UNIVERSITEIT
GENT

FACULTEIT ECONOMIE
EN BEDRIJFSKUNDE

TWEEKERKENSTRAAT 2
B-9000 GENT
Tel. : 32 - (0)9 – 264.34.61
Fax. : 32 - (0)9 – 264.35.92

WORKING PAPER

Dealing with Business Service Transactions after the Sourcing Decision: Influence of Contract and Uncertainty

Darline Vandaele [1]

Paul Gemmel [2]

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[1] Research Assistant of the Fund for Scientific Research – Flanders at Ghent University, Faculty of Economics and Business Administration, Tweekerkenstraat 2, 9000 Gent, Belgium, Tel: +32 9 2648981, Fax: +32 9 2644286, E-mail: Darline.Vandaele@UGent.be (Corresponding author)

[2] Associate Professor at Ghent University, Assistant Professor at Vlerick Leuven Gent Management School, Faculty of Economics and Business Administration, Tweekerkenstraat 2, 9000 Gent, Belgium, Tel: +32 9 2643518, Fax: +32 9 2644286, E-mail: Paul.Gemmel@UGent.be

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ABSTRACT

Business companies are increasingly dealing with external sourcing agents in today's marketplace. However, few research studies have investigated how purchased business services should be governed after the sourcing decision, during the interaction between buyer and seller. In this study, we investigate business service exchange governance, both contractual and relational, after the purchase decision and taking into account the impact of asset specificity and uncertainty. The results reveal that contracts should not just be used to establish business relationships as these formal agreements do impact business services exchanges after the sourcing decision. The two components of contractual governance, specificity and flexibility, each have a distinct impact on business services exchanges, indicating that both need to be developed carefully when drafting a contract. Though formal agreements influence business service exchange governance in the life after the purchase, informal mechanisms such as relational governance should not be overlooked. The relational norms developed during the buyer-seller interaction complement the contractual arrangements made. In business services settings, governance mechanisms are more strongly determined by uncertainty related to behavioral than to environmental aspects. Specific investments of the buyer are reflected in the informal governance aspects of the relationship, while specific investments made by the supplier are also safeguarded by contractual arrangements. Based on the results, an integrated governance scheme for business services transactions is developed.

INTRODUCTION

In today's turbulent marketplace, the business services sector continues to grow in our economies. Because of developments such as servization of goods and increased outsourcing, the share of services in total purchase volumes has increased (Murray and Kotabe, 1999) and employment in business services keeps rising. Service sourcing practices become more prevalent and buying organizations are increasingly dealing with suppliers and external sourcing agents. Consequently, a strong focus on buyer-seller exchanges and on the mechanisms used to govern these exchanges is needed. However, a lot of research has concentrated on the initial stages of the purchase process, like selection and contracting. The ongoing interactions that take place between buyer and seller after the sourcing decision have been less frequently investigated (Wynstra *et al.*, 2006), especially in services settings (Brown *et al.*, 2000).

After the sourcing decision, in the life after the purchase, the exchange partners are involved in the relationship, past the awareness phase and before dissolution (Dwyer *et al.*, 1987). The service deliveries and their performance outcomes in the executions stage determine whether or not both parties are willing to continue or enhance the relationship (Ring and Van de Ven, 1994). The establishment of long-term relationships and customer retention is strategically important, especially in highly competitive service environments. Therefore, the service exchange between buyer and seller in the life after the purchase should be carefully governed. Exchange governance refers to formal and informal rules of exchange between buyer and seller (Nickerson *et al.*, 2001; Wathne and Heide, 2004) and consists of economic and relational governance strategies (Griffith and Myers, 2005). Most research studies on exchange governance have focused on manufacturing settings (Brown *et al.*, 2000). More in-depth research on buyer-seller exchange governance in services settings is needed as the governance of business services transactions is different from the governance of business manufacturing transactions. First, because of the intangible nature of services, the writing of contracts is more challenging (Fitzsimmons and Fitzsimmons, 2006) and relational structures such as relational norms will necessarily emerge (Vargo and Lusch, 2004). Second, the findings of previous research indicate that manufacturing and services firms seem to respond differently to determinants of exchange governance such as asset specificity and uncertainty (Brouthers and Brouthers, 2003). As services tend to be more people-oriented and have a less tangible nature, evaluation of the services being delivered is more difficult (Fitzsimmons and Fitzsimmons, 2006), enhancing the uncertainty on outcomes of action. Moreover, in services, a higher degree of collaboration is needed in the exchange (Jackson et al., 1995). This means that interactive processes between buyer and seller take place and that the buyer can actively participate in service production (Kumar, 1999). The ongoing interaction in the life after the purchase is more prevalent in services settings. However, few research studies on service sourcing have investigated how the purchased business services should be governed after the sourcing decision, during the ongoing interaction process between buyer and supplier (Wynstra *et al.*, 2006).

In this research study, we investigate business services exchange governance after the sourcing decision. In general, two types of governance strategies have been studied (Griffith and Myers, 2005): contractual and relational governance strategies. These two types of governance strategies are generally studied separately rather than within an integrated framework (Carson *et al.*, 2006; Luo, 2002). In most of these studies, contractual governance is usually considered as an one-dimensional construct, although more recent research shows that contractual governance can be better described by two dimensions to study contracts (Battigalli and Maggi, 2002) and their interaction with relational governance [Luo, 2002

#879]: that is contract detail and contract flexibility. To the best of our knowledge, no other research study has addressed the economic antecedents that might influence the two-dimensional construct of contractual governance. In this research study, we focus on business services settings to address this research gap. We investigate the influence of economic antecedents on contractual governance (measured by two dimensions) and on relational governance and the impact of both on performance outcomes.

The next section of the paper discusses the governance mechanisms for business services exchanges and the incorporated antecedents. We then develop hypotheses regarding the impact of antecedents and governance mechanisms on performance outcomes. Afterwards, the research method and data collection procedure are described. The proposed relationships are analyzed using data out of a specific business services setting. Finally, the results are discussed, along with some managerial implications and directions for future research.

CONCEPTUAL BACKGROUND

Governance of transactions has been the focus of the Transaction Costs Economics (TCE) theory described by Williamson (1979). Transactions are defined as the transfer of a good or a service (Williamson, 1985). Based on transaction-specific attributes, the appropriate governance mechanism, i.e. the governance structure which minimizes the associated transaction costs, can be determined. (Williamson, 1991). The governance mechanisms in TCE are originally limited to two alternate forms: market governance with the market as governance mechanism and hierarchy or vertical integration with the firm as governance mechanism (David and Han, 2004; Rindfleisch and Heide, 1997). Afterwards, intermediate modes of governance termed hybrids have been proposed and their strategic importance is growing (Zaheer and Venkatraman, 1995). In hybrids or bilateral governance modes, the unit of analysis is no longer the transaction itself, but the relationship established between supplier and buyer, based on the transactions taking place.

Exchange Governance Mechanisms

In general, two types of governance strategies have been studied (Griffith and Myers, 2005): economic governance strategies such as contracts (Lusch and Brown, 1996) and relational governance strategies such as relational norms (Haugland and Reve, 1993; Heide and John, 1992). Contracts and relational norms are considered the two common governance mechanisms used as building blocks for complex structures of governance (Cannon *et al.*, 2000). In this research study, both contractual and relational governance are included as the interesting questions about these governance mechanisms have less to do with their single effect than with their combined effect (Achrol and Gundlach, 1999). Each governance mechanism has specific advantages and disadvantages and is not simply a substitute for the other (Carson et al., 2006).

Contractual governance is considered a formal, legal and economic governance strategy (Ferguson *et al.*, 2005; Lusch and Brown, 1996). In this research, contractual governance refers to explicit, formal, and usually written contracts. Contracts are binding legal agreements that specify the obligations and roles of both parties in the relationship. As such, contracts can be considered as substitutes for formal governance mechanisms of hierarchy or integration in business exchanges (Ferguson *et al.*, 2005; Gundlach and Achrol, 1993; Heide, 1994; Lusch and Brown, 1996). Several researchers have delineated the importance of examining contracts (Brown *et al.*, 2006; Lusch and Brown, 1996) and suggest that if contracts are misused, performance outcomes and behavioral relations among buyers and sellers may be harmed. Previous research mainly views contractual governance as unidimensional (e.g., Poppo and Zenger, 2002), causing controversy over the role of contractual governance (Luo, 2002). However, contracting theory identifies two dimensions of contract structure (Battigalli and Maggi, 2002): the level of contract detail and the level of contract flexibility. Contract detail, or contract specificity, can be defined as the extent to which contractual agreements are used to specify roles and obligations of the parties with sufficient precision and detail (Cannon et al., 2000). Contract flexibility indicates the ability of parties to adjust their behavior or the terms of the agreement in response to changes in the environment or to the changing needs of the other party (Young-Ybarra and Wiersema, 1999), also referred to as modification flexibility. It is the degree to which guidelines and possible solutions for handling various unanticipated contingencies are incorporated in the contract (Luo, 2002). Contract flexibility does not necessarily contradict or reduce the importance of contract detail: high level of contractual governance requires high levels on both dimensions (Luo, 2002)

Relational governance is defined as the strength of the social norms in the exchange and has often been referred to as relationalism (Ferguson et al., 2005). Relational norms are defined as the bilateral expectations that exchange partners will act in ways that assist each other during the course of the relationship (Joshi and Campbell, 2003). As such, relational governance can be considered rather informal and social, compared to contractual governance (Achrol and Gundlach, 1999). Dwyer, Schurr, and Oh (1987) introduced Macneil's (1980) relational contract theory and its behavioral concepts into the marketing literature on buyer-seller relationships. Ever since, it is generally accepted that interfirm activities can be managed using relational elements or norms (Weitz and Jap, 1995; Zhang *et al.*, 2003). The importance of relational norms in business services settings has been illustrated by Paulin, Perrien, and Ferguson (1997).

