"In-Suppliers versus Out-Suppliers" – Determinants of Switching Behaviour in Industrial Purchasing Relationships

- Work-in-Progress Paper -

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Key words: purchasing relationships, consideration set, choice set, switching barriers, uncertainty

Abstract: Due to the focus on establishing close, long-term relationships in industrial markets, new suppliers are confronted with considerable restraints on the customer side. Switching barriers as well as uncertainty can prevent buyers from switching but also from searching for new suppliers. Drawing on the theoretical frameworks developed in inter-organizational theory, transaction cost analysis and industrial buying behaviour, a causal model is presented to analyse the effects on the consideration of new suppliers in the buying process. In particular, the antecedents of the *proportion of out-suppliers* included in the *consideration set* and in the *choice set* are examined. These sets indicate the decision about the number of suppliers that is considered (1) in the *beginning* of the search phase (consideration set), and (2) in the *end* of the search phase (choice set). The proportion of out-suppliers in the consideration set can serve as an indicator for the *tendency* to switch, whereas the proportion of out-suppliers in the choice set can serve as an indicator for the *readiness* to switch. While the determinants of these sets are assumed not to differ, it is conceivable that the *size* of impact is different for the two sets. Explaining these differences is one of the objectives of this study. The theoretical model is tested on data collected from 191 key informants in industrial firms that have recently purchased technical equipment. The results of the study contribute to the knowledge base with respect to buyer-seller relationships and to organizational buying behaviour. The findings have implications for both in-suppliers and out-suppliers in industrial markets.

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1 Introduction

"Companies don't make purchases, they establish relationships" (Goodman, cited from Kotler 2002). This is especially true for industrial markets, where purchasing a good often means to maintain or to enter a long-term relationship with the chosen supplier. Thus, the decision faced by the buying organization is to stay with the existing supplier or to switch to a new one. From the point of view of the established supplier (in-supplier) this means that he has to undertake considerable effort in order to prevent the customer from switching. A potentially new supplier ("out-supplier") is even more challenged, because he has to circumvent existing switching barriers (Jackson 1985). Being considered from a potential buyer is the prerequisite for attracting (as well as for keeping) customers. Especially in technology-intensive markets "simply being considered may be a difficult task" (Heide/Weiss 1995, p. 30). The recognition of the determinants of consideration is important for both –in-suppliers and out-suppliers. Surprisingly, this issue has received only limited attention in empirical research. In particular, no study could be found in which both, the consideration set structure and choice set structure, were examined in an integrated model. The purpose of this paper is to provide new insight into how supplier consideration is influenced by the previous relationship to an "in supplier" and by the state of technological information in the buying situation. First, the consideration set and the choice set are ranged in the context of organizational buying, and second, the theoretical framework, including the research propositions, is presented. After having described the research method, the results obtained from the empirical study are discussed.

2 The Structure of Consideration Sets and Choice Sets as Indicators for Switching Behaviour

Purchasing industrial products is a complex process in which the buying organization has to pass through different stages (Robinson/Faris/Wind 1967; Webster/Wind 1972; Johnston/Lewin 1996). This process can be reduced to the following three phases: (1) problem recognition and establishing of specifications, (2) search phase, (3) choice phase. While in the first step the buying problem is perceived by the organization and specific requirements are defined, in the second phase the market is searched for relevant alternatives. At the end of phase 2 the buying organization requests concrete proposals. The various offers of potential suppliers are evaluated in the third phase which determines the final selection of the supplier. With reference to the selection of alternatives this process is characterised by the formation of different *sets of alternatives* which are processed by the buying organisation prior to choice (Shocker et al. 1991; Roberts/Lattin 1991; Lehmann/Pan 1994). The initial *awareness set*, which includes all the suppliers known by the buyer, may be reduced over time to a *consideration set*. This set is formed in the beginning of the search phase and can be viewed "as consisting of those goal satisfying alternatives salient or accessible on particular occasion" (Shocker et al 1991, p. 183). Based on more detailed information on suppliers within the consideration set the buyer will determine a final list of suppliers (shortlist) which is termed the *choice set*. At this point the search phase is finished and suppliers in the choice set are asked to submit a tender or bid (Patterson/Dawes 1999). The focus of our research is on the *consideration set* and the *choice set* which comprise the number of suppliers recognised at the beginning and at the end of the search phase (Figure 1).

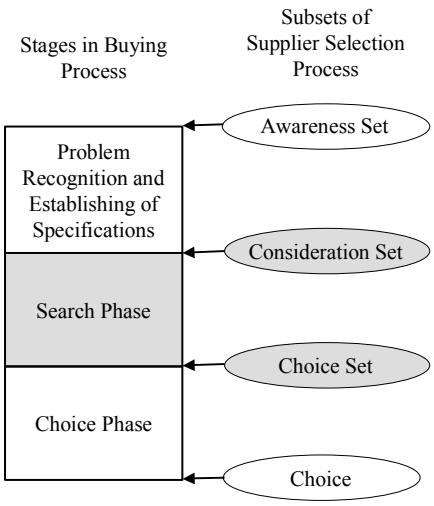

Figure 1: Stages in the Buying Process and Subsets of the Supplier Selection Process

According to the literature on consideration and choice sets we argue that the *probability of switching* to an out-supplier is increased by the overall *size* (Sambandam/Lord 1995) – but even more by the *structure* – of these sets (Patterson/Dawes 1999). Consequently, we investigate the structure of the sets, i.e. the proportion of out-suppliers included in the consideration and choice set. Since the choice set is based on the information obtained in the search phase its structure is a stronger indicator of switching behaviour than the consideration set structure, which represents the motivation to search for alternatives. Therefore, the consideration set structure can serve as a

indicator for the *tendency* to switch while the choice set structure represents a indicator for the *readiness* to switch.

3 Conceptual Framework and Hypotheses

The buying situation as analysed in this study is characterised by industrial buyers who have a *business relationship* to an in-supplier. Industrial business relationships can be described as a non- coincidental sequence of market transactions between a supplier and a customer being sustained by some kind of inner connection (Plinke 1997, p. 23). The 'inner connection' can result from investments into the relationship as well as from benefits derived from the relationship (Jackson 1985). Both create commitment to the in-supplier or inertia against change. Accordingly, the *existing relationship to an in-supplier* is proposed to be an important source of influence on the decision to switch. Drawing on transaction cost economic and inter-organisational theory, we address four dimensions of the previous relationship: (1) trust, (2) specific investments, (3) switching costs, and (4) dependence on the in-supplier. In addition, uncertainty can cause switching barriers. Uncertainty results from a *lack of information* about the required product features as well as about changes in the technological environment (Stump 1995). Inter-organisational theories, especially resource-dependence theory, and transaction cost theory state that uncertainty will have an influence on the stability of relationships (Pfeffer/Salancik 1978; Williamson 1985). In addition, the perceived lack of information about the technological environment may motivate the buyer to search for information. Considering this aspect literature on organisational buying in high-technology markets has started to emphasize the role of external consultants (Dawes/Patterson 1992; Dawes 1996; Dawes/Patterson/Lee 1996; Patterson/Dawes 1999). Hence, three dimensions concerning the lack of information are examined in our model: (1) need uncertainty, (2) technological uncertainty, (3) cooperation with external consultants. Figure 2 depicts the conceptual model.

