBehavior_80_2	0.754	0.181	-0.280	-0.020	0.075	0.272	-0.113	-0.007	0.106	-0.056
S_RelBehavior_80_3	0.752	0.240	0.117	0.104	0.287	-0.049	0.047	0.001	-0.025	-0.054
S_RelBehavior_80_4	0.617	0.119	-0.137	0.075	0.169	-0.081	0.340	0.122	0.018	0.233
S_RelBehavior_80_5	0.074	0.189	-0.184	0.196	0.241	0.319	-0.002	0.720	-0.006	-0.140
S_RelBehavior_80_6	0.507	0.317	-0.034	0.206	0.138	0.194	0.075	0.430	-0.083	-0.078
S_RelBehavior_80_7	0.420	0.142	0.057	0.023	0.181	-0.043	0.241	0.559	-0.082	-0.036
S_Satisfaction_1	0.449	0.429	-0.068	-0.151	0.017	0.194	-0.116	0.477	0.217	-0.037
S_Satisfaction_4	0.587	0.239	0.043	-0.055	0.092	0.120	-0.049	-0.011	0.657	-0.063
S_Satisfaction_5	0.510	0.288	0.066	-0.007	0.062	0.131	-0.059	-0.027	0.705	-0.075
S_Satisfaction_6	0.593	0.328	-0.119	-0.069	0.169	0.047	0.003	0.152	0.322	-0.043

Table 15 Structure matrix of PCA with Oblimin rotation (initial model)

	1	2	3	4	5	6	7	8	9	10
LNGTH_Relationship_230_1	0.026	-0.015	-0.157	-0.106	-0.121	-0.042	0.101	0.853	0.114	-0.089
LogBuyerTurnover_minus_Log SupplierTurnover	-0.207	-0.070	-0.062	0.202	0.153	-0.121	0.717	-0.023	0.249	0.057
PC_Norm_Expectations_127_1	-0.272	0.448	0.288	-0.170	-0.074	-0.392	0.175	0.138	-0.171	-0.119
PC_Norm_Expectations_127_2	-0.167	0.515	0.161	-0.288	0.026	-0.433	0.175	0.062	-0.104	-0.145
PC_Norm_Expectations_127_3	-0.084	0.915	-0.017	0.182	-0.064	0.147	0.006	-0.080	0.071	0.144
PC_Norm_Expectations_127_4	0.051	0.893	-0.015	0.081	-0.024	-0.018	-0.014	0.014	-0.022	-0.057
PC_Norm_Expectations_127_5	0.096	0.902	-0.048	0.161	0.021	-0.037	-0.118	0.013	-0.014	0.029
PC_Pred_Expectations_127_1	0.021	-0.057	0.137	0.105	-0.110	-0.868	0.034	-0.032	0.027	0.029
PC_Pred_Expectations_127_2	0.025	0.009	0.073	0.101	-0.003	-0.854	-0.064	0.077	-0.090	0.012
PC_Pred_Expectations_127_3	0.013	0.253	-0.010	0.824	-0.101	-0.032	0.087	0.009	-0.030	-0.080
PC_Pred_Expectations_127_4	0.030	0.142	0.081	0.805	-0.116	-0.067	0.190	-0.123	-0.195	-0.105
PC_Pred_Expectations_127_5	0.040	0.143	0.027	0.713	-0.144	-0.285	-0.046	-0.019	-0.211	-0.051
PC_Likeability_129_1	-0.030	0.190	0.052	0.106	0.029	0.056	-0.033	0.315	-0.699	0.098
PC_Likeability_129_2	-0.129	-0.039	-0.005	0.025	-0.043	-0.053	0.152	-0.052	-0.896	0.104
PC_Likeability_129_3	0.043	0.034	-0.042	0.037	0.081	-0.013	-0.097	-0.051	-0.833	0.134
PC_Likeability_129_4	0.048	-0.049	-0.074	0.140	0.046	-0.010	-0.090	0.022	-0.849	-0.048
PC_Likeability_129_5	0.121	-0.008	-0.051	0.016	0.028	-0.099	0.048	-0.219	-0.780	-0.063
S_Collaboration_50_1	0.466	0.216	0.231	-0.046	0.035	0.056	0.143	-0.123	0.135	0.409
S_Collaboration_50_2	0.355	0.250	0.266	-0.196	-0.026	0.055	0.208	-0.071	-0.031	0.393
S_Collaboration_50_3	-0.009	0.008	-0.057	-0.084	-0.007	0.160	0.014	-0.240	-0.311	0.657
S_Collaboration_50_4	-0.006	0.044	-0.053	-0.261	-0.126	-0.059	0.240	-0.246	-0.108	0.728
S_Support_60_1	0.097	-0.059	0.849	0.016	-0.151	-0.069	-0.032	-0.067	-0.078	0.045
S_Support_60_2	-0.069	0.004	0.860	0.123	0.057	-0.097	0.031	-0.006	0.139	-0.054
S_Support_60_3	0.001	0.051	0.686	-0.092	0.253	-0.069	-0.008	-0.086	0.126	-0.054
S_Involvement_70_2	0.079	-0.107	0.074	-0.189	0.789	-0.061	0.037	-0.006	-0.134	-0.149
S_Involvement_70_3	-0.034	0.031	-0.035	-0.102	0.939	0.021	-0.032	-0.093	-0.061	-0.004
S_Involvement_70_4	0.022	0.025	0.051	0.072	0.821	0.131	0.158	-0.016	0.090	0.047
S_RelBehavior_80_1	0.486	-0.175	0.257	0.140	0.031	0.105	-0.121	-0.020	-0.292	0.083
S_RelBehavior_80_2	0.664	-0.247	0.299	-0.019	-0.016	0.124	0.161	0.072	-0.077	-0.036
S_RelBehavior_80_3	0.720	0.185	-0.074	0.056	0.258	-0.038	0.027	0.074	-0.122	-0.023
S_RelBehavior_80_4	0.547	-0.143	-0.114	0.064	0.129	-0.386	0.047	-0.165	-0.001	0.223
S_RelBehavior_80_5	-0.238	-0.203	0.319	0.299	0.255	0.027	-0.098	0.320	-0.087	0.535
S_RelBehavior_80_6	0.319	-0.027	0.197	0.220	0.118	-0.056	-0.106	0.206	-0.177	0.333
S_RelBehavior_80_7	0.234	0.060	-0.072	0.051	0.189	-0.260	-0.133	0.225	0.005	0.552
S_Satisfaction_1	0.119	-0.083	0.204	-0.100	-0.011	0.142	0.170	0.222	-0.332	0.467
S_Satisfaction_4	0.352	0.021	0.078	-0.052	0.035	0.090	0.705	0.105	-0.176	0.016
S_Satisfaction_5	0.263	0.032	0.086	-0.007	0.010	0.110	0.752	0.108	-0.242	-0.016
S_Satisfaction_6	0.381	-0.119	0.018	-0.055	0.122	0.005	0.344	0.124	-0.248	0.150