Economic Antecedents

Based on TCE theory, relevant economic antecedents relate to asset specificity and uncertainty (Williamson, 1985). These transaction-specific attributes will have an influence on the appropriate governance mechanism for a particular exchange (Williamson, 1991) and are related to two main assumptions of human behavior in TCE (Rindfleisch and Heide, 1997): bounded rationality and opportunism. Bounded rationality assumes that decision makers have limited rationality because of constraints on their cognitive capabilities. While decision makers may be willing to act rationally, limited information processing and communication causes bounded rationality (Rindfleisch and Heide, 1997). Due to the presence of uncertainty, bounded rationality plays a more profound role in the exchange setting. The second assumed human behavior in TCE, opportunism, supposes that decision makers may be seeking to serve their self-interest: “self-interest seeking with guile” (Williamson, 1985). This relates to behaviors such as lying, cheating or other forms of violating the agreement. The extent to which specific assets support the transaction causes opportunism-related behavioral problems because of the increased safeguarding problem (Rindfleisch and Heide, 1997).

Asset specificity is defined by Williamson (1991) as the degree to which the assets used in support of the transaction can be redeployed to alternative uses without sacrifice of productive value. Transaction specific investments can be made by either the buyer or the seller (Heide and John, 1990). While most studies incorporate only one of these types of asset specificity (Claro *et al.*, 2003; Heide and John, 1992), both TCE theory (Williamson, 1983) and empirical results (Stump and Heide, 1996) indicate the relevance of both in the governance of interfirm exchanges. Specific investments made by the supplier are referred to as supplier asset specificity, while specific investments made by the buyer are referred to as buyer asset specificity. In general, specific investments in physical and/or human aspects are considered (Grover and Malhotra, 2003). Physical asset specificity refers to investments in physical assets such as equipments and tools, while human asset specificity relates to those investments in knowledge and skills of the workforce needed to deliver the required service. Because of the intangible nature of services, specific investments in procedural aspects such as a firm's workflow or processes should also be considered (Zaheer and Venkatraman, 1995).

In TCE, uncertainty is mostly related to environmental or behavioral aspects (Rindfleisch and Heide, 1997). Environmental uncertainty is also referred to as external uncertainty, while behavior uncertainty is sometimes called internal uncertainty (Cannon et al., 2000). The research overview of David and Han (2004) reveals that the most common form of uncertainty studied is environmental uncertainty, while behavioral uncertainty is less frequently investigated. However, when behavioral uncertainty is excluded in a particular research study, environmental uncertainty can incorrectly capture some of the effects of behavioral uncertainty (Carson et al., 2006). Environmental uncertainty refers to the unpredictability of the environment or the inability to predict changes in the external environment (Joshi and Stump, 1999). This type of uncertainty relates to unanticipated changes in relevant factors surrounding the exchange (Noordewier *et al.*, 1990), with market conditions, price (Pilling *et al.*, 1994; Zaheer and Venkatraman, 1995), and technology (Poppo and Zenger, 2002; Zaheer *et al.*, 1998) as the most frequently occurring (David and Han, 2004). Behavioral uncertainty refers to the unpredictability of the exchange partner's behavior. Behavioral uncertainty encompasses the difficulty to evaluate the service delivered, to determine product or service standards and to render objective assessments (Cannon et al., 2000). Because of the relatively more people-oriented and less tangible character of services, behavioral uncertainty is supposed to have a more profound impact in business services settings than in manufacturing settings (Brouthers and Brouthers, 2003).

HYPOTHESES

In this research study, we want to investigate the "life after the purchase" (Wynstra et al., 2006) for business services exchanges: how should purchased business services be governed after the purchase and during the interaction. Buyer-seller exchanges in business services markets are governed through both formal and informal agreements (Ivens, 2005) and the use of contracting for service delivery is extensive and rising (Dean and Kiu, 2002). Explicit, written contracts between buyer and seller are established in the commitment stage (Ring and Van de Ven, 1994). During the execution of the contract, the content of the contract mainly remains unchanged until the next negotiation phase (Ring and Van de Ven, 1994). Relational governance emerges from the values and agreed-upon processes found in the relationship and further develops within the relationship (Macneil, 1980; 1983). Thus, at a certain point in the life after the purchase, the contract has been established ex ante and relational governance continues to develop over time. The contract serves as an ex ante framework and is related to the structure of the exchange, while relational governance relates to the process of the exchange (Luo, 2002). In this study we develop hypotheses for business services exchanges related to the life after the purchase, during the process of the exchange. The hypothesized relationships are illustrated in Figure 1.

Insert Figure 1 Here

Performance Outcomes of Exchange Governance

While certain researchers claim that contracts may be detrimental to the development of relational behaviour, others state that contractual and relational governance are complements and should be considered simultaneously (Lazzarini *et al.*, 2004; Woolthuis *et al.*, 2005). Based on TCE and contract theory, the established contract limits the possibilities for opportunistic behavior (Woolthuis et al., 2005). Explicit contracts formally state how parties to the contract should behave over time (Lusch and Brown, 1996). Moreover, the punishments specified in the contract reduce the short-time gains of opportunistic behavior and heighten the gains from cooperative behavior (Poppo and Zenger, 2002). In a business service exchange, Ivens (2005) states that more formal and detailed contracts between buyer and seller increase the likelihood that relational behavior is performed. Thus, well-specified contracts reduce the gains of short-term opportunism through incentives or punishments, thereby increasing the value of honoring more informal dealings such as relational governance (Lazzarini *et al.*, 2004; Poppo and Zenger, 2002). Similarly, flexible contracts also increase the likelihood that relational behavior is performed. Higher contract flexibility attenuates potential hazards such as the threats from uncertain future conditions and because of these attenuated hazards, relational behavior is enhanced (Luo, 2002). Therefore, we propose that both contract detail and contract flexibility will increase the occurrence of relational behavior between the exchange partners.

H1: Contract detail (a) and contract flexibility (b) are positively related to relational governance in business services exchanges.

While proposing a complementary link between contracts and relational governance (Lazzarini *et al.*, 2004; Poppo and Zenger, 2002), we note that both governance mechanisms are different variables affecting performance and each has unique properties in stimulating the performance of business services exchanges (Luo, 2002). When both governance mechanisms are used simultaneously, advantage can be taken of their differential impacts on business exchanges and performance outcomes (Brown *et al.*, 2000; Weitz and Jap, 1995). As a consequence, contractual and relational governance are each assumed to have a positive impact on performance outcomes, also in a business services setting (Poppo and Zenger, 2002). For contractual governance, both dimensions are assumed to be positively related to performance outcomes. High levels of contract detail make it more difficult for the supplier to engage in opportunistic behavior, resulting in higher performance outcomes of the exchange (Gainey and Klaas, 2003). As a flexible contract provides a framework that enables the exchange partners to easily modify the contract when needs are changing, flexible contracts are the key to improved outcomes (Harris *et al.*, 1998). Thus, we hypothesize:

H2: Contract detail (a), contract flexibility (b), and relational governance (c) are each positively related to performance outcomes in business services exchanges.

Economic Antecedents of Exchange Governance

TCE theory suggests that a higher degree of asset specificity, i.e. higher investments dedicated to a particular buyer and whose redeployment involves considerable switching costs, requires greater safeguards against opportunistic behavior in the exchange (David and Han, 2004). Contracts have been established ex ante and can be considered as the first safeguard against opportunism. The higher the asset specificity, the more complex the established contracts (Dyer, 1997) and the more long-term contracts will be preferred (Aubert *et al.*, 1996; Joskow, 1987). Complex contracts containing remedies for anticipated contingencies (contract detail) and for unanticipated contingencies (contract flexibility) are crafted to better safeguard the investor of specific investments against opportunism (Poppo and Zenger, 2002). When asset specificity increases, transaction costs are presumed to increase (Williamson, 1985), but by establishing more complex contracts certain costs associated with asset specificity will be attenuated (Dyer, 1997). For example, more complex contracts eliminate or at least attenuate the need for profit bargaining related to transaction-specific assets (Dyer, 1997). In the life before the purchase, firms may often recognize that asset specificity can make them vulnerable to opportunism and to limit this risk, they take proactive steps by establishing high levels of contractual governance (Gainey and Klaas, 2003). However, when environmental uncertainty is high, it is hard to determine ex ante how to react to unforeseen changes and it will be harder to stipulate ex ante detailed formal agreements between exchange partners (Rindfleisch and Heide, 1997). In other words, higher levels of environmental uncertainty increase the costs of establishing detailed contractual agreements. Faced with this environmental uncertainty, the exchange partners may prefer to remain flexible in the relationship (Gundlach and Achrol, 1993) and as such resist governance mechanisms that result in greater contract detail, while preferring more contract flexibility. Thus, contract detail will be a less effective mean to safeguard against past and future specific investments made and to deal with opportunism in highly uncertain environments. On the other hand, environmental uncertainty necessitates higher flexibility in contracts to deal with changing circumstances (Harris *et al.*, 1998), especially when transaction-specific investments have been made. Therefore, we hypothesize that environmental uncertainty has a negative moderating effect on the relationship between supplier asset specificity and contract detail and a positive moderating effect on the relationship between supplier asset specificity and contract flexibility.

H3: Supplier asset specificity is positively related to contract detail (a) with environmental uncertainty attenuating that positive effect (negative moderating effect) (b) in business services exchanges.

H4: Supplier asset specificity is positively related to contract flexibility (a) with environmental uncertainty enhancing that positive effect (positive moderating effect) (b) in business services exchanges.

Previous research has assumed a positive relationship between asset specificity and relational governance based on TCE theory: asset specificity increases switching costs and thus, relational governance is enhanced as a safeguard against opportunistic behavior. Although contractual governance is used as an ex-ante established safeguard against opportunism, additional mechanisms such as relational governance might be needed to protect the transaction-specific investments made after the purchase because of limited information processing and bounded rationality. However, with increasing levels of environmental uncertainty, bounded rationality plays a more profound role in the exchange setting. Contract detail is a less efficient governance mechanism to protect against opportunism caused by asset specificity in highly uncertain environments and therefore other governance mechanisms should be further enhanced. If relational governance is increased, adaptations to changes in the environment can be carried out more readily (Heide and John, 1990) and efficiencies for both exchange partners are enhanced (Claro et al., 2003). Therefore, we posit that environmental uncertainty has a positive moderating effect on the relationship between supplier asset specificity and relational governance: in settings with high environmental uncertainty, supplier asset specificity further increases relational governance.

H5: Supplier asset specificity is positively related to relational governance (a) with environmental uncertainty enhancing that positive effect (positive moderating effect) (b) in business services exchanges.