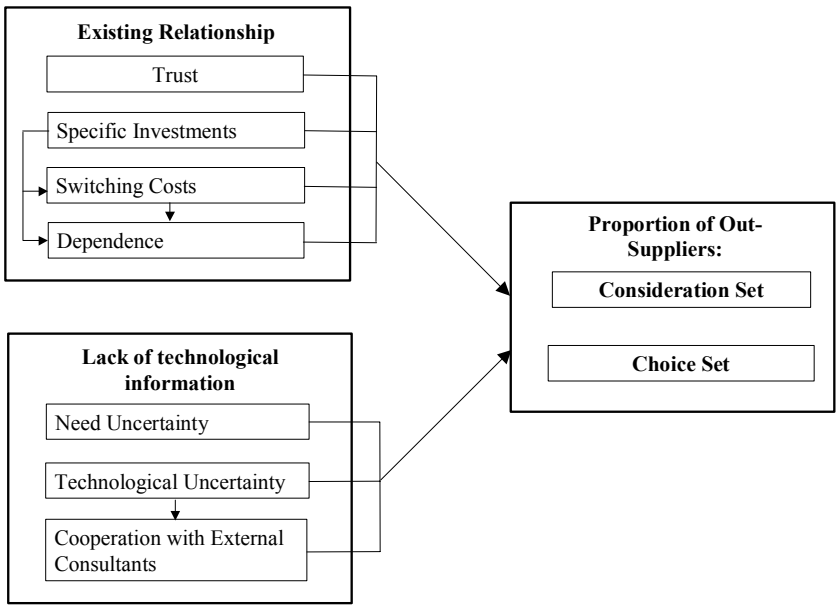

Figure 2: Conceptual Framework

Trust

Trust has been studied widely in research on (dyadic) buyer-seller relationships and business networks (Johanson/Mattsson 1987; Young/Wilkinson 1989; Anderson/Narus 1990; Morgan/ Hunt

1994; Håkansson/Snehota 1995; Doney/Cannon 1997; Dyer/Chu 2000; Jeffries/Reed 2000). Since there is no universally valid conceptualisation of trust a number of definitions has been suggested. Moorman/Deshpandé/Zaltman (1993, p. 82) define trust as "the willingness to rely on an exchange partner in whom one has confidence", and propose that an expectation of trustworthiness results from the ability to perform (expertise), reliability, and intentionality. In a quite similar way Morgan/Hunt (1994, p. 23) conceptualise trust as "existing when one party has confidence in the exchange partner's reliability and integrity". Other authors emphasize that trust is one's willingness to rely on another's actions in a situation involving the risk of opportunism (Williams 2001; Mayer/Davis/Schoorman 1995; Zand 1972). Accordingly, trust can be viewed as "one party's confidence that the other party in the exchange relationship will not exploit its vulnerabilities [to opportunistic behaviour]" (Dyer/Chu 2000, p. 260).

While some research has focussed on trust between individuals (i.e. interpersonal trust), this study examines trust at the level of the organisation (interorganisational trust). In a general sense inter-organisational trust describes "the extent to which organizational members have a collectively held trust orientation toward the partner firm" (Zaheer et al. 1998, p. 143). According to transaction cost economics and resource-dependence theory interorganisational trust operates as a governance mechanism (de Bondeli Smith/Aldrich 1991; Williamson 1981; Ouchi 1980) that "mitigates opportunism in exchange context characterised by uncertainty and dependence" (Doney/Cannon 1997, p. 35). Specifically, we analyse *buying firm's trust in the in-supplier firm* which is expected to emerge only when the customer and the in-supplier successfully have completed a number of transactions (Ring/Van de Ven 1992). Trust has thus an explicit past dimension and can be viewed as a bridge between the past and the future: "The past is reflected in the parties' experience and the future is called expectations and concerns fair pie of resources" (Johanson/Silver 1999, p. 9).

Literature on trust in buyer-seller relationships has revealed that trust has an positive impact on relationship continuity, commitment, repurchase intention and long-term orientation (Anderson/ Weitz 1989; Morgan/Hunt 1994; Ganesan 1994; Doney/Cannon 1997; Garbarino/Johnson 1999; Bennett/Gabriel 2001; Kenney/Ferrel/LeClair 2001; de Ruyter et al. 2001). While leading to a reduced perception of risk associated with opportunistic behaviour, reduced transaction costs (i.e. costs of search, haggling, disputes and auditing) and increased ability to perform flexible adjustments to changes (Young/Wilkinson 1989; Ganesan 1994) trust creates strong incentives to stay with a previously chosen supplier. Thus, the customer will find only limited value in searching for information about alternatives as well as in considering out-suppliers in the end of search phase. Hence, we propose:

H_1: The higher the trust of the buying firm in the in-supplier (a) the smaller the proportion of out-suppliers in the *consideration set*, and (b) the smaller the proportion of out-suppliers in the *choice set*.

According to the degree of influence it is proposed that the effect of trust increases in the end of the search phase, because then the opportunity of reducing uncertainty by the acquisition of information is limited and trust can serve as a substitute for information.

Specific Investments, Switching costs and Dependence

Specific investments, switching costs and dependence are related to the dimension of *asset specifity* discussed in transaction cost theory. High asset specifity creates a safeguarding problem, because market competition no longer serves as a restraint on opportunism (Rindfleisch/Heide 1997). Hence, asset specifity and the risk of opportunism are factors that induce shifts towards

closer relationships, because such forms of bilateral governance are presumed to provide better protection of specific assets against opportunistic behaviour than a market-based exchange (Heide/John 1990). The safeguarding problem is closely connected the discussion of *dependence* in resource dependence and social exchange theory (e.g. Pfeffer/Salancik 1978; Thibaut/Kelly 1959), because specific assets give rise to 'replaceability' problems. Heide/John (1988) argue that by combining the transaction cost model with insights from dependence theory a more comprehensive understanding of the solutions for the safeguarding problem can be achieved. Specifically, it is proposed that the deployment of transaction specific assets in buyer-seller relationships involves the problem of interfirm dependence and high switching costs. Thereby, „transaction specific assets are investments in durable assets that are highly specialized to the exchange relationship and not easily redeployable and have little salvage value in other relationships" (Williamson 1981, p. 555). Thus, *switching cost* are created, if investments in the existing relationship are not fully amortized. Since switching costs are related to both, to the specific investments in the previous relationship and to the need to invest in a new exchange relationship with a potential supplier (Jackson 1985), we classify them as a separate variable. In other words, specific investments represent the 'past-dimension' of asset specifity whereas switching costs represent the 'future dimension' of specifity in a buying situation. However, we propose that there is a strong relation between specific investments and switching costs:

H_{2a}: The higher the specific investments in the existing relationship (i.e., to the in-supplier), the higher the level of switching costs.