Table 16 Rotated component matrix of PCA with Varimax rotation (focused model)

LNGTH_Relationship_230_1	-0.179	0.004	-0.097	-0.102	0.007	0.130	0.804
S_Collaboration_50_1	0.022	0.294	0.518	0.400	0.126	0.312	-0.035
S_Collaboration_50_2	0.095	0.213	0.705	0.240	0.083	0.360	0.016
S_Collaboration_50_3	0.330	0.171	0.806	-0.085	0.068	-0.006	-0.058
S_Collaboration_50_4	0.138	0.106	0.877	-0.012	0.020	0.142	-0.045
S_Support_60_1	0.109	0.263	0.116	0.726	-0.054	0.100	0.096
S_Support_60_2	-0.047	0.052	0.000	0.870	0.047	0.115	0.012
S_Support_60_3	-0.050	0.017	0.008	0.690	0.281	0.086	-0.323
S_Involvement_70_2	-0.004	0.151	0.067	0.038	0.839	0.073	-0.057
S_Involvement_70_3	0.001	0.055	0.077	0.034	0.923	0.016	0.001
S_Involvement_70_4	-0.010	0.119	0.046	0.149	0.823	0.150	0.113
PC_Likeability_129_1	0.817	-0.022	0.050	0.141	-0.022	0.242	0.151
PC_Likeability_129_2	0.838	0.056	0.222	-0.001	-0.046	0.244	-0.044
PC_Likeability_129_3	0.851	0.226	0.183	-0.003	0.013	0.072	-0.124
PC_Likeability_129_4	0.813	0.296	-0.015	-0.041	0.012	-0.004	-0.035
PC_Likeability_129_5	0.710	0.202	0.229	-0.080	-0.050	0.190	-0.279
S_RelBehavior_80_1	0.387	0.656	0.105	0.234	0.089	0.044	-0.021
S_RelBehavior_80_2	0.099	0.820	0.098	0.161	0.042	0.258	0.013
S_RelBehavior_80_3	0.181	0.716	0.154	0.005	0.180	0.233	-0.009
S_RelBehavior_80_4	0.057	0.604	0.442	0.095	0.102	-0.008	-0.018
S_RelBehavior_80_5	0.374	0.279	0.170	0.443	0.207	-0.240	0.462
S_RelBehavior_80_6	0.419	0.480	0.146	0.378	0.077	0.032	0.252
S_RelBehavior_80_7	0.372	0.351	0.257	0.187	0.135	-0.026	0.200
S_Satisfaction_1	0.408	0.304	0.419	0.223	0.163	0.298	0.179
S_Satisfaction_4	0.248	0.245	0.212	0.165	0.136	0.801	0.034
S_Satisfaction_5	0.270	0.170	0.189	0.153	0.105	0.849	0.055
S_Satisfaction_6	0.318	0.472	0.220	-0.012	0.176	0.445	0.093