Next to supplier asset specificity and environmental uncertainty, behavioral uncertainty will also influence business services exchange governance. Behavioral uncertainty causes ex ante information asymmetry because of the inability to determine a party's true characteristics prior to the exchange (Rindfleisch and Heide, 1997). Therefore, when behavioural uncertainty increases, it might be harder to determine ex ante which monitoring practices should be incorporated in the contract or to stipulate ex ante contractual obligations for each exchange partner, especially in business services exchanges. More problems related to monitoring the exchange partner's performance will arise because of their intangibility, simultaneity and people-oriented character (Brouthers and Brouthers, 2003; Erramilli and Rao, 1993). Where greater uncertainty exists about the evaluation and monitoring of performance, parties must generally avoid details in the development of contracts (Gainey and Klaas, 2003). Behavioral uncertainty also causes ex-post difficulties in business services settings because of information asymmetry regarding task performance (Rindfleisch and Heide, 1997). When behavioral uncertainty increases and performance of the exchange partner is hard to evaluate, relational governance is difficult to develop (Heide and Miner, 1992). Behavioral uncertainty makes it unclear whether a bad service performance is caused by the other party or whether the cause is beyond the other party's control. If you give the other party the benefit of the doubt, the road to exploitation is open. If you consider it a fault of the other party, a spiral of joint retaliation is created (Heide and Miner, 1992). In either way, behavioral uncertainty has a negative impact on the exchange relationship. If behavioral uncertainty is high, parties can engage in opportunism without being caught or cooperative actions can be incorrectly sanctioned as opportunism, reducing incentive for cooperative actions and decreasing the level of relational governance (Carson et al., 2006). Similarly, high levels of behavioral uncertainty make it difficult to determine whether or not the stipulations in the contract have resulted in the requested performance. As a result, if behavioral uncertainty is high, it is hard to evaluate whether or not those contractual stipulations should be changed to fulfill the customers' needs. If the delivered service is incorrectly evaluated as not fulfilling customers' needs because of high behavioral uncertainty, the agreed stipulations in the contract could be changed in the wrong way, deteriorating the performance of subsequent service delivery. Higher levels of behavioral uncertainty complicate the use of contract flexibility, resulting in less flexibility incorporated in the ex ante established contract. As a consequence, we hypothesize:

H6: *Behavioral uncertainty is negatively related to contract detail (a) and contract flexibility (b) in business services settings.*

H7: *Behavioral uncertainty is negatively related to relational governance in business services settings.*

Next to supplier asset specificity, specific investments can also be made by the other partner to the exchange, referred to as buyer asset specificity. Based on TCE theory, these investments serve as a credible commitment in the relationship and are supposed to protect the specific investments of the other exchange party (Williamson, 1983). Buyer asset specificity tends to lower the need for safeguards against opportunism (Zaheer and Venkatraman, 1995), due to the credible threat of losing the investments made (Joshi and Stump, 1999). Based on TCE theory, we propose in hypothesis 3 (contract detail) and hypothesis 4 (contract flexibility) that contractual agreements contain remedies for anticipated contingencies to safeguard against opportunism caused by supplier asset specificity (Poppo and Zenger, 2002). Because the statements in the contract are established for each party to the exchange and thus, not only the supplier's but also the buyer's specific investments made will be protected. For example, the longer the term of the contract, the more both supplier and buyer specific investments will be protected (Joskow, 1987). As a consequence, buyer asset specificity does not increase the need for contractual governance. On the other hand, Heide and John (1990) argue that specific assets do not have the characteristics of a good safeguard against opportunism because these are valued more highly by the giver than the taker. Consequently, the effects of supplier and buyer asset specificity are both enhancing and not attenuating the need for exchange governance: specific investments of both buyer and supplier increase the level of relational governance (Heide and John, 1990). As neither exchange party is able to turn to another exchange relationship due to the specific investments, both parties are willing to develop relational governance to assure cooperation in the future (Joshi and Stump, 1999). Therefore, we propose:

H8: Buyer asset specificity is positively related to relational governance in business services exchanges.

RESEARCH METHOD

Data Collection

The research study was set up in cooperation with some major security services companies. Because business services differ on the level of tangibility and people-oriented character we chose to limit our investigation to buyers of a specific kind of services, that is security services, delivered by several suppliers to exclude possible effects of service-specific variables. Security services belong to facility services, an important part of the business services sector (Lehtonen and Salonen, 2005). In this business services setting, almost all relationships between buyer and supplier rely to some extent on both formal contracts and relational mechanism. However, for both security suppliers and their buyers it is unclear how transaction characteristics can influence the contractual agreement and how this formal agreement can influence the course of the relationship in the life after the purchase. In this research, we investigate the governance of the relationship between the security services provider and the buying organization, taking into account both contractual and relational issues. The security services performed relate to the supervision and protection of (im)mobile goods belonging to the customer. Some typical examples of the security services delivered are reception services and access control.

Before the questionnaires were sent to the buying organizations, a number of customers were interviewed to investigate the relevance of our research and the constructs incorporated. The interviewees were selected based on their experience with security services and several types of security services like reception services and access control were covered across the interviews. Next, a first draft of the questionnaire was developed and pre-tested within another group of buying organizations. About 21 business customers filled in the questionnaire. Based on the analyses of the pre-test results, the questionnaire was adjusted when necessary. Finally, the questionnaire was sent to the manager responsible for the security services at the buying organizations. In total, about 464 surveys were sent. Completed surveys were received from 124 buying organizations (a response rate of 27%). Approximately half of the respondents' firms belong to the manufacturing sector. The size of the buying organization is expressed in number of personnel, in terms of full time equivalents (FTE). Analyses indicate that small (FTE<250), medium, and big (FTE>3000) companies are represented in this research study.

Measures

To test the hypotheses, a number of constructs were incorporated in the empirical study. The measures used are mainly derived for transaction cost and relational exchange theory, as described below. Measurement items for all multi-item scales appear in the Appendix. Table 1 gives an overview of the main constructs and their correlations.

Insert Table 1 Here

Supplier asset specificity. In this research, the five items of supplier asset specificity (SOAS) represent specific investments in physical, human and procedural aspects. The scaling of supplier asset specificity is based on items previously used in the research of Buvik and Gronhaug (2000), Stump and Heide (1996), and Claro, Hagelaar, and Omta (2003).

Buyer asset specificity. In this research, the scaling of buyer asset specificity (BOAS) is based on items previously used in the research of Heide and John (1992) and Klein, Frazier, and Roth (1990). The six items of buyer asset specificity represent specific investments in physical, human, and procedural aspects.

Environmental uncertainty. The scaling to measure environmental uncertainty (EnvUnc) is not uniform across research studies. In this research study, the scaling of environmental uncertainty is based on three items reflecting the unpredictability of the market, price, and technology.

Behavioral uncertainty. The scaling of behavioral uncertainty (BehUnc) is based on the research of Cannon, Achrol, and Gundlach (2000). In this research, this concept is measured in terms of four items.

Contractual governance. In this research, contractual governance consists of contract detail and contract flexibility. The scaling of contract detail (Cdeta) is based on the research of Cannon, Achrol, and Gundlach (2000) and consists of the three items. The scaling of contract flexibility (Cflex) consists of two items and is based on the research of Harris, Giunipero, and Hult (1998) and Cannon, Achrol, and Gundlach (2000). Both the convergent and discriminant aspects of the two-dimensional contractual governance construct have been validated in previous research (Luo, 2002).

Relational governance. Relational governance (RelGov) is conceptualized using the relational exchange norm theory of Macneil (1980). The scaling of relational governance is based on the research of Ferguson, Paulin, and Bergeron (2005). The nine items reflect the relational norms of solidarity, harmonization of conflict, flexibility and information exchange.

Performance. Customer-based evaluation of exchange performance in services (Perf) generally includes multiple facets such as overall customer satisfaction, willingness to recommend, and future purchase intentions such as likelihood to renew the contract and likelihood to increase patronage (Ferguson et al., 2005). The scaling of performance is based on five items previously used in research of Cannon and Perreault (1999), Eggert and Ulaga (2002), Bolton, Smith, and Wagner (2003), and Jones and Suh (2000).

Control variables. Next to economic and social antecedents, a number of other characteristics of the buying situation can influence the buyer-supplier relationship. Previous research on buyer-supplier relationships in business markets has suggested the relationship length between exchange partners as control variable (Cannon *et al.*, 2000; Claro *et al.*, 2003; Ferguson *et al.*, 2005; Poppo and Zenger, 2002). In this research, relationship length (Rellength) is measured as how long the buying organization has been a customer of the supplying organization expressed in number of years (open ended question).

ANALYSES AND RESULTS

To assess construct validity and test the hypotheses, Partial Least Squares (PLS) appeared the most appropriate technique based on the properties of the data at hand. PLS makes no distributional assumptions and has lower sample size requirements than other structural equation modeling techniques (Chin, 1998). The program used for these analyses is SmartPLS Version 2.0.M3 developed by Ringle, Wende, and Will (2005) of the University of Hamburg (Germany). PLS software estimates both factor loadings (i.e. measurement model) and structural paths (i.e. structural model) simultaneously (Chin, 1998). We follow a two-step approach based on Hulland (1999). First, the measurement model is evaluated to assess construct validity. Then, the hypotheses are tested by evaluating the structural model.

Construct Validity

To assess the reliability and validity of the measurements used, the measurement model is evaluated in PLS. The adequacy of the measurement model is assessed by examining individual item reliabilities and by evaluating convergent and discriminant validity.

First, individual item reliabilities are assessed by examining the factor loadings of all items on their respective constructs. As a rule of thumb, each factor loading should be greater than 0.707 in order to share more variance with the component score than with error variance, (Chin, 1998). However, loadings of 0.50 or 0.60 are also acceptable if additional indicators exist in the block for comparison basis (Chin, 1998). In our research, only one item, loading on the construct of environmental uncertainty (i.e. environmental uncertainty related to technology – item envunc3), had to be removed because of low factor loading (loading of 0.21). All the other items have a significant factor loading on their respective construct and thus demonstrate a good level of item reliability, as illustrated in Table 2.