Moreover, we argue that both, specific investments and switching costs, create dependence, which is described by "the extent of the replaceability of the exchange partner" (Heide/John 1988, p. 24). Dependence represents the 'present dimension' of specifity resulting from past investment and from expectations of required investments in the case of switching:

H_{2b}: The higher the specific investments to the previous relationship, the higher the level of dependence.

H_3: The higher the level of switching costs, the higher the level of dependence.

In terms of transaction cost theory, once specific investments have been committed, the buying situation is fundamentally transformed (Williamson 1985), i.e. the previously competitive situation is transformed into a situation in which the in-supplier has a quasi monopolistic advantage. Thus, the general effect of specific investments, switching cost and dependence is a disincentive to explore new vendors. However, specific investments constitute a sort of dependence that may prompt buyers to pursue dependence balancing-strategies (Heide/John 1988), whereby considering out-suppliers may be one such strategy (Heide/Weiss 1995). Based on this reasoning it is expected that specific investments have a negative indirect effect, but a positive direct effect on the consideration and choice of out-suppliers:

H_4: The higher the specific investments made by the buyer in the previous relationship, (a) the higher the proportion of out-suppliers in the *consideration set*, and (b) the higher the proportion of out-suppliers in the *choice set*.

H_5: A high level of switching costs will result in (a) a smaller proportion of out-suppliers in the *consideration set*, and (b) a smaller proportion of out-suppliers in the *choice set*.

H_6: As the dependence on the in-supplier increases, (a) the proportion of out-suppliers in *consideration set* will be smaller (b) the proportion of out-suppliers in the *choice set* will be smaller.

As the dimensions of specifity are not directly related to information search we propose that there will be no significant changes in the size of impact on the structure of consideration and choice set.

Product-related uncertainty, technological uncertainty and cooperation with external consultants

Uncertainty, i.e. the extent to which information-related problems exist, is a general determinant of organisational decision-making (Achrol/Stern 1988; Heide/Weiss 1995). Specifically, uncertainty within buying decision making refers to the extent to which a buying firm has information gaps with reference to (1) the evaluation of the performance of the in-supplier and of potential suppliers, and (2) the circumstances surrounding the buying situation. The first refers to *behavioural uncertainty*, the second to *environmental uncertainty.* Behavioural uncertainty is described in transaction cost theory as "the degree of difficulty associated with assessing the performance of transaction partners" (Rindfleisch/Heide 1997, p. 43). Environmental uncertainty has been discussed in transaction theory as well as in interorganisational theories, such as resource dependence theory and social exchange theory, and can be defined as "the degree to which future states of the world cannot be anticipated and accurately predicted." (Pfeffer/Salancik 1978, p. 67).

With regard to the switching decision the buying firm is faced by (a) *reduced behavioural uncertainty* because of experiences made in the existing relationship with the in-supplier (past dimension), and (b) *behavioural uncertainty* because of the a lack of experiences with purchasing the needed product (future dimension). The first has been conceptualised as *trust*, i.e. as the degree to which the buying firm has confidence that the in-supplier will not exploit its vulnerability. The second represents the *need uncertainty*, which describes a generally complex situation where the buying organisation lacks clear understanding of suitable specifications for the product (Möller/Laaksonen 1986). This dimension of uncertainty is closely related to the complexity of the purchase decision (Patterson/Dawes 1999), which is defined as "how much information the organization must gather to make an accurate evaluation of the product" (McQuiston 1989, p. 70). According to transaction cost theory the effect of behavioural uncertainty is a performance evaluation problem and induces measurement, screening and selection costs (Buvik 2000). As such costs could be avoided by staying with the approved supplier a negative effect of need uncertainty on the consideration and choice of out-suppliers can be assumed. However, it seems reasonable that one possible strategy to respond to incomplete information is to search for new information. Supporting this view, a positive relationship between need uncertainty (or complexity of the purchase decision) and (a) the external information search (Dawes et al. 1993) on the one hand, and (b) the proportion of out-suppliers in the choice set (Patterson/Dawes 1999) on the other hand, has been explored in literature. Taking this into consideration we expect that the negative effect of need uncertainty will be overcompensated in the beginning of search process. At the end of the search process the effect is supposed to be only partly compensated, because the remaining lack of information cannot be reduced efficiently in this later stage of the buying process. In particular we propose, that

H_{7a}: The motivation to reduce uncertainty by searching for information will result in a positive effect of need uncertainty on the proportion of out-suppliers in the *consideration set*.

H_{7b}: The information-related problems with respect to the buying situation that still remain at the end of search phase will result in a negative effect of need uncertainty on the proportion of out-suppliers in the *choice set*.

The buyer's perceptions of *environmental uncertainty* can arise when changing demand conditions and technological changes demand extensive exchange of new information, renegotiations of agreements and realignment of resources (Buvik 2000; Williamson 1985). For the purpose of this research, we focus on the effect of environmental uncertainty with respect to the technological changes on the supply side. Accordingly, we address the *technological uncertainty*.

Following the reasoning of transaction cost theory, the effect of technological uncertainty is the emergence of an adaptation problem (i.e. difficulties with modifying agreements to changing circumstances) which gives rise to an increase in communication, negotiation and coordination costs (Rindfleisch/Heide 1997). To avoid such adaptation costs buyers are likely to stay in the relationship with the in-supplier (Ganesan 1994). Thus, the general effect of technological uncertainty on switching behaviour is expected to be negative:

H_8: As the level of technological uncertainty increases, (a) the *consideration set* will contain a smaller proportion of out-suppliers, (b) fewer out-suppliers will be included in the *choice set*.

Contrary to proposition H_{8a} but consistent with H_{8b}, Heide/Weiss (1995) prove that technological change serves to both expanding a buyer's information collection effort (i.e. to increase the tendency to include out-suppliers in the consideration set) and restricting the probability to switch to a new supplier. However, we argue that the positive effect on the consideration of out-suppliers is an indirect one. In particular, we propose, that the technological uncertainty will induce the cooperation with external consultants, because outside consultants can provide extensive market knowledge and technical expertise (Dawes/Patterson/Midgley 1997) and thus enhance organisational learning (Dawes 2001). Hence,

H_9: There is a positive effect of technological uncertainty on the extent of cooperation with external consultants.

Literature on high-technology markets has shown that choice set size and the proportion of out-suppliers in the choice set is greater if external consultants are involved in the buying process (Dawes 1996; Patterson/Dawes 1999). In this study we examine the general cooperation with external consultants as an indicator for the effort to enhance the technological knowledge of the organisation. Consequently, we do not link cooperation with external consultants to the need uncertainty of the specific buying situation. However, we propose that the consequence of the cooperation with external consultants for this more general purpose is the same as of hiring consultants in order to support a particular purchase decision. Because of their extensive knowledge about possible suppliers of different technological solutions outside consultants are likely to provide the buying firm with information about the capabilities of potential suppliers and thus create an incentive to include new suppliers in the consideration and choice set:

H_{10}: As the extent of cooperation with external consultants increases, (a) the proportion of out-suppliers in the *consideration set* will be larger, and (b) the *choice set* will contain a greater proportion of out-suppliers.