Table 17 Pattern matrix of PCA with Oblimin rotation (focused model)

	1	2	3	4	5	6	7
LNGTH_Relationship_230_1	-0.035	0.006	-0.092	0.124	0.077	0.789	-0.168
S_Collaboration_50_1	0.464	0.279	0.501	-0.632	0.356	0.053	0.166
S_Collaboration_50_2	0.418	0.231	0.349	-0.798	0.414	0.086	0.242
S_Collaboration_50_3	0.356	0.160	0.006	-0.857	0.062	-0.032	0.424
S_Collaboration_50_4	0.292	0.125	0.075	-0.898	0.209	-0.019	0.253
S_Support_60_1	0.378	0.086	0.764	-0.244	0.112	0.190	0.200
S_Support_60_2	0.154	0.155	0.873	-0.082	0.124	0.090	0.010
S_Support_60_3	0.116	0.352	0.704	-0.082	0.116	-0.258	-0.012
S_Involvement_70_2	0.238	0.855	0.136	-0.153	0.101	-0.020	0.030
S_Involvement_70_3	0.149	0.920	0.122	-0.140	0.044	0.024	0.017
S_Involvement_70_4	0.225	0.854	0.246	-0.141	0.168	0.157	0.032
PC_Likeability_129_1	0.198	0.043	0.191	-0.234	0.258	0.203	0.832
PC_Likeability_129_2	0.286	0.028	0.070	-0.408	0.280	0.010	0.874
PC_Likeability_129_3	0.423	0.090	0.078	-0.388	0.111	-0.061	0.890
PC_Likeability_129_4	0.435	0.072	0.031	-0.194	0.015	0.026	0.836
PC_Likeability_129_5	0.382	0.024	0.000	-0.410	0.233	-0.220	0.761
S_RelBehavior_80_1	0.754	0.228	0.349	-0.331	0.064	0.090	0.503
S_RelBehavior_80_2	0.868	0.206	0.303	-0.325	0.265	0.142	0.264
S_RelBehavior_80_3	0.787	0.314	0.152	-0.366	0.249	0.099	0.324
S_RelBehavior_80_4	0.674	0.234	0.211	-0.563	0.026	0.062	0.195
S_RelBehavior_80_5	0.403	0.305	0.499	-0.293	-0.231	0.521	0.424
S_RelBehavior_80_6	0.615	0.216	0.473	-0.346	0.045	0.351	0.519
S_RelBehavior_80_7	0.478	0.236	0.272	-0.398	-0.004	0.266	0.450
S_Satisfaction_1	0.518	0.303	0.343	-0.597	0.333	0.265	0.527
S_Satisfaction_4	0.455	0.277	0.299	-0.422	0.821	0.139	0.387
S_Satisfaction_5	0.387	0.238	0.278	-0.393	0.866	0.154	0.399
S_Satisfaction_6	0.621	0.303	0.132	-0.431	0.464	0.190	0.449

Brief company information

Company 1 develops and manufactures high-tech equipment for OEMs in the healthcare, analytic and semiconductor industry. The company has production facilities around the world, and employees around 2500 people.

Company 2 develops and produces material handling systems mainly for distributors and packaging firms. The company serves markets throughout the world, and employs around 550 people.