Insert Table 2 Here

Next, composite reliability and average variance extracted are computed to assess convergent validity of the different constructs. Composite reliability (CR) is similar to Cronbach's alpha and can be computed using the internal consistency measure developed by Fornell and Larcker (1981). In this study, CR of each construct is between 0.72 and 0.94, thus above the threshold value of 0.70 suggested by Fornell and Larcker (1981) (Table 2). Average variance extracted (AVE) of a construct is the average variance shared between that construct and its items. Based on Fornell and Larcker (1981), AVE should be higher than 0.50, indicating that at least 50% of measurement variance is captured by the construct. In this study, AVE of each construct is between 0.50 and 0.82, thus equal to or above the threshold value of 0.50 suggested by Fornell and Larcker (1981) (Table 2).

Finally, discriminant validity of the different constructs is examined by means of AVE as suggested by Fornell and Larcker (1981). This test compares the correlation between any two constructs and the root-squared AVE of these two constructs. To have discriminant validity, the correlation should be smaller than the average of the two root-squared AVEs, indicating that the variance shared between any two constructs is lower than the AVE by the constructs. The results of the discriminant validity analysis are displayed in Table 1 with the correlations below the diagonal and the square roots of AVE on the diagonal. In this study, there is no correlation between any two latent constructs larger than or even equal to the square root of AVEs. Consequently, discriminant validity is supported and confidence is gained that all constructs in the model are indeed measuring different concepts.

Hypotheses Testing

After assuring the reliability and validity of the constructs incorporated in the model, the hypotheses are tested by evaluating the structural model in PLS. To investigate the interaction effect of environmental uncertainty in PLS, we use the methodology assessed by Monte Carlo simulations (Chin *et al.*, 2003). First, the indicator values are standardized and then product indicators are created by multiplying the indicators from the predictor and moderator variables. These product indicators reflect the latent interaction variable (Chin et al., 2003). The assessed relationships and their path coefficient with corresponding significance are reported in Table 3. We report one-tailed p-values for a priori directional hypotheses below. The R^2 values (variance explained) of the dependent constructs are fairly high with values of 0.32 for contract detail, 0.33 for contract flexibility, 0.46 for relational governance, and 0.54 for performance outcomes.

Insert Table 3 Here

The first hypothesis (H1) states that in business services exchanges the level of contractual governance is positively related to the level of relational governance. The analyses reveal different results for the two dimensions of contractual governance: contract detail and contract flexibility. The impact of contract detail on relational governance is positive and significant ($\beta=0.16$; $p<0.01$) (H1a), but contract flexibility is not significantly related to relational governance ($p>0.05$) (H1b). Thus, we find support for H1a, but no support for H1b.

The second hypothesis (H2) states that both the level of contractual governance (a, b) and the level of relational governance (c) are positively related to performance outcomes. Again, we find discrepant results for the two dimensions of contractual governance. Contract flexibility has a significant and positive impact on performance ($\beta=0.16$; $p<0.01$) (H2b), while contract detail is not significantly related to performance ($p>0.05$) (H2a). On the other hand, relational governance is positively related to performance outcomes ($\beta=0.62$; $p<0.001$) (H2c). Thus, we find support for H2b and H2c, but no support for H2a.

The third hypothesis (H3) states a positive impact of supplier asset specificity on contract detail (a) and this positive impact will be attenuated with increasing levels of environmental uncertainty (negative moderating effect) (b). The analyses reveal that supplier asset specificity does have a positive and significant impact on contract detail ($\beta=0.24$; $p<0.001$) (H3a). However, the interaction effect of supplier asset specificity and environmental uncertainty on contract detail is not significant ($p>0.05$) (H3b). Instead, environmental uncertainty has a direct negative impact on contract detail ($\beta= - 0.21$; $p<0.05$). Thus, we find support for H3a, but no support for H3b.

The fourth hypothesis (H4) states a positive impact of supplier asset specificity on contract flexibility (a) and this positive impact will be enhanced with increasing levels of environmental uncertainty (positive moderating effect) (b). The results reveal that supplier asset specificity has a positive and significant impact on contract flexibility ($\beta=0.30$; $p<0.001$)

(H4a). The interaction effect of supplier asset specificity and environmental uncertainty on contract flexibility is also significant and positive (β=0.36; $p<0.001$) (H4b): supplier asset specificity has a more profound impact on contract flexibility in highly uncertain environments (Figure 2). Thus, we find support for H4a and for H4b.

Insert Figure 2 Here

The fifth hypothesis (H5) states that supplier asset specificity has a positive impact on relational governance (a) and this positive impact will be enhanced with increasing levels of environmental uncertainty (positive moderating effect) (b). The results indicate that supplier asset specificity is indeed positively and significantly related to relational governance (β=0.29; $p<0.01$), providing support for H5a. However, neither environmental uncertainty ($p>0.05$) nor the interaction effect of supplier asset specificity and environmental uncertainty ($p>0.05$) has a significant impact on relational governance. In this study, H5b is not supported.

The sixth hypothesis (H6) states that behavioral uncertainty is negatively related to contractual governance. Again, we find discrepant results for contract detail and contract flexibility. Behavioral uncertainty is negatively and significantly related to contract detail (β= - 0.21; $p<0.01$) (H6a) but the relationship between behavioral uncertainty and contract flexibility is not significant ($p>0.05$) (H6b). On the other hand, the results indicate that the interaction effect between behavioral uncertainty and buyer asset specificity on contract flexibility is significant (β=0.27; $p<0.001$). Behavioral uncertainty only has a negative impact on contract flexibility with low levels of buyer asset specificity. When the level of buyer asset specificity is high, behavioral uncertainty has no impact on contract flexibility (Figure 3). Thus, H6a is supported but H6b is only supported with low levels of buyer asset specificity.

Insert Figure 3 Here

The last two hypothesis state that behavioral uncertainty has a negative impact on relational governance (H7) and that buyer asset specificity is positively related to relational governance (H8). The results indicate that behavioral uncertainty is negatively and significantly related to relational governance ($\beta = -0.20$; $p<0.01$) and buyer asset specificity has a significant impact on relational governance ($\beta=0.13$; $p<0.05$), providing support for both H7 and H8. The results also indicate that relationship length is a significant control variable for performance in the model ($\beta=0.16$; $p<0.01$).

DISCUSSION

The written, formal agreement between service supplier and buying organization plays an important role in the governance of business services exchanges. Contracts are not only used to establish business relationships (Roxenhall and Ghauri, 2004); these formal agreements also have an impact on the buyer-seller relationship after the sourcing decision by influencing service exchange governance and the performance outcomes. The results of this study are in accordance with the complementarity view on contracting and relational issues (Lazzarini et al., 2004): the establishment of the contract facilitates the development of relational governance and both contractual and relational governance have a positive impact on performance outcomes. However, considering contractual governance as a two-dimensional construct reveals a discrepancy in the impact of contract detail and contract flexibility on business services exchange governance. The level of contract detail is only indirectly related to performance outcomes through a positive impact on relational governance. Contract detail relates to the detailed roles and obligations of the parties specified in the contract and these are at the basis of developing common values and norms. Because of the details on roles and obligations in the contract, relational governance is enhanced and mediates the impact of contract detail on performance outcomes. On the other hand, the level of contract flexibility is unrelated to relational governance, but directly related to performance outcomes. In this research study, contract flexibility means modification flexibility: the ability to adjust the terms of the agreement. When the terms of the contract can be adjusted to include additional needs or to better comply with current needs (high contract flexibility), the customer will evaluate the exchange in a more positive way as service delivery will better meet customer's expectations.

Transaction-specific investments made by the supplier, i.e. supplier asset specificity, directly influence both contractual and relational governance. Higher levels of supplier asset specificity relate to higher levels of relational governance, contract detail, and contract flexibility. Only the impact on the latter is positively moderated by environmental uncertainty: the impact of supplier asset specificity on contract flexibility will be higher with increasing levels of environmental uncertainty. When environmental uncertainty increases, more flexibility in the contract is needed to include changes in the environment. More contract flexibility in highly uncertain environments also assures the supplier of continuity of the established relationship and as a consequence safeguards the specific investments made by the supplier against possible relationship termination because of changes in the environment.

On the other hand, transaction-specific investments made by the buyer, that is buyer asset specificity, only have a direct impact on relational governance. Buyer asset specificity is not directly related to contractual governance. As assumed, safeguards for specific investments made by the supplier included in the contract will also protect the buyer against opportunistic behavior when transaction-specific investments are made. In conclusion, both buyer asset specificity and supplier asset specificity positively influence relational governance, but only supplier asset specificity has a direct impact on contract detail and on contract flexibility, especially in highly uncertain environments.

Because of the people-oriented and less tangible character of services, behavioral uncertainty is assumed to have a more profound impact in business services exchanges (Brouthers and Brouthers, 2003; Erramilli and Rao, 1993). In this research study in a security services setting, behavioral uncertainty has a direct impact on both contractual and relational governance. As hypothesized, higher levels of behavioral uncertainty implies lower levels of contract detail and relational governance. However, the hypothesized negative impact of behavioral uncertainty on contract flexibility appeared not overall significant. The hypothesized negative relationship between behavioral uncertainty and contract flexibility only holds for lower levels of buyer asset specificity. In-depth analyses indicate that buyer asset specificity has a positive moderating effect on the negative relationship between behavioral uncertainty and contract flexibility: with increased levels of buyer asset specificity, the negative impact becomes smaller. Increasing levels of behavioral uncertainty imply more problems with monitoring of the performance and with the evaluation of changes needed to improve performance. As a consequence, the supplying organization will prefer less contract flexibility to diminish possible misuse of the flexible contract. On the contrary, when buyer asset specificity is high, the buying organization will prefer more contract flexibility to assure that the contract can be changed when needed and as such safeguard its investments by maintaining the current relationship. This positive influence of buyer asset specificity will attenuate the negative impact of behavioral uncertainty on contract flexibility, thus resulting in a positive moderating effect of buyer asset specificity.