With respect to the size of impact we propose two conceivable views exist. While Heide/Weiss (1995) argue that technological uncertainty will lead to higher motivation to search in the beginning of search process, Dawes (1996) shows that *searching for information* and *shortlisting of suppliers* are influenced by outside consultants in a similar way. Thus, identifying the degree of influence is handled in this study as an explorative task.

4 Method

Pretest, research setting and sample

In order to capture the domain of the constructs in the research model an extensive search of literature was undertaken (Churchill 1979). Next, exploratory interviews with purchasing and technical directors of three medium-sized companies and three large scale enterprises and several academical experts were conducted in order to confirm the relevance of the issue, pretest the questionnaire, and identify key-informants. Afterwards, the revised questionnaire was filled out by 11 industrial firms. The pretest revealed no significant problems with the remaining measures and scaling formats.

The sampling frame for the final study was a national mailing list (Hoppenstedt database of German enterprises) of manufacturing firms from 17 different two-digit NACE groups, with the highest representation of firms from mechanical engineering (20.3%) and metal processing (19.6%). Based on the pretest, technical directors were identified as key-informants. Subsequently, a random sample of 1.100 names of technical directors was drawn from the sampling frame. After a reminder letter and a follow-up phone call 212 questionnaires were returned, resulting in an response rate of 19.3%. The final sample consisted of 191 buying firms, after eliminating 21 questionnaires due to missing values. All of the seventeen NACE groups were represented in the sample, whereby mechanical engineering (18.8%) and metal processing (16.2%) remained to have the highest representation. The respondents were technical directors (34.4%), managing directors (29.7%, with highest concentration in small and medium-sized firms), purchasing managers (11.8%), and others (mainly production managers). A non-response analysis has been performed (Armstrong/Overton 1977) by comparing early responses (67%) and late responses (33%). No significant differences emerged between the two groups of respondents with respect to (a) number of employees, (b) key informants involvement in the buying process, (c) consideration set size, and (d) choice set size.

Respondents were asked to describe the buying behaviour with respect to a freely chosen, recent purchase of production equipment. Moreover, the respondents had to choose purchase situations in which exactly one in-supplier existed (this restriction is important in order to examine the impact of the previous relationship).

Measures

Consideration set structure was measured by asking the respondents to list all suppliers considered in the beginning of search process (after specification of the problem) and to state for each supplier if this is the supplier of the previous solution or not. The proportion was calculated by dividing the number of new suppliers by the overall number of suppliers. The Choice set structure was measured by asking the respondents to state which of the considered suppliers were invited to submit a tender (Patterson/Dawes 1999). Appendix 1 shows the distribution of the consideration set and choice set structure.

Measures for the variables were either developed specifically for this study or adapted from prior literature. Except for the variable ‘cooperation with consultants’, which was assessed by using a 7-point single item scale, all constructs were measured by using 7-point multiple item scales. To evaluate scale properties we used traditional and advanced methods (Fornell 1982; Homburg/ Giering 1996). First, corrected item-to-total correlations were inspected to detect ill-fitting items and Cronbach’s alpha was calculated to asses the reliability of each scale. Afterwards the entire

set of items was subjected to confirmatory factor analysis to verify unidimensionality using Amos 4.01 (analysis of moment structures). All the factor loadings exceed the required level of 0.4 and have t-values greater than 4.5. A description of the items used in the analysis and a summary of the evaluation of the measurement model is presented in Appendix 2. Finally, discriminant validity was assessed by factor analysing all items representing the multi-item scales for the constructs in analysis (Appendix 3). The analysis assigned all of the six item pools to their construct factors and factor loadings are greater than 0,5 as suggested by Hair et al. (1995).

Test of Hypotheses

Initial support for our conceptual model (see Figure 2) is provided by the correlation matrix of all variables which is shown in Appendix 4. In order to provide stronger support for the hypothesized relationships the path coefficients for the structural model were estimated using Maximum likelihood method of Amos 4.01. Though the overall chi square statistic is significant ($\chi 2$ (355) = 534.42, p = 0.00), the various fit indices show a reasonable fit (GFI = 0.85, AGF = 0.82, CFI = 0.95, RMSEA = 0.05). The estimation results (standardized parameter estimates) are shown in Figure 3.

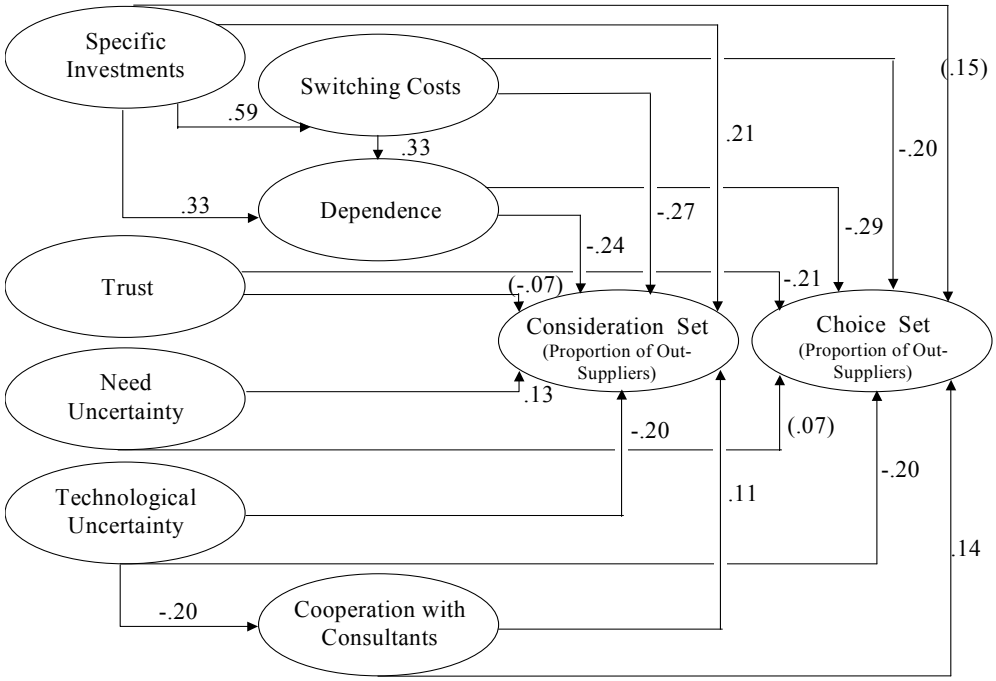

Figure 3: Structural Equation Results: Standardized Parameters (standardized coefficients in brackets are not significant at p < 0.1 level)

The structural model explains 19.7% of the variance in the proportion of out-suppliers in the consideration set and 25.5%, and in the proportion of out-suppliers in the choice set. Further, the model explains 35.0% (specific investments), 35.3% (dependence) and 3.9% (cooperation with consultants) of the variance in the other endogenous theoretical constructs.

The direct and indirect effects are depicted in Table 1.