Company 3 designs and produces high-tech equipment for the aerospace, semiconductor and medical industry. The company is active in the European and Asian markets and employs around 550 people.

Company 4 develops high-tech machines for the medical industry. The company is represented world-wide, and employs around 3600 people.

Questionnaire

General information
Annual Turnover (in €). (When you belong to a firm-group, please provide the details of your firm branch!)
Please indicate the annual turnover with the customer as % of your total annual turnover (in %, 0=lowest, 100=highest, e.g. if your Company is having half of its turnover at the UT, fill-in "50")
The customer is ... than us. (much smaller – … – much larger)
Number of employees
In what industry would you place your company?
In which sector would you place your company?
Contact accessibility
There is a contact person within the customer who…
…coordinates the relevant relationship activities within and outside of the customer.
…is, for the employees of our company, the one to contact in regard to partner-specific questions.
…informs employees within the customer firm about the needs of our company.
There are too many contact persons.
Innovation potential
In collaborating with the customer, our firm developed a very high number of new products/services.
In collaborating with the customer, our firm was able to bring to market a very high number of new products/services.
The speed with which new products/services are developed and brought to market with the customer is very high.
The customer is able to respond quickly to (technological) developments in the market.
The customer is able to anticipate competitors' (technological) developments.
Operative excellence
The customer…
... has always exact and in time forecasts about future demand.
... provides us with forecasts our firm can rely and plan on.
... has for our firm simple and transparent internal processes.
... supports short decision-making processes.
… stands open for process optimizations.
… has an optimal payment habit.
Reliability
In working with our company, the customer…
... provided a completely truthful picture when negotiating.
... always negotiated from a good faith bargaining perspective.
... never breached formal or informal agreements to benefit themselves.
... never altered facts in order to meet its own goals and objectives.

Support
The customer …
... collaborates with us to improve our manufacturing processes or services.
... gives us (technological) advice (e.g. on materials, software, way of working).
... gives us quality related advice (e.g. on the use of inspection equipment, quality assurance procedures, service evaluation).
Development
The customer…
… visits us to help improve our performance.
… invites us to visit their site to increase awareness of how our product /service is used.
… conducted training and education programs for our personnel.
Involvement
We are early involved in the new product/service development process of the customer.
We are very active in the new product development process of the customer.
Communication with our firm about quality considerations and design changes is very close.
Customer's relational behavior
Problems that arise in the course of the relationship are treated by the customer as joint rather than individual responsibilities.
The customer is committed to improvements that may benefit our relationship as a whole and not only themselves.
We each benefit and earn in proportion to the efforts we put in.
Our firm usually gets at least a fair share of the rewards and cost savings from our relationship with the customer.
The customer would willingly make adjustments to help us out if special problems/needs arise.
The customer is flexible when dealing with our firm.
The collaboration with this supplier's operational/specialist department is very good.
Supplier satisfaction
Our firm is very satisfied with the overall relationship with the customer.
On the whole, our firm is completely happy with the customer.
Generally, our firm is very pleased to have the customer as our business partner.
If we had to do it all over again, we would still choose to use the customer.
Preferred Customer Status
Compared to other customers in our firm´s customer base…
… the customer is our preferred customer.
... we care more for the customer.
... the customer receives preferential treatment.
… we go out on a limb for the customer.
... our firm's employees prefer collaborating with the customer to collaborating with other customers.
Customer attractiveness
We consider the customer to be an attractive partner for future collaborations.
We expect positive outcomes from the relationship with the customer.
Our firm has positive expectations about the value of the relationship with the customer.