While behavioural uncertainty influences both contractual and relational governance, environmental uncertainty only has an influence on contractual governance. The hypothesized moderating effect of environmental uncertainty on relational governance is not significant: higher levels of supplier asset specificity imply higher levels of relational governance irrespective of the level of environmental uncertainty. The impact of environmental uncertainty is different for the two dimensions of contractual governance. Environmental uncertainty has a positive moderating effect on the relationship between supplier asset specificity and contract flexibility but is directly and negatively related to contract detail, contrary to the moderating effect assumed in TCE theory. In highly uncertain environments, and apart from the level of supplier asset specificity, less detail on roles and obligations of the partners will be included in the contract because of decreased bounded rationality. Environmental uncertainty increases the ex ante costs of establishing a contract and specifying the roles of each exchange partner, resulting in lower levels of detail in the contract. Whether or not contract detail is needed to safeguard against opportunistic behaviour caused by transaction-specific investments, higher environmental uncertainty will decrease the level of contract detail. When taking into account the full model, we remark that the level of contract detail can still increase in highly uncertain environments, because of the stronger and positive relationship between supplier asset specificity and contract detail.

Limitations and Directions for Future Research

Although the model investigated in this research study incorporates a large number of related constructs, a number of other aspects could be incorporated in future research as well. Contract flexibility does not only include modification flexibility, but also termination flexibility (Young-Ybarra and Wiersema, 1999). In this research, performance is based on customer-based evaluations of the service delivered, but more objective ways of measuring performance such as sales volume or profit should be included in future studies. Including data from both the supplier and buyer side, that is dyadic data, could provide more insight on the underlying reasons for certain relationships found. Moreover, as differences in transaction characteristics may affect the relationships under consideration (Gainey and Klaas, 2003; Williamson, 1996), the impact of contractual and relational governance on performance outcomes should be investigated in other business services segments such as consulting services or advertising. While in this research study business services exchange governance is investigated at a certain point in the life after the purchase, interfirm relationships should be considered as a developmental process in a longitudinal sense (Ring and Van de Ven, 1994). This also means that recursive relationships between the incorporated constructs can occur over time.

Managerial Implications

In most business services settings, contracts are used to establish the buyer-seller relationship, but the initial agreements are not used to govern the relationship. This research study indicates that a well-established contract can improve the performance of the relationship both directly through contract flexibility and indirectly through the development of relational governance based on contract detail. This implies that when writing the contract, buying and selling organizations should place more emphasis on roles and obligations of both parties and on how the agreement can be changed to incorporate additional needs or better fulfil current needs. Specifying detailed roles and obligations of both partners in the contract clearly communicates what each exchange partner is supposed to do and what they can expect from the other party during the relationship. In this environment, the development of common values and norms is encouraged and this enables the development of relationship governance. Allowing for flexibility in the contract assures both parties that the conditions of the relationship can be changed and avoids an early termination of the contract. A mutual willingness to build a long-lasting relationship is needed when one asks for contract flexibility. Contract flexibility also is a safeguard against opportunistic behaviour caused by transaction-specific investments. Finally, contract flexibility can directly improve customer-based evaluations of performance as customer's needs might be better fulfilled when certain changes are made in the contract.

In business services settings, suppliers and buyers should consider contract detail and contract flexibility to protect their transaction-specific investments. As contract detail is influenced by just the supplying organization, the supplier might, based on previous experience, have more insight than the buyer in which specific investments will be needed for a specific service ex ante and how these can be protected against opportunism by specifying detailed roles and obligations in the contract. Consequently, contract detail can be established mainly by the supplying organization and might be more or less standardized without strongly customizing the details to a particular buying organization. Conversely, contract flexibility should not only consider the supplying organization, but also the buying organization, taking into account the transaction-specific investments made by that buyer. As a result, the buyer should participate more in determining the right level of flexibility in the contract.

Another major problem to be dealt with by managers in governing business services exchanges is the occurrence of behavioural uncertainty. The difficulty to monitor and evaluate the service delivered and to render objective assessments makes it difficult for business services exchange partners to establish and develop both contractual and relational governance. To encourage the development of relational governance and enhance the level of contract detail and contract flexibility, supplying organizations should decrease performance ambiguity from the point of view of the buying organization. Previous research indicated that more interorganizational trust between buyer and supplier can lead to less behavioural uncertainty (Gao *et al.*, 2005). Other ways to decrease behavioural uncertainty are the establishment of objective assessments of performance and then monitoring and reporting on performance achieved on those measures. However, in business services, establishing objective performance measures is not always obvious. Providing more information on what, how, when, and where the service is delivered can also decrease behavioural uncertainty from the point of view of the buyer.

In Figure 4, we summarize our findings for governing business service transactions. This scheme can be used for further theoretical development as well as for managerial guidance. In this governance scheme we make two important assumptions. First, we assume that there is a certain level of (supplier) asset specificity in the buyer-seller relationship. This assumption is based on TCE theory. If there is no asset specificity, market governance is the preferred governing mechanism instead of contractual or relational governance (David and Han, 2004; Williamson, 1975). Second, we assume that there is a certain level of behavioural uncertainty in the buyer-seller relationship. Due to the intangible nature of services and the high involvement of people in the exchange, a certain degree of behavioural uncertainty seems to occur in many business services settings (Brouthers and Brouthers, 2003).

Insert Figure 4 Here

Based on the governance scheme illustrated in Figure 4, business service transactions with a certain level of supplier asset specificity and with a certain level of behavioural uncertainty should be governed by both relational and contractual mechanisms. When both environmental uncertainty and buyer asset specificity are low, suppliers and buyers should spend attention to contract detail, contract flexibility, and relational governance when supplier asset specificity increases or when behavioural uncertainty decreases. When environmental uncertainty increases, more emphasis should be placed on contract flexibility to deal with unanticipated changes in the environment. Establishing a detailed contract ex ante will be more difficult in high uncertainty environments and a flexible contract allows both parties to adjust the contract to those changes. On the other hand, when buyer asset specificity increases, more emphasis should be placed on relational governance. The buyer will be more willing to develop relational norms to safeguard the investments from opportunistic behaviour and enhanced relational governance will result in positive outcomes for both parties. In a situation with high levels of buyer asset specificity and environmental uncertainty, both relational governance and contract flexibility need to be emphasized. Finally, we remark that emphasizing a particular governance mechanism does not completely rule out the other governance mechanisms under consideration.

In conclusion, this study has some important implications for both theory and management. First, the results indicate that the formal contract is an important governance mechanism and should not be considered inferior to other governance mechanisms such as relational governance. This statement is especially true when the contract is viewed as a two-dimensional construct. Contract detail and contract flexibility each have their specific influence on the governance of the exchange. Contract detail and contract flexibility have different relationships with the economic antecedents of business service transactions, but both play their role in service exchange governance. Second, behavioural uncertainty appears very important in governing business services exchanges. The level of behavioural uncertainty in a particular service exchange strongly determines how the service transaction is governed. Third, not only the specific investments deployed by the supplier, but also those deployed by the buying firm can influence how contractual and relational governance relate to each other. This stresses the impact of the buying organization on the exchange governance strategy. Fourth, this study provides a governance scheme for business services exchanges showing the potential for future research and managerial implications.

REFERENCES

Achrol, R. S. and Gundlach, G. T. (1999), "Legal and Social Safeguards Against Opportunism in Exchange", *Journal of Retailing*, Vol. 75 No. 1, pp. 107-124.

Aubert, B. A., Rivard, S. and Patry, M. (1996), "A transaction cost approach to outsourcing behavior: some empirical evidence", *Information & Management*, Vol. 30 No. 2, pp. 51-64.

Battigalli, P. and Maggi, G. (2002), "Rigidity, Discretion, and the Costs of Writing Contracts", *The American Economic Review*, Vol. 92 No. 4, pp. 789-917.

Bolton, R. N., Smith, A. K. and Wagner, J. (2003), "Striking the right balance: designing service to enhance business-to-business relationships", *Journal of Service Research*, Vol. 5 No. 4, pp. 271-291.

Brouthers, K. D. and Brouthers, L. E. (2003), "Why Service and Manufacturing Entry Mode Choices Differ: The Influence of Transaction Cost Factors, Risk and Trust", *Journal of Management Studies*, Vol. 40 No. 5, pp. 1179-1204.

Brown, J. R., Cobb, A. T. and Lusch, R. F. (2006), "The roles played by interorganizational contracts and justice in marketing channel relationships", *Journal of Business Research*, Vol. 59 No. 2, pp. 166-175.

Brown, J. R., Dev, C. S. and Lee, D.-J. (2000), "Managing Marketing Channel Opportunism: The Efficacy of Alternative Governance Mechanisms", *Journal of Marketing*, Vol. 64 No. 2, pp. 51-65.

Buvik, A. and Gronhaug, K. (2000), "Inter-firm dependence, environmental uncertainty and vertical co-ordination in industrial buyer-seller relationships", *Omega: The International Journal of Management Science*, Vol. 28 No. 4, pp. 445-454.

Cannon, J. P., Achrol, R. S. and Gundlach, G. T. (2000), "Contracts, Norms, and Plural Form Governance", *Journal of the Academy of Marketing Science*, Vol. 28 No. 2, pp. 180-194.

Cannon, J. P. and Perreault, W. D. J. (1999), "Buyer-Seller Relationships in Business Markets", *Journal of Marketing Research*, Vol. 36 No. 4, pp. 439-460.

Carson, S. J., Madhok, A. and Wu, T. (2006), "Uncertainty, opportunism, and governance: the effects of volatility and ambiguity on formal and relational contracting", *Academy of Management Journal*, Vol. 49 No. 5, pp. 1058-1077.

Chin, W. W. (1998), "The Partial Least Squares Approach for Structural Equation Modeling", in Marcoulides, G. A. (Ed.), *The Partial Least Squares Approach for Structural Equation Modeling*, Lawrence Erlbaum Associates, Mahwah, NJ, pp. 295-336.

Chin, W. W., Marcolin, B. L. and Newsted, P. R. (2003), "A Partial Least Squares latent variable modeling approach for measuring interaction effects: results from a Monte Carlo simulation study and an Electronic-Mail emotion/adoption study", *Information Systems Research*, Vol. 14 No. 2, pp. 189-217.

Claro, D. P., Hagelaar, G. and Omta, O. (2003), "The determinants of relational governance and performance: how to manage business relationships?" *Industrial Marketing Management*, Vol. 32 No. 8, pp. 703-716.

David, R. J. and Han, S.-K. (2004), "A systematic assessment of the empirical support for transaction cost economics", *Strategic Management Journal*, Vol. 25 No. 1, pp. 39-58.