	(a) Consideration Set (N=191)			(b) Choice Set (N=191)		
	Direct Effects	Indirect Effects	Total	Direct Effects	Indirect Effects	Total
Specific Investments (H_4; H_2)	0.21**	-0.29	-0.08	(0.15)	-0.15	-0.15
Switching Costs (H_5; H_3)	-0.27***	-0.08	-0.35	-0.20**	-0.10	-0.30
Dependence (H_6)	-0.24***		-0.24	-0.29***		-0.29
Trust (H_1)	(0.07)		n.s.	-0.21***		-0.21
Need Uncertainty (H_7)	0.13*		0.13	(0.07)		n.s.
Technological Uncertainty (H_8)	-0.20**	0.02	-0.17	-0.20**	0.03	-0.17
Cooperation with Consultants (H_{10}; H_8)	0.11*		0.11	0.14**		0.14

Table 1: Direct and Indirect, and Total effects on the Proportion of Out-Suppliers (a) in the Consideration Set, (b) in the Choice Set.
*** p < 0.01; ** p< 0.05; * p = 0.1; n.s. = not significant
(The indirect effect were derived by multiplying the sequential estimates along any given path. For example the indirect path from technological uncertainty to consideration set is (0.20 x 0.11) = 0.02. Total effects are simply the sum of direct and indirect effects.)

The specific results are the following:

- For H_1, contrary to our proposition, (a) trust has no significant effect on the proportion of out-suppliers in the consideration set. As predicted, (b) trust has a significant negative effect on the proportion of out-suppliers in the choice set ($p<0.01$). Thus, as expected, trust has a stronger impact on the choice set structure than on the consideration set structure.
- As supposed by H_2, specific investments have (a) a strong positive effect on switching costs ($p<0.01$), and (b) a positive effect on dependence ($p<0.01$), resulting in a negative indirect effect on the proportion of out-suppliers in the consideration set and the choice set. Moreover, as predicted by H_4, specific investments have a positive direct effect on the proportion of out-suppliers in the consideration set ($p<0.05$), but failed to affect choice set structure.
- For H_3, as assumed, switching costs increase the dependence, resulting in a negative indirect effect on consideration set choice set structure ($p<0.01$). Furthermore, supporting H_5, switching cost have a negative direct effect (a) on the proportion of out-suppliers in the consideration set ($p<0.01$), and (b) on the proportion of out-suppliers in the choice set ($p<0.05$).
- H_6 is also supported, i.e. the dependence significantly decreases (a) the proportion of out-suppliers in the consideration set ($p<0.01$) and (b) the proportion of out-suppliers in the choice set ($p<0.01$).
- As predicted by H_7, need uncertainty increases (a) the proportion of out-suppliers in the consideration set ($p<0.1$). Contrary to our suppositions, (b) need uncertainty has no significant effect on choice set structure. However, the results confirm our expectation, that need uncertainty will increase the motivation to consider out-suppliers at the beginning of search phase, but not at the end of this phase.
- For H_8, as expected, a higher level of technological uncertainty significantly decreases (a) the proportion of out-suppliers in the consideration set ($p<0.05$), and (b) the proportion of out-suppliers in the choice set ($p<0.05$). Furthermore, as predicted by H_9, technological uncertainty increases the extent of cooperation with external consultants.
- As presumed by H_{10}, cooperation with out-suppliers significantly increases (a) the proportion of out-suppliers in the consideration set, and (b) the proportion of out-suppliers in the choice set. Surprisingly, the effect on consideration set structure is smaller than on choice set structure.

In order to ascertain that the proportion of out-suppliers in the consideration set and in the choice set can serve as indicators for switching behaviour we have compared the means of our two dependent variables with respect to the final buying decision. As Table 2 shows, the average proportion of out-suppliers in the (a) consideration set, and (b) choice set is smaller for buyers who decided to stay with the in-supplier, rather than to switch to an out-suppliers. In particular, the mean of the proportion of out-suppliers in the *choice set* is considerably smaller for buyers

who decided *not* to switch to an out-supplier. Hence, we can proof that the consideration set structure serves as a good indicator for the *tendency* to switch, while the choice set structure serves as an indicator for the *readiness* to switch. To verify this proposition further research is needed.

	Average Proportion of Out-Suppliers in the:		
Final choice of Supplier	(a) Consideration Set	(b) Choice Set	Cases
In-Supplier chosen	0.61	0.46	111 (58%)
Out-Supplier chosen	0.77	0.76	80 (42%)

Table 2: Average proportion of out-suppliers in the consideration and choice sets by the final choice of supplier

5 Discussion and conclusion

Our results show, that the consideration and choice of out-suppliers at the beginning and at the end of search phase is determined in part by the outcomes of the existing relationship to an in-supplier (i.e., trust, specific investments, switching costs, and dependence), and in part by the extent, to which information related problems exist (need uncertainty, technological uncertainty, and cooperation with external consultants). Thereby, switching costs and dependence on the in-supplier have the strongest impact on the consideration set structure, while trust and dependence have the strongest effect on the choice set structure. As these effects are negative, the determinants serve as switching barriers. However, by separating specific investments from switching costs and dependence, we were able to show that the effects of asymmetrical dependence on the stability of relationships are twofold. On the one hand, higher levels of asymmetrical dependence may prompt buyers to (partially or completely) withdraw from the existing relationship (Emerson 1962). Supporting this view, a positive direct effect of buyer's specific investments on the consideration of out-suppliers has been identified. On the other hand, it is proposed by dependence theory and transaction cost theory that higher levels of buyer's specific investments increase the tendency to stay with an existing supplier (Ganesan 1994). This view is supported, by showing that specific investments have a negative indirect effect on the consideration and choice of in-suppliers. With respect to the existing relationship we can derive the following implications. Altogether, specific investments, switching costs and dependence are factors that may prevent buyer's from considering new suppliers already in the beginning of search phase. Trust does not prevent buyers from including out-suppliers in their consideration sets, but restricts the tendency to invite out-suppliers to submit an offer. Thus, our results support the view of Johnson (1982) who stated that "People stay in relationships for two major reasons: because they want to; and because they have to" (Johnson 1982, p. 52-53). While specific investments, switching costs, and dependence create 'involuntary' switching barriers, trust creates an incentive to stay voluntarily in a relationship (Plinke 1997).

With regard to the dimension of uncertainty we found support for a negative direct effect of technological uncertainty on the proportion of out-suppliers in both sets. Thus, technological uncertainty can prevent buyers from switching. However, technological uncertainty increases the tendency to cooperate with external consultants, i.e. it has an (indirect) positive effect as well. Hence, in-suppliers should not rely on the thought that technological uncertainty serves as a switching barrier. Instead, in-suppliers as well as out-suppliers are well advised to establish good working relationships with these 'influential' external consultants (Patterson/Dawes 1999). In

addition need uncertainty increases the tendency to consider new alternatives. However, this effect proved not to be very strong.