Normative expectations
The customer should have up-to-date equipment.
The customer's physical facilities should be visually appealing.
The customer should be dependable.
We should be able to feel safe in transactions with the customer's employees.
The customer's employees should be polite.
Predictive expectations
Before the relationship, we expected that...
... the customer would have up-to-date equipment
... the customer's physical facilities would be visually appealing.
... the customer would be dependable.
... we would be able to feel safe in transactions with the customer's employees.
... the customer's employees would be polite.
Likeability
I like the customer.
The customer is friendly.
The customer is always nice to me.
The customer is polite.
The customer is nice to be around.
Relationship
The relationship with the customer…
...is something we are very committed to maintain.
...is very important to us.
...is something we really care about.
Instrumental commitment
The amount of effort I put in this customer is related to previous outcomes and results.
Unless I see positive results, I see no reason to spend extra effort in this relationship.
Affective commitment/ psychological attachment
I have a personal and emotional attachment with the customer.
I can identify myself with the customer.
I care about the business results of the customer.
I feel at ease with the customer.
I find that my company's values and the values of the customer are very similar.
Trust
The customer keeps promises it makes to our firm.
When making important decisions, the customer considers our welfare as well as its own.
We trust the customer to keep our best interests in mind.
We consider the customer as trustworthy.
Trusting intention
To achieve our business goals, our company is very dependent on the customer.
I feel safe, assured and comfortable in the relationship with the customer.
The customer is skilful and effective in its work.
Overall, the customer is capable and proficient.
Trusting belief
The customer is honest.
The customer is sincere.
I believe the customer would act in my best interest.
I believe the customer is interested in our wellbeing, not just its own.
Trust in customer (percentage)
When the customer makes a promise, we trust that the customer has the managerial and technical capabilities to do what it says it will do. (in %, 0=lowest, 100=highest)
We believe that the customer would make sacrifices for us to support our firm. (in %, 0=lowest, 100=highest)

Atmosphere
Our relationship with the customer can be best described as tense.
We have often disagreements in our working relationship with the customer.
We frequently clash with the customer on issues relating to how we should conduct our business.
Discussions within areas of disagreement are productive.
Discussions intend to create more problems.
Discussions increase effectiveness/strength of relationship.
When disputes occur, we sort them out among ourselves easily.
Communication
Our communication with the customer is always...
... accurate.
... complete.
... credible.
... adequate.
... timely.
... honest.
Dependence
In this relationship, our company is very dependent on the customer.
To achieve our business goals, our company has to maintain this relationship to the customer.
If the relationship were to end earlier than contracted, our business goals would be negatively affected.
Our company would face great challenges if the customer did not continue the contractual relationship.
We have no good alternatives to the customer.
Our firm could easily replace the customer's volume with sales to some other customer.
It would be relatively easy for us to find another customer for the components/services we sell to the customer.
If the relationship with the customer was terminated, it would not hurt our firm's operations.
Relation
The customer has the right to tell us what to do.
Since the customer is our customer, we should accept their requests and recommendations.
Customers have a right to expect suppliers to follow their instructions.
the customer offers rewards so that we will go along with their wishes.
We feel that by going along with the customer, we will be favoured on other occasions.
If we do not do as asked, we will not receive the rewards offered by the customer.
the customer offers us rewards if we agree with their requests.
the customer makes it clear that failing to comply with their requests will result in penalties against us.
If we do not agree with the customer's suggestions, they could make things difficult for us.
If we do not do as asked, we will not receive very good treatment from the customer.
If we do not go along with the customer, they might withdraw certain services/resources we need.
the customer is an expert in the industry.
We respect the judgment of the customer's representatives.
the customer has business expertise that makes them likely to suggest the proper thing to do.
Fulfilment of wishes
Which party can get the other to do what they want?
Which firm has a great deal of power?
Which firm's wishes carry more weight?
Who gets to make the decisions?
Supplier power
If the customer stopped buying from us, we could easily switch our volume with sales to other customers.
It would be relatively easy for us to find another customer for our product(s).

Information sharing
We keep our customer informed about what is happening in our company.
The transfer of information about customer needs we know take place frequently.
We share information with the customer, if we feel that the information can improve their company.
Procedural fairness
The customer quickly responds to complaints or suggestions.
Our customer gives us the opportunity to explain our point of view regarding aspects of the business relationship.
Overall, the customer's procedures within our business relationship are fair.
Distributive fairness
We receive adequate benefits from the relationship with the customer.
In case of complaints we receive as much compensation from the customer as expected.
In solving our problems, the customer gives us exactly what we need in the business relationship.
Overall. the benefits we get from the business relationship with the customer are fair.
Interactional fairness
The employees of our customer seemed to be very interested in the business relationship with us.
The employees of our customer understand exactly what we want from this business relationship.
The employees of our customer are very keen to solve our problems.
Overall, the customer's employees' behaviour as part of the business relation is fair.
Length of relationship (in years)
How long has your company been a supplier of the customer?
How long have you already been working as an employee of your firm?
How long have you already been acting as a sales representative for your company?
How long have you, as a representative of your firm, already been cooperating with the customer?
The customer expects us to be working with them for a long period of time.
Knowledge
I know the customer well enough to answer all the questions in this questionnaire.