Dean, A. M. and Kiu, C. (2002), "Performance monitoring and quality outcomes in contracted services", *International Journal of Quality and Reliability Management*, Vol. 19 No. 4, pp. 396-413.

Dwyer, F. R., Schurr, P. H. and Oh, S. (1987), "Developing buyer-seller relationships", *Journal of Marketing*, Vol. 51 No. 2, pp. 11-27.

Dyer, J. H. (1997), "Effective interfirm collaboration: how firms minimize transaction costs and maximize transaction value", *Strategic Management Journal*, Vol. 18 No. 7, pp. 535-556.

Eggert, A. and Ulaga, W. (2002), "Customer perceived value: a substitute for satisfaction in business markets?" *Journal of Business & Industrial Marketing*, Vol. 17 No. 2, pp. 107-118.

Erramilli, M. K. and Rao, C. P. (1993), "Service Firms' International Entry-Mode Choice: A Modified Transaction-Cost Analysis Approach", *Journal of Marketing*, Vol. 57 No. 3, pp. 19-38.

Ferguson, R. J., Paulin, M. and Bergeron, J. (2005), "Contractual Governance, Relational Governance, and the Performance of Interfirm Service Exchanges: The influence of Boundary-Spanner Closeness", *Journal of the Academy of Marketing Science*, Vol. 33 No. 2, pp. 217-234.

Fitzsimmons, J. A. and Fitzsimmons, M. J. (2006), *Service Management: Operations, Strategy, Information Technology*, McGraw-Hill, New York.

Fornell, C. and Larcker, D. F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.

Gainey, T. W. and Klaas, B. S. (2003), "The Outsourcing of Training and Development: Factors Impacting Client Satisfaction", *Journal of Management*, Vol. 29 No. 2, pp. 207-229.

Gao, T., Sirgy, M. J. and Bird, M. M. (2005), "Reducing buyer decision-making uncertainty in organizational purchasing: can supplier trust, commitment and dependence help?" *Journal of Business Research*, Vol. 58 No. 4, pp. 397-405.

Griffith, D. A. and Myers, M. B. (2005), "The performance implications of strategic fit of relational norm governance strategies in global supply chain relationships", *Journal of International Business Studies*, Vol. 36 No. 3, pp. 254-269.

Grover, V. and Malhotra, M. K. (2003), "Transaction cost framework in operations and supply chain management research: theory and measurement", *Journal of Operations Management*, Vol. 21 No. 4, pp. 457-473.

Gundlach, G. T. and Achrol, R. S. (1993), "Governance in Exchange: Contract Law and Its Alternatives", *Journal of Public Policy & Marketing*, Vol. 12 No. 2, pp. 141-155.

Harris, A., Giunipero, L. C. and Hult, G. T. M. (1998), "Impact of organizational and contract flexibility on outsourcing contracts", *Industrial Marketing Management*, Vol. 27 No. 5, pp. 373-384.

Haugland, S. A. and Reve, T. (1993), "Relational Contracting and Distribution Channel Cohesion", *Journal of Marketing Channels*, Vol. 2 No. 3, pp. 27-60.

Heide, J. B. (1994), "Interorganizational Governance in Marketing Channels", *Journal of Marketing*, Vol. 58 No. 1, pp. 71-85.

Heide, J. B. and John, G. (1990), "Alliances in industrial purchasing: the determinants of joint action in buyer-supplier relationships", *Journal of Marketing Research*, Vol. 27 No. 1, pp. 24-36.

Heide, J. B. and John, G. (1992), "Do norms matter in marketing relationships?" *Journal of Marketing*, Vol. 56 No. 2, pp. 32-44.

Heide, J. B. and Miner, A. S. (1992), "The shadow of the future: effects of anticipated interaction and frequency of contact on buyer-seller cooperation", *Academy of Management Journal*, Vol. 35 No. 2, pp. 265-291.

Hulland, J. (1999), "Use of partial least squares (pls) in strategic management research: a review of four recent studies", *Strategic Management Journal*, Vol. 20 No. 2, pp. 195-204.

Ivens, B. S. (2005), "Flexibility in Industrial Service Relationships: The Construct, Antecedents and Performance Outcomes", *Industrial Marketing Management*, Vol. 34 No. 6, pp. 566-576.

Jackson, R. W., Neidell, L. A. and Lunsford, D. A. (1995), "An empirical investigation of the differences in goods and services as perceived by organizational buyers", *Industrial Marketing Management*, Vol. 24 No. 2, pp. 99-108.

Jones, M. A. and Suh, J. (2000), "Transaction-specific satisfaction and overall satisfaction: an empirical analysis", *Journal of Services Marketing*, Vol. 14 No. 2, pp. 147-159.

Joshi, A. W. and Campbell, A. J. (2003), "Effect of Environmental Dynamism on Relational Governance in Manufacturer-Supplier Relationships: A Contingency Framework and an Empirical Test", *Journal of the Academy of Marketing Science*, Vol. 31 No. 2, pp. 176-188.

Joshi, A. W. and Stump, R. L. (1999), "The contingent effect of specific asset investments on joint action in manufacturer-supplier relationships: an empirical test of the moderating role of reciprocal asset investments, uncertainty and trust", *Journal of the Academy of Marketing Science*, Vol. 27 No. 3, pp. 291-305.

Joskow, P. L. (1987), "Contract duration and relationship-specific investments: empirical evidence from coal markets", *The American Economic Review*, Vol. 77 No. 1, pp. 168-185.

Klein, S., Frazier, G. L. and Roth, V. J. (1990), "A Transaction Cost Analysis Model of Channel Integration in International Markets", *Journal of Marketing Research*, Vol. 27 No. 2, pp. 196-208.

Kumar, P. (1999), "The impact of long-term client relationships on the performance of business service firms", *Journal of Service Research*, Vol. 2 No. 1, pp. 4-18.

Lazzarini, S. G., Miller, G. J. and Zenger, T. R. (2004), "Order with Some Law: Complementarity versus Substitution of Formal and Informal Arrangements", *The Journal of Law, Economics, & Organization*, Vol. 20 No. 2, pp. 261-298.

Lehtonen, T. J. T. and Salonen, A. I. (2005), "Procurement and relationship management trends in FM services", in *Proceedings of Industrial Marketing and Purchasing Conference*, Rotterdam, The Netherlands, pp.

Luo, Y. (2002), "Contract, cooperation, and performance in international joint ventures", *Strategic Management Journal*, Vol. 23 No. 10, pp. 903-919.

Lusch, R. F. and Brown, J. R. (1996), "Interdependency, Contracting, and Relational Behavior in Marketing Channels", *Journal of Marketing*, Vol. 60 No. 4, pp. 19-38.

Macneil, I. R. (1980), *The new social contract - an inquiry into modern contractual relations*, Yale University, New Haven.

Macneil, I. R. (1983), "Values in contract: internal and external", *Northwestern University Law Review*, Vol. 78 No. 2, pp. 340-418.

Murray, J. Y. and Kotabe, M. (1999), "Sourcing strategies of US service companies: a modified transaction-cost analysis", *Strategic Management Journal*, Vol. 20 No. 9, pp. 791-809.

Nickerson, J. A., Hamilton, B. H. and Wada, T. (2001), "Market position, resource profile, and governance: linking Porter and Williamson in the context of international courier and small package services in Japan", *Strategic Management Journal*, Vol. 22 No. 3, pp. 251-273.

Noordewier, T. G., John, G. and Nevin, J. R. (1990), "Performance outcomes of purchasing arrangements in industrial buyer-vendor relationships", *Journal of Marketing*, Vol. 54 No. 4, pp. 80-93.

Paulin, M., Perrien, J. and Ferguson, R. (1997), "Relational contract norms and the effectiveness of commercial banking relationships", *International Journal of Service Industry Management*, Vol. 8 No. 5, pp. 435-452.

Pilling, B. K., Crosby, L. A. and Jackson, D. W. J. (1994), "Relational bonds in industrial exchange: an experimental test of the transaction cost economic framework", *Journal of Business Research*, Vol. 30 No. 3, pp. 237-251.

Poppo, L. and Zenger, T. (2002), "Do formal contracts and relational governance function as substitutes or complements?" *Strategic Management Journal*, Vol. 23 No. 8, pp. 707-725.

Rindfleisch, A. and Heide, J. B. (1997), "Transaction Cost Analysis: past, present and future applications", *Journal of Marketing*, Vol. 61 No. 4, pp. 30-54.

Ring, P. S. and Van de Ven, A. H. (1994), "Developmental processes of cooperative interorganizational relationships", *Academy of Management Review*, Vol. 19 No. 1, pp. 90-118.

Roxenhall, T. and Ghauri, P. (2004), "Use of the written contract in long-lasting business relationships", *Industrial Marketing Management*, Vol. 33 No. 3, pp. 261-268.

Stump, R. L. and Heide, J. B. (1996), "Controlling supplier opportunism in industrial relationships", *Journal of Marketing Research*, Vol. 33 No. 4, pp. 431-441.

Vargo, S. L. and Lusch, R. F. (2004), "Evolving to a New Dominant Logic for Marketing", *Journal of Marketing*, Vol. 68 No. 1, pp. 1-17.

Wathne, K. H. and Heide, J. B. (2004), "Relationship Governance in a Supply Chain Network", *Journal of Marketing*, Vol. 68 No. 1, pp. 73-89.

Weitz, B. A. and Jap, S. D. (1995), "Relationship marketing and distribution channels", *Journal of the Academy of Marketing Science*, Vol. 23 No. pp. 305-320.

Williamson, O. E. (1975), *Markets and Hierarchies*, Free Press, New York.

Williamson, O. E. (1979), "Transaction-cost economics: the governance of contractual relations", *The journal of Law and Economics*, Vol. 22 No. 2, pp. 223-261.

Williamson, O. E. (1983), "Credible Commitments: Using Hostages to Support Exchange", *The American Economic Review*, Vol. 73 No. 4, pp. 519-540.

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

Williamson, O. E. (1991), "Comparative Economic Organization: the analysis of discrete structural alternatives", *Administrative Science Quarterly*, Vol. 36 No. 2, pp. 269-296.

Williamson, O. E. (1996), *The mechanisms of governance*, Oxford University Press, New York.