To sum up, a considerable part of our hypotheses has been supported by the empirical results. However, some results are not easy to explain and are issues which warrants further research. In particular, the different effects of some factors on the consideration set at the one hand and on the choice set on the other hand need to be discussed in more detail. Moreover, the amount of variance explained for each of the endogenous variables suggests that additional variables may affect the consideration and choice of out-suppliers. For example, satisfaction with the in-supplier and situational factors, such as formalization of the buying process, have not been examined in this study. Finally, a multi-informant strategy would have been desirable, rather than collecting data from key informants.

References

Achrol, R. S./Stern, L. W. (1988): Environmental Determinants of Decision-Making Uncertainty in Marketing Channels, in: Journal of Marketing Research, Vol. 25, February, 1988, S. 36-50.

Anderson, E./Weitz, B. A. (1989): Determinants of Continuity in Conventional Industrial Channel Dyads, in: Marketing Science, Vol. 8, Fall, 1989, S. 310-323.

Anderson, J. C./Narus, J. A. (1990): A Model of Distributor Firm and Manufacturer Firm Working Partnerships, in: Journal of Marketing, Vol. 54, January, 1990, S. 42-58.

Bennett, R./Gabriel, H. (2001): Reputation, Trust and Supplier Commitment: The Case of Shipping Company/Seaport Relations, in: Journal of Business & Industrial Marketing, Vol. 16, 6, 2001, S. 424-438.

Buvik, A. (2000): Is Vertical Co-Ordination an Effective Response to Economic and Technological Ties in Industrial Purchasing Relationships?, in: Journal of Business-to-Business Marketing, Vol. 7, 4, 2000, S. 69-89.

Churchill Jr., G.A. (1979): A Paradigm for Developing Better Measures of Marketing Constructs, in: Journal of Marketing Research, Vol. 16, February, 1979, S. 64-73.

Crittenden, V. L./Scott, C. A./Moriarty, R. T. (1987): The Role of Prior Experience in Organizational Buying Behavior, in: Advances in Consumer Research (Anderson, P. F./Wallendorf, M. [eds.], Ann Arbor, MI: Association for Consumer Research), Vol. 14, 1987, S. 387-391.

Dawes, P. L. (2001): Technical Consultants and Organisational Learning in IT-Purchase Situations, in: Proceedings of the 17th Annual IMP Conference, Oslo, Norway, September, 2001, S. 1-12.

Dawes, P. L./Patterson, P. G. (1992): The Use of Technical Consultancy Services by Firms Making High-Technology Purchase Decisons, in: Grunert, K. G./Fuglede, D. (eds.): Proceedings of the 21st Annual Conference of the European Marketing Academy, Aarhus, Denmark, May, 1992, S. 261-275.

Dawes, P. L./Patterson, P. G./Lee, D. Y. (1996): Internal and External Buying Center Membership in High Technology Business Markets, in: The Journal of High Technology Management Research, Vol. 7, 1, 1996, S. 107-127.

Dawes, P., L. (1996): Choice Set Size in High-Technology Business Markets, in: Journal of Business-to-Business Marketing, Vol. 3, 1, 1996, S. 33-66.

Dawes, P., L./Dowling, G. R./Patterson, P. (1993): Factors Affecting the Structure of Buying Centers for the purchase of professional business advisory services, in: Journal of Business-to-Business Marketing, Vol. 1, 1, 1993, S. 31-61.

Dawes, P., L./Patterson, P. G./Midgley, D. F. (1997): Involvement of Technical Consultants in High Technology Business Markets, in: Journal of Business & Industrial Marketing, Vol. 12, 2, 1997, S. 83-102.

de Bondeli Smith, A./Aldrich, H. E. (1991): The Role of Trust in the Transaction Cost Economics Framework: Transaction Contexts and Governance Structures in U.S. Manufacturer-Supplier Relations, in: Working Paper 88, Dpt. of Sociology, University of North Carolina, 1991, S. 1-36.

de Ruyter, K./Moorman, L./Lemmink, J. (2001): Antecedents of Commitment and Trust in Customer-Supplier Relationships in High Technology Markets, in: Industrial Marketing Management, Vol. 30, 2001, S. 271-286.

Doney, P.M./Cannon, J. P. (1997): An Examination of the Nature of Trust in Buyer-Seller Relationships, in: Journal of Marketing, Vol. 61, April, 1997, S. 35-51.

Dyer, J. H./Chu, W. (2000): The Determinants of Trust in Supplier-Automaker Relationships in the U.S., Japan, and Korea, in: Journal of Internal Business Studies, Vol. 31, 2, 2000, S. 259-285.

Emerson, R. M. (1962): Power-Dependence Relations, in: American Sociological Review, Vol. 27, February, 1962, S. 31-41.

Fornell, C. (1982): A Second Generation of Multivariate Analysis - An Overview, in: Fornell, C. (ed.): A Second Generation of Multivariate Analysis, Part 1, New York, 1982, S. 1982.

Ganesan, S. (1994): Determinants of Long-Term Orientation in Buyer-Seller Relationships, in: Journal of Marketing, Vol. 58, April, 1994, S. 1-19.

Garbarino, E./Johnson, M. S. (1999): The Different Roles of Satisfaction, Trust, and Commitment in Customer Relationships, in: Journal of Marketing, Vol. 63, April, 1999, S. 70-87.

Hair, J. E. jr./Anderson, R. E./Tatham, R. L./Black, W. C. (1995): Multivariate Data Analysis with Readings, Englewood Cliffs, NJ: Prentice Hall, 1995.

Håkansson H./Snehota I. (1995): Developing Relationships in Business Networks, London: Routledge, 1995.

Heide, J. B./John, G. (1988): The Role of Dependence Balancing in Safeguarding Transaction-Specific Assets in Convetional Channels, in: Journal of Marketing, Vol. 52, Februar, 1988, S. 20-35.

Heide, J. B./John, G. (1990): Alliances in Industrial Purchasing: The Determinants of Joint Action in Buyer-Supplier Relationships, in: Journal of Marketing Research, Vol. 27, February, 1990, S. 24-36.

Heide, Jan B./Weiss, Allen M. (1995): Vendor Consideration and Switching Behavior for Buyers in High-Technology Markets, in: Journal of Marketing, Vol. 59, July, 1995, S. 30-43.

Homburg, C./Giering, A. (1996): Konzeptualisierung und Operationalisierung komplexer Konstrukte. Ein Leitfaden für die Marketingforschung, in: Marketing ZFP (Zeitschrift für Forschung und Praxis), Vol. 18, 1, 1996, S. 5-24.

Jackson, B. (1985): Winning and Keeping Industrial Customers, Lexington, MA: Lexington Books, 1985.

Jeffries, F. L./Reed, R. (2000): Trust and Adaptation in Relational Contracting, in: Academy of Management Review, Vol. 25, 4, 2000, S. 873-882.

Johanson, J./Mattsson, L. G. (1987): Interorganisational Relations in Industrial Systems: A Network Approach Compared with the Transaction Cost Approach, in: International Studies of Management and Organization, Vol. 17, 1, 1987, S. 34-48.

Johanson, M./Silver, L. (1999): Emergence and Diffusion of Trust in Business Networks, in: Hildebrandt, L.; Annacker, D.; Klapper, D. (eds.): Proceedings of the 28th Annual Conference of the European Marketing Academy, Berlin, Germany, May, 1999, S. 1-23.

Johnson, M. P. (1982): Social and Cognitive Features of the Dissolution of Commitment to Relationships, in: Duck, S. (eds.): Personal Relationships; 4. Dissolving Personal Relationships, London et al.: Academic Press, 1982, S. 51-73.

Johnston, W. J./Lewin, J. E. (1996): Organizational Buyer Behavior: Toward an Integrative Framework, in: Journal of Business Research, Vol. 35, 1 (January), 1996, S. 1-15.

Kennedy, M. S./Ferrell, L. K./LeClair, D. B. (2001): Consumers' Trust of Salesperson and Manufacturer: An Empirical Study, in: Journal of Business Research, Vol. 51, 1 (January), 2001, S. 73-86.

Kotler, P. D. (2002): Marketing Management, 10/e, Englewood Cliffs, NJ: Prentice Hall, 2002.

Lehmann, D. R./Pan, Y. (1994): Context Effects, New Brand Entry, and Consideration Sets, in: Journal of Marketing Research, Vol. 31, August, 1994, S. 364-374.

Mayer, R. C./Davis, J. H./Schoorman, F. D. (1995): An Integrative Model of Organizational Trust, in: Academy of Management Review, Vol. 20, 4, 1995, S. 709-734.

McQuiston, D. H. (1989): Novelty, Complexity, and Importance as Causal Determinants of Industrial Buyer Behavior, in: Journal of Marketing, Vol. 53, April, 1989, S. 66-79.

Möller, K. E. K./Laaksonen, M. (1986): Situational Dimensions and Decision Criteria in Industrial Buying: Theoretical and Empirical Analysis, in: Advances in Business Marketing, Vol. 1, Woodside, A. G. (ed.), JAI Press, Greenwich, CT, 1986, S. 163-202.

Moorman, C./Deshpandé, R./Zaltman, G. (1993): Factors Affecting Trust in Market Research Relationships, in: Journal of Marketing, Vol. 57, January, 1993, S. 81-101.

Morgan, R. M./Hunt, S. D. (1994): The Commitment-Trust Theory of Relationship Marketing, in: Journal of Marketing, Vol. 58, July, 1994, S. 20-38.

Ouchi, W. G. (1980): Markets, Bureaucracies, and Clans, in: Administrative Science Quarterly, Vol. 25, March, 1980, S. 120-142.

Patterson, P. G./Dawes, P. L. (1999): The Determinants of Choice Set Structure in High-Technology Business Markets, in: Industrial Marketing Management, Vol. 28, 4, 1999, S. 395-411.

Pfeffer, J./Salancik, G. R. (1978): The External Control of Organizations. A Resource Dependence Perspective, New York et al.: Harper & Row, 1978.

Plinke, W. (1997): Grundlagen des Geschäftsbeziehungsmanagements, in: Kleinaltenkamp, M./ Plinke, W. (eds.): Geschäftsbeziehungsmanagement, Berlin et al.: Springer, 1997, S. 1-62.

Rindfleisch, A./Heide, J. B. (1997): Transaction Cost Analysis: Past, Present Future Applications, in: Journal of Marketing, Vol. 61, October, 1997, S. 30-54.

Ring, P. S./Van de Ven, A. H. (1992): Structuring Cooperative Relationships between Organizations, in: Strategic Management Journal, Vol. 13, 1992, S. 483-498.

Roberts, J. H./Lattin, J. M. (1997): Consideration: Review of Research and Prospects for Future Insights, in: Journal of Marketing Research, Vol. 34, 3 (August), 1997, S. 406-410.

Robinson P. J./Faris, C. W./Wind, Y. (1967): Industrial Buying and Creative Marketing, Boston, Mass.: Allyn & Bacon, 1967.

Sambandam, R./Lord, K. R. (1995): Switching Behavior in Automobile Markets: A Consideration-Sets Model, in: Journal of the Academy of Marketing Science, Vol. 23, 1, 1995, S. 57-65.

Shocker, A. D./Ben-Akiva, M./Boccara, B./Nedungadi, P. (1991): Consideration Set Influences on Customer Decision Making and Choice: Issues, Models, and Suggestions, in: Marketing Letters, Vol. 2, 1991, S. 181-198.

Stump, R. L. (1995): Antecedents of Purchasing Concentration: A Transaction Cost Explanation, in: Journal of Business Research, Vol. 34, 2 (October), 1995, S. 145-157.

Thibaut, J. W./Kelly, H. H. (1959): The Social Psychology of Groups, New York: Wiley, 1959.

Webster, F. E. jr./Wind, Y. (1972): Organizational Buying Behavior, Englewood Cliffs, NJ: Prentice Hall, 1972.

Weiss, A. M./Heide, J. B. (1993): The Nature of Organizational Search in High-Technology Markets, in: Journal of Marketing Research, Vol. 30, May, 1993, S. 220-233.

Williams, M. (2001): In Whom We Trust: Group Membership as an Affective Context for Trust Development, in: Academy of Management Review, Vol. 26, 3, 2001, S. 377-396.

Williamson, O. E. (1985): The Economic Institutions of Capitalism, New York: Free Press, 1985.

Williamson, O. E. (1981): The Economics of Organization: The Transaction Cost Approach, in: American Journal of Sociology, Vol. 87, 3, 1981, S. 548-577.

Young, L. C./Wilkinson, I. F. (1989): The Role of Trust and Co-operation in Marketing Channels: A Preliminary Study, in: European Journal of Marketing, Vol. 23, 2, 1989, S. 109-122.

Zaheer, A./McEvily, B./Perrone, V. (1998): Does Trust Matter? Exploring the Effects of Interorganizational and Interpersonal Trust on Performance, in: Organization Science, Vol. 9, 2, 1998, S. 141-159.

Zand, D. E. (1972): Trust and Managerial Problem Solving, in: Administrative Science Quarterly, Vol. 17, 1972, S. 229-239.