Woolthuis, R. K., Hillebrand, B. and Nooteboom, B. (2005), "Trust, Contract and Relationship Development", *Organization Studies*, Vol. 26 No. 6, pp. 813-840.

Wynstra, F., Axelsson, B. and van der Valk, W. (2006), "An application-based classification to understand buyer-supplier interaction in business services", *International Journal of Service Industry Management*, Vol. 17 No. 5, pp. 474-496.

Young-Ybarra, C. and Wiersema, M. (1999), "Strategic Flexibility in Information Technology Alliances: The Influence of Transaction Cost Economics and Social Exchange Theory", *Organization Science*, Vol. 10 No. 4, pp. 439-459.

Zaheer, A., McEvily, B. and Perrone, V. (1998), "Does Trust Matter? Exploring the effects of interorganizational and interpersonal trust on performance", *Organization Science*, Vol. 9 No. 2, pp. 141-159.

Zaheer, A. and Venkatraman, N. (1995), "Relational governance as an interorganizational strategy: An empirical test of the role of trust in economic exchange", *Strategic Management Journal*, Vol. 16 No. 5, pp. 373-392.

Zhang, C., Cavusgil, S. T. and Roath, A. S. (2003), "Manufacturer governance of foreign distributor relationships: do relational norms enhance competitiveness in the export market?" *Journal of International Business Studies*, Vol. 34 No. 6, pp. 550-566.

Table 1: Correlation Matrix[3] [4]

	SOAS	BOAS	EnvUnc	BehUnc	Cdeta	Cflex	RelGov	Perf
SOAS	0.71							
BOAS	0.31**	0.71						
EnvUnc	-0.05	0.02	0.76					
BehUnc	-0.44**	-0.04	0.03	0.80				
Cdeta	0.31**	0.16	-0.10	-0.31**	0.91			
Cflex	0.34**	0.09	-0.01	-0.13	0.41**	0.90		
RelGov	0.52**	0.30**	-0.17	-0.40**	0.53**	0.43**	0.80	
Perf	0.52**	0.12	-0.10	-0.46**	0.37**	0.43**	0.66**	0.76
Mean	4.48	4.45	3.79	3.73	4.86	5.12	5.42	5.02
stdev	1.11	1.39	1.06	1.30	1.37	1.40	1.09	1.17

[3] Square root of AVE on diagonal
[4] ** Correlation is significant at the 0.01 level (2-tailed).

Table 2: Assessment of measurement model

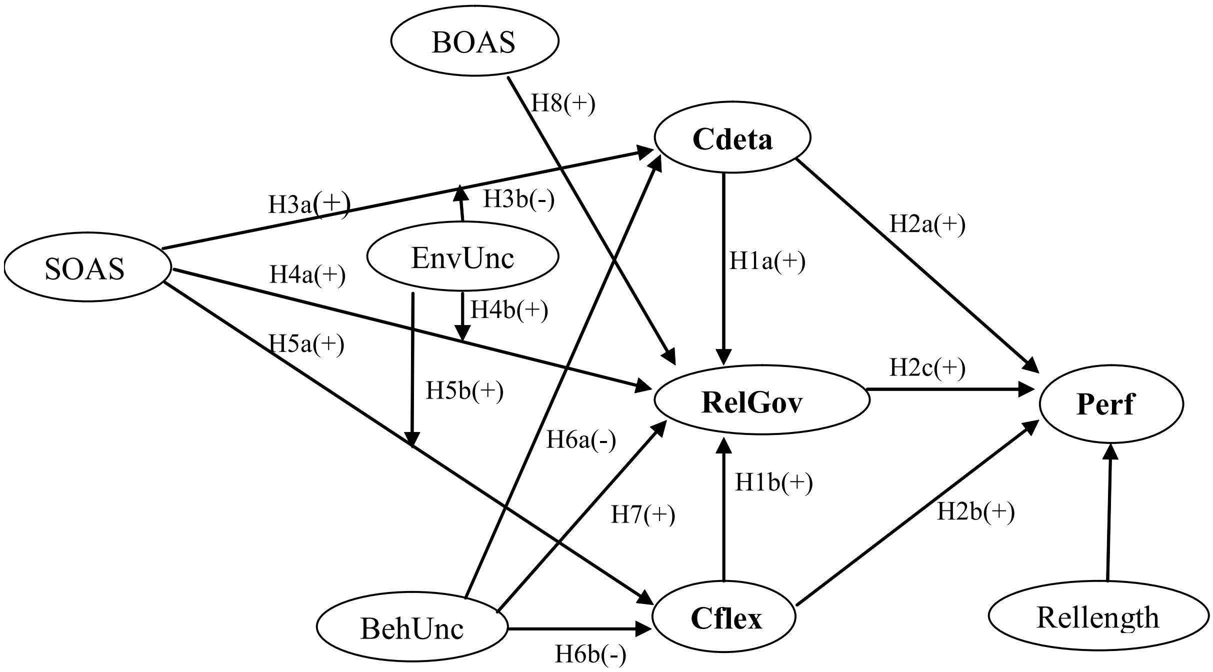
Construct	Items	Loading	Composite Reliability	Cronbach alpha	Average Variance Extracted
SOAS	soas1	0.72	0.83	0.76	0.50
	soas2	0.79			
	soas3	0.71			
	soas4	0.51			
	soas5	0.78			
BOAS	boas1	0.67	0.86	0.82	0.51
	boas2	0.71			
	boas3	0.79			
	boas4	0.63			
	boas5	0.77			
	boas6	0.70			
EnvUnc	envunc1	0.94	0.72	---	0.58
	envunc2	0.53			
BehUnc	behunc1	0.93	0.87	0.81	0.64
	behunc2	0.95			
	behunc3	0.71			
	behunc4	0.56			
Cdeta	condeta1	0.93	0.93	0.89	0.82
	condeta2	0.93			
	condeta3	0.86			
Cflex	conflex1	0.88	0.90	---	0.81
	conflex2	0.92			
RelGov	relgov1	0.88	0.94	0.93	0.64
	relgov2	0.90			
	relgov3	0.63			
	relgov4	0.78			
	relgov5	0.80			
	relgov6	0.79			
	relgov7	0.86			
	relgov8	0.78			
	relgov9	0.79			
Perf	perf1	0.89	0.87	0.81	0.57
	perf2	0.85			
	perf3	0.80			
	perf4	0.52			
	perf5	0.66			

Table 3: Hypotheses testing [5]

	Path Coefficient	Hypotheses
Cdeta -> RelGov	0.16**	H1a supported
Cflex -> RelGov	0.13	H1b not supported
Cdeta -> Perf	0.04	H2a not supported
Cflex -> Perf	0.16**	H2b supported
RelGov -> Perf	0.62***	H2c supported
SOAS -> Cdeta	0.24***	H3a supported
EnvUnc -> Cdeta	-0.21*	H3b not supported
SOAS * EnvUnc -> Cdeta	0.33	
SOAS -> Cflex	0.30***	H4a supported
EnvUnc -> Cflex	-0.11	H4b supported
SOAS * EnvUnc -> Cflex	0.36***	
SOAS -> RelGov	0.29**	H5a supported
EnvUnc -> RelGov	-0.15	H5b not supported
SOAS * EnvUnc -> RelGov	-0.08	
BehUnc -> Cdeta	-0.21**	H6a supported
BehUnc -> Cflex	0.01	H6b partially supported
BOAS * BehUnc -> Cflex	0.27***	
BehUnc -> RelGov	-0.20**	H7 supported
BOAS -> Cdeta	0.12	H8 supported
BOAS -> Cflex	-0.01	
BOAS -> RelGov	0.13*	
Rellength -> Perf	0.16**	

[5] * p<0.05 (one-tailed); ** p<0.01 (one-tailed); *** p<0.001 (one tailed)

Figure 1: Business services exchange governance model [6]



[6] SOAS: Supplier Asset Specificity; BOAS: Buyer Asset Specificity; EnvUnc: Environmental Uncertainty; BehUnc: Behavioral Uncertainty; Cdeta: Contract detail; Cflex: Contract flexibility; RelGov: Relational Governance; Perf: Performance; Rellength: Relationship length

Figure 2: Interaction effect of supplier asset specificity and environmental uncertainty

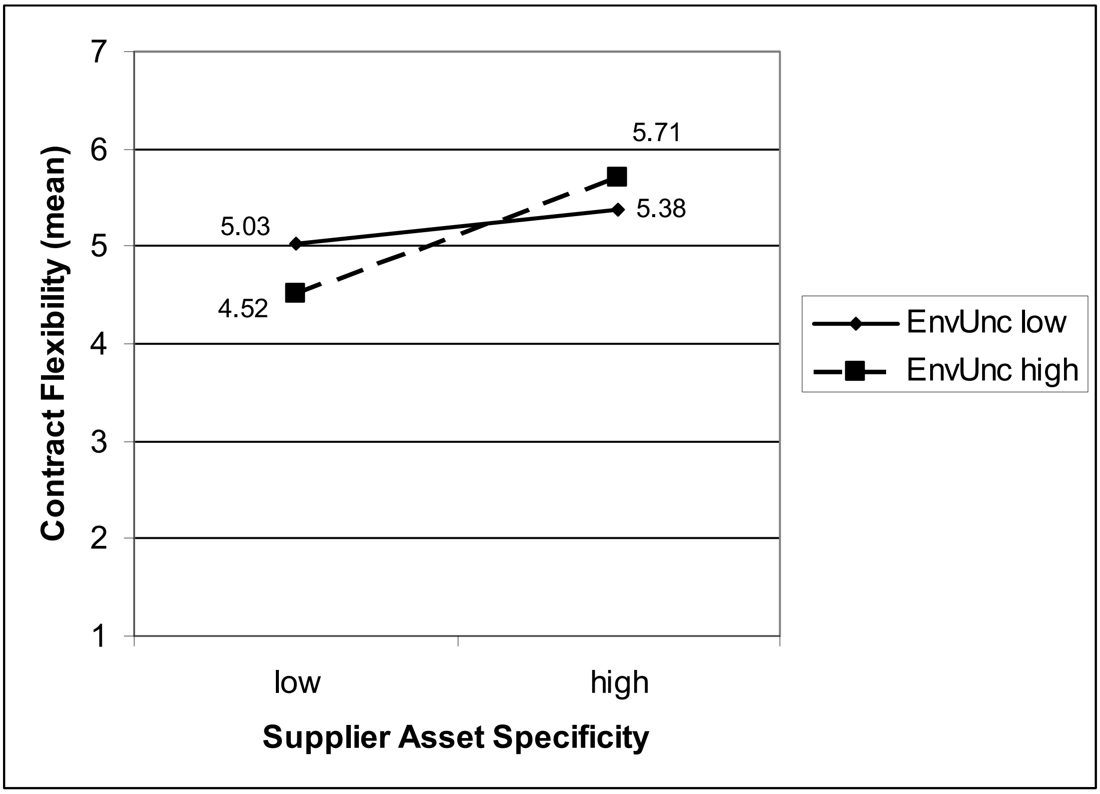


Figure 3: Interaction effect of behavioral uncertainty and buyer asset specificity