Appendix 1: Absolute and Relative Frequency of In-Suppliers and Out-Suppliers in Consideration and Choice Set

	Consideration Set (N=191)		Choice Set (N=191)	
Number of Suppliers	Frequency	%	Frequency	%
In-Suppliers				
0	9	4.7	22	11.5
1	182	95.3	169	88.5
Out-Suppliers				
0	11	5.8	26	13.6
1	27	14.1	55	28.8
2	54	28.3	69	36.1
3	54	28.3	23	12.0
4	20	10.5	11	5.8
5 or more	25	13.1	7	3.7

Appendix 2: Items Representing Different Scales and Confirmatory Factor Analysis Results

Factor and Description of Items (7-point scale with 7 = strongly agree; 1 = strongly disagree; (translated from German language)	Individual item reliability	t-Values of Factor loadings	Construct reliability	Average variance extracted
1. Specific Investments (Coefficient α = .88):			0.89	0.73
SpezInv_1: We have made significant investments in resources dedicated to our relationship with this supplier.	0.69	13.62		
SpezInv_2: Our firm has significantly invested in personnel in order to deal with this supplier.	0.88	16.41		
SpezInv_3: Our procedures and routines have been tailored to meet the requirements of dealing with this supplier.	0.63	12.74		
2. Switching Costs (Coefficient α = .82):			0.83	0.61
Switch_1: We thought that a significant part of our investments would be worthless if we switched to a new supplier.	0.75	13.80		
Switch_2: Our belief was that developing procedures to deal effectively with a new supplier would take a lot of time and effort.	0.49	10.35		
Switch_3: We thought that purchasing from a new supplier would devaluate a significant amount of existing knowledge.	0.60	11.79		
3. Dependence (Coefficient α = .87):			0.87	0.58
Depend_1: The supplier can be replaced relatively quickly and easily. (reverse coded)	0.61	12.36		
Depend_2: Even if we wanted, it is nearly impossible to replace the supplier.	0.57	11.64		
Depend_3: We have strongly committed to the supplier.	0.62	12.45		
Depend_4: If we no longer wanted to work with this supplier, we could switch to a new supplier without any problems. (reverse coded)	0.62	12.40		
Depend_5: Our firm is much more dependent on this supplier than the supplier is on us.	0.48	10.38		
4. Trust (Coefficient α = .96):			0.96	0.75
Trust_1: We are convinced that the supplier is fair and honest to us.	0.71	14.36		
Trust_2: If problems (such as shipment delays) arise, this supplier is honest with regard to these problems.	0.77	15.30		
Trust_3: We are convinced, that the supplier is doing his best do solve emerging problems.	0.79	15.69		
Trust_4: We are convinced, that this supplier correctly performs its tasks, even if we cannot control this.	0.79	15.68		
Trust_5 We are convinced, that this supplier considers our interests.	0.74	14.82		
Trust_6: We can count on the supplier's promises to our firm.	0.70	14.16		
Trust_7: We can rely on the information given by this supplier without any concern.	0.68	13.76		
Trust_8: This supplier is trustworthy.	0.79	15.62		
5. Need Uncertainty (Coefficient α = .82)			0.83	0.62
NeedUncert_1: We were uncertain if the potential technological solutions would fulfil our requirements.	0.50	10.33		
NeedUncert_2: We were unsure, if we had sufficient knowledge in order to select the optimal solution.	0.63	11.82		
NeedUncert_3: We were uncertain, if the right decision would be made with regard to the choice of the needed solution.	0.71	12.67		
6. Technological Uncertainty (Coefficient α = .82)			0.82	0.53
TechUncert_1: As technology is changing rapidly, we often had to redefine our requirements on the demanded solution.	0.59	11.47		
TechUncert_2: There is a variety of product innovations on the supply side.	0.58	11.41		
TechUncert_3: Technological developments on the supply side have no far-reaching consequences. (reverse coded)	0.45	9.65		
TechUncert_4: The amount of technological alternatives is permanently growing because of technological dynamics in the supplier's industry.	0.49	10.19		
7. Cooperation with Consultants (In order to bring us up-to-date with the technological developments we cooperate with external consultants.)	-	-	-	-
8. Consideration Set (Proportion of Out-Suppliers)	-	-	-	-
9. Choice Set (Proportion of Out-Suppliers)	-	-	-	-

GFI: 0,856; AGFI: 0,818; CFI: 0,95; RMSEA: 0,05

Appendix 3: Results of Exploratory Factor Analysis

		Factor Loadings					
Factor	Items	Faktor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
	Trust_3	**0.90**	0.02	0.00	-0.04	0.03	0,02
Trust	Trust_8	**0.89**	-0.01	0.00	0.04	-0.07	0,00
	Trust_4	**0.88**	0.00	0.13	0.00	-0.05	0,02
	Trust_2	**0.87**	0.04	0.05	-0.01	-0.06	0,08
	Trust_5	**0.85**	-0.02	0.09	0.07	-0.08	0,01
	Trust_6	**0.84**	0.04	0.00	-0.11	-0.07	0,00
	Trust_1	**0.83**	0.07	0.14	0.01	-0.10	-0,03
	Trust_7	**0.81**	0.00	0.12	-0.02	-0.07	0,08
	Depend_4	0.01	**0.80**	0.05	0.05	0.04	0,15
Dependence	Depend_1	0.01	**0.77**	-0.02	0.11	0.03	0,15
	Depend_3	0.07	**0.72**	-0.01	0.32	0.04	0,13
	Depend_2	0.04	**0.70**	0.08	0.17	-0.07	0,15
	Depend_5	-0.02	**0.68**	0.00	0.12	-0.01	0,08
	TechUncert_2	0.11	0.02	**0.77**	0.09	0.04	0,13
Technological	TechUncert_1	0.09	0.09	**0.72**	0.12	0.14	0,16
Uncertainty	TechUncert_4	0.10	-0.06	**0.67**	0.18	0.03	0,08
	TechUncert_3	0.06	0.04	**0.67**	0.00	0.11	0,02
Specific	SpezInv_2	-0.04	0.28	0.14	**0.84**	-0.05	0,20
Investments	SpezInv_1	-0.02	0.25	0.19	**0.73**	-0.10	0,21
	SpezInv_3	-0.03	0.33	0.16	**0.68**	0.03	0,25
Need	NeedUncert_3	-0.09	-0.03	0.11	0.02	**0.83**	-0,06
Uncertainty	NeedUncert_2	-0.08	0.00	0.11	-0.02	**0.79**	0,02
	NeedUncert_1	-0.13	0.04	0.07	-0.08	**0.70**	0,07
Switching	Switch_1	0.00	0.26	0.13	0.24	0.03	**0,82**
Costs	Switch_2	0.04	0.24	0.13	0.18	-0.03	**0,68**
	Switch_3	0.11	0.30	0.24	0.22	0.07	**0,55**
Eigenvalue		6.65	5.42	2.78	2.01	1.29	1,11
Explained Variance		23,12	12.31	8.75	8.05	7.27	6.67
Total explained Variance		66,17					

Extraction Method: Principal Axis Factoring; Rotation Method: Varimax with Kaiser Normalization

Appendix 4: Correlation Matrix of Measurement Scales

	1	2	3	4	5	6	7	8	9
1. Specific Investments	1.00								
2. Switching Costs	.59	1.00							
3. Dependence	.53	.54	1.00						
4. Trust	-.02	.08	.06	1.00					
5. Need Uncertainty	-.05	.03	-.00	-.17	1.00				
6. Technological Uncertainty	.33	.37	.12	.19	.21	1.00			
7. Cooperation with Consultants	.03	-.02	.06	.03	.04	.20	1.00		
8. Consideration Set (Proportion of Out-Suppliers	-.15	-.35	-.30	-.15	.09	-.21	.08	1.00	
9. Choice Set (Proportion of Out-Suppliers)	-.19	-.35	-.35	-.29	.06	-.25	.09	.72	1.00