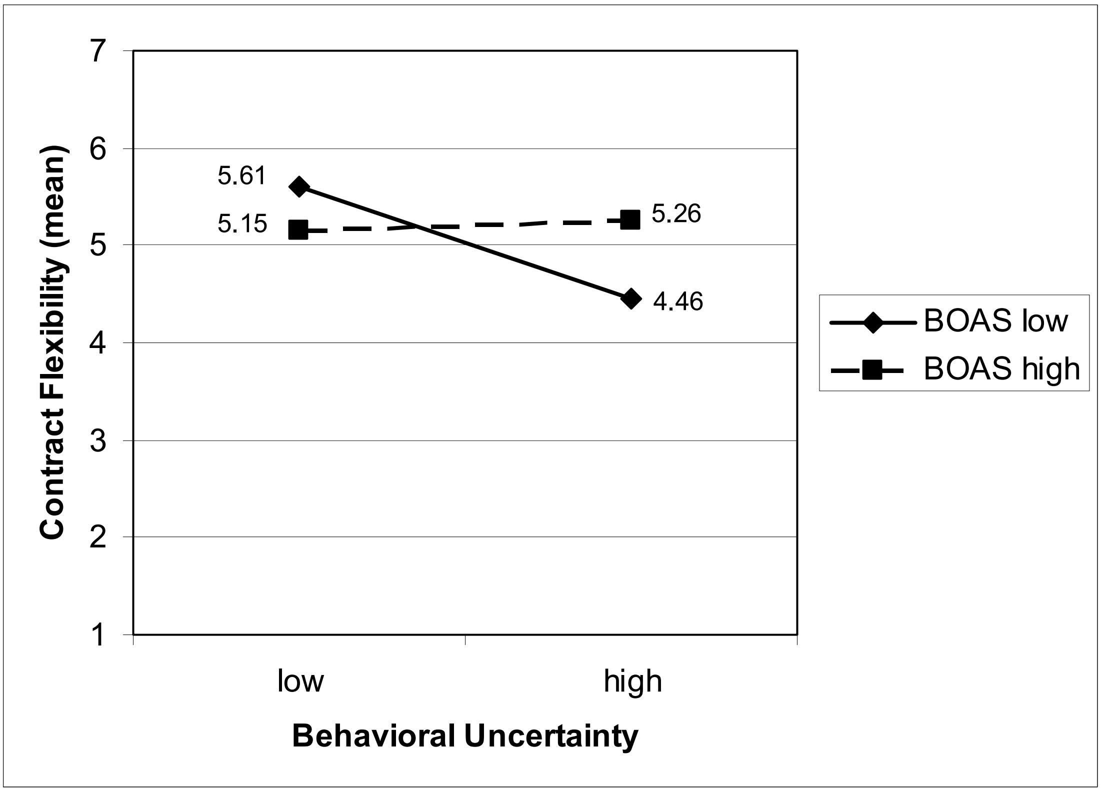
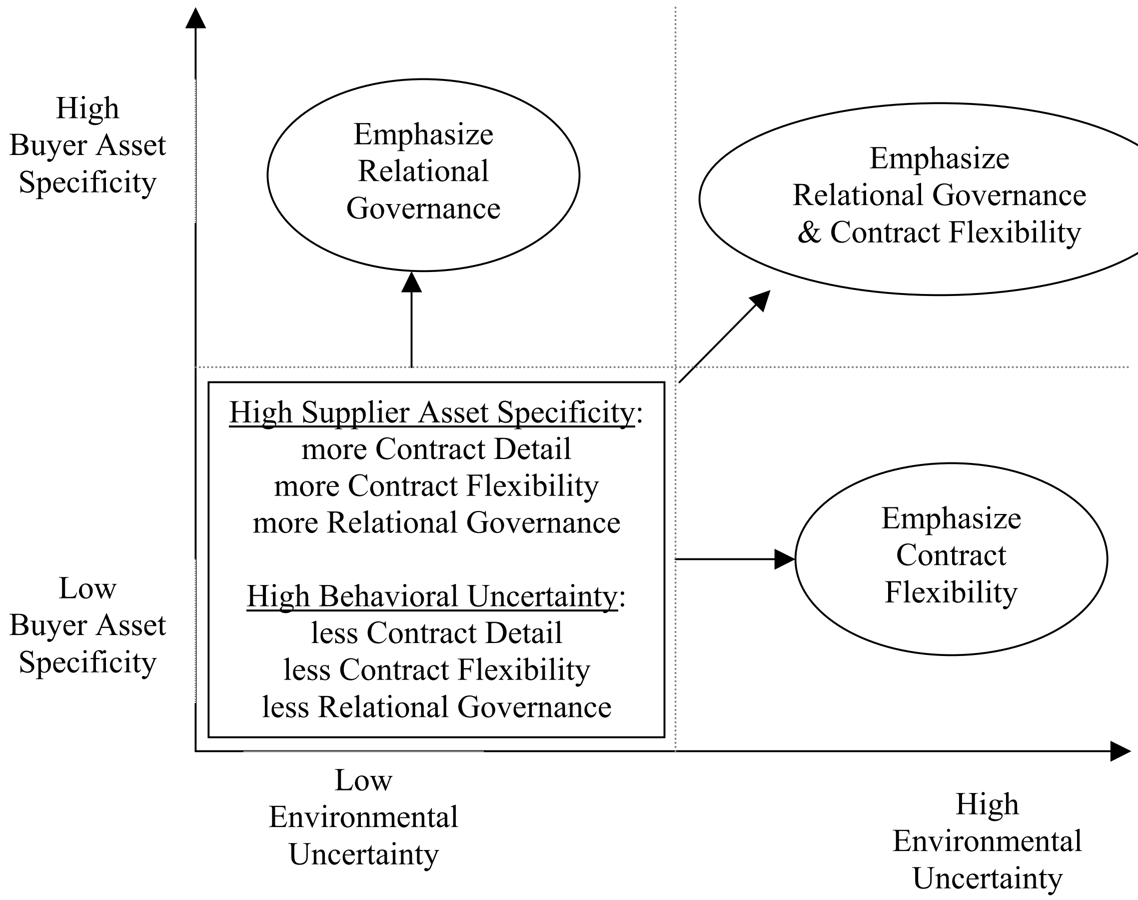


Figure 4: Business services exchange governance scheme [7]



[7] Under a certain level of supplier asset specificity and behavioral uncertainty

APPENDIX: Scale items [8]

All items were measured on 7-point rating scales ranging from 1 “completely disagree, to 7 “completely agree”.

Supplier asset specificity (SOAS)
1. Our supplier has carried out considerable adjustments to the delivered service in order to meet the requirements from our organization.
2. Our supplier has to a great extent invested in specific resources in order to adjust to our service requirements.
3. Our supplier has to a great extent adjusted the service offering to the procedures of our organization.
4. Our supplier has invested a substantial amount of time and money to train and qualify their personnel in order to deliver the requested service.
5. Our supplier has invested to a great extent in the adequate knowledge and skills needed for the requested service to be delivered.

Buyer asset specificity (BOAS)
1. Our organization has made significant investments in tooling and equipment dedicated to our relationship with this supplier.
2. Our organization has adapted specific procedures to this supplier to enable an efficient service delivery.
3. Our organization has made significant investments in technology so that this supplier can deliver the requested service.
4. To be effective, a service employee has to get to know our organization and its procedures before he can perform the requested service.
5. Our organization has to a great extent invested time and money in training and qualifying this supplier’s personnel.
6. If our organization decided to work with another supplier, we would be wasting a lot of investments that we have made to work with this supplier.

Environmental uncertainty (EnvUnc)
1. Market conditions of our supplier are very unstable.
2. Prices of the delivered services fluctuate heavily between suppliers.
3. The technology used in this service delivery alters quickly.[9]

Behavioral uncertainty (BehUnc)
1. For this type of service delivery, it is easy to evaluate whether the promised service has been delivered. (-)
2. The delivered performance can be easily measured for this type of service. (-)
3. Some aspects of this supplier’s service delivery are difficult to evaluate objectively.
4. For this type of services, standards can be easily defined. (-)

Contract detail (Cdeta)
1. With this supplier, we have a specific, well-detailed formal agreement.
2. We have formal agreements that detail the obligations of both parties.
3. We have detailed contractual agreements with this supplier.

[8] (-): reversed scaled item
[9] Item was removed during scale purification

Contract flexibility (Cflex)
1. The written agreement with this supplier can be easily adapted to changing circumstances.
2. Our organization considers the written agreement with this supplier as flexible.

Relational Governance (RelGov)
1. Both parties are committed to the preservation of good working relationships with each other.
2. Both parties make much trouble to maintain a cooperative relationship with each other.
3. In case of conflict, both parties are motivated to review the history and all the facts of an issue.
4. Both parties try to arrive at a mutual settlement among themselves in case of dispute.
5. In this relationship, both parties provide relevant information to the other party on time.
6. It is expected that we keep each other informed about events or changes that may affect the other party.
7. Both parties are flexible in their response to requests made by the other party.
8. The parties expect to be able to make adjustments in the ongoing relationship to cope with changing circumstances.
9. Both parties are open to each other's request to improve the agreement.

Performance (Perf)
1. Overall, we are very satisfied with this supplier.
2. Our organization is not completely pleased with this supplier. (-)
3. We will recommend this supplier to other purchasing managers.
4. Our organization has the intention to continue /renew the current relationship with this supplier.
5. Our organization has the intention to expand the current relationship with this supplier.