

2008

# IS Outsourcing Governance in Innovation-Focused Relationships: An Empirical Investigation

Stefanie Leimeister

*Technische Universität München, stefanie.leimeister@in.tum.de*

Tilo Bohmann

*International Business School of Service Management, boehmann@iss-hh.de*

Helmut Krcmar

*Technical University Munich, krcmar@in.tum.de*

Follow this and additional works at: <http://aisel.aisnet.org/ecis2008>

## Recommended Citation

Leimeister, Stefanie; Bohmann, Tilo; and Krcmar, Helmut, "IS Outsourcing Governance in Innovation-Focused Relationships: An Empirical Investigation" (2008). *ECIS 2008 Proceedings*. 156.

<http://aisel.aisnet.org/ecis2008/156>

This material is brought to you by the European Conference on Information Systems (ECIS) at AIS Electronic Library (AISEL). It has been accepted for inclusion in ECIS 2008 Proceedings by an authorized administrator of AIS Electronic Library (AISEL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# IS OUTSOURCING GOVERNANCE IN INNOVATION-FOCUSED RELATIONSHIPS – AN EMPIRICAL INVESTIGATION

Leimeister, Stefanie, Technische Universität München, Lehrstuhl für Wirtschaftsinformatik, Boltzmannstr. 3, 85748 Garching bei München, Germany, stefanie.leimeister@in.tum.de

Böhmman, Tilo, International Business School of Service Management, Hans-Henny-Jahnn-Weg 9, 22085 Hamburg, Germany, boehmann@iss-hh.de

Krcmar, Helmut, Technische Universität München, Lehrstuhl für Wirtschaftsinformatik, Boltzmannstr. 3, 85748 Garching bei München, Germany, krcmar@in.tum.de

## Abstract

*Out of the various motivations and intentions for outsourcing information technology, customers' expectations of innovative IT products and services for business advantage have only recently become an emerging issue among IT service providers and their customers. But little is known about IT-enabled innovation in IS outsourcing settings and how to manage such outsourcing relationships. Do customers who strive for innovation through outsourcing have other governance mechanisms in place than customers who do not expect innovation potentials from their outsourcing vendor? Based on 268 responses from chief information officers and IT executives, this paper shows that innovation-seeking customers manage their outsourcing relationship differently from those who do not associate innovation opportunities with their outsourcing relationship. In innovation-seeking outsourcing settings informal relationship mechanisms have a significantly stronger impact than in non-innovation seeking settings. However, contractual governance was found to be important regardless of the outsourcing intent. These findings call for further research on the relation and mutual impact of contractual and relational governance, e.g. by formalizing experience and mutual learning gathered through relational governance of the outsourcing partners in a contract.*

*Keywords: IS outsourcing, innovation, governance, contract, relationship, PLS*

# 1 INTRODUCTION AND MOTIVATION FOR RESEARCH

Organizations outsource their information systems (IS) for various reasons. In doing so, the intents to increase service quality and reduce costs are among the most prominent drivers for the decision to outsource (DiRomualdo and Gurbaxani, 1998). By limiting their focus to a primary and often narrow focus on efficiency reasons, customers neglect the unique knowledge potential, flexibility, and support for innovation that outsourcing can offer (Willcocks, Hindle, Feeny and Lacity, 2004). Especially the design, implementation and operation of IT-enabled business innovation requires a complex web of technical and business knowledge that often only a network of specialist providers can offer (Mahnke, Özcan and Overby, 2006). While firms could draw on external resources for many activities in the innovation process in theory (Quinn, 2000), IS outsourcing is apparently seldom seen as a contributor to innovation in practice. One potential reason for this dilemma is the lack of knowledge about the governance of IS outsourcing relationships that are set on co-developing IT-enabled products and services (Lacity and Willcocks, 2003; Lacity, 1998; Mahnke et al., 2006). As innovation-focused IS outsourcing has generally received scant attention in research, no studies so far have examined which governance mechanisms are most appropriate for achieving the desired outcomes in innovation-focused relationships. Moreover, it has not been explored if these mechanisms differ from outsourcing relationships where customers do not expect contributions to new product or service development.

This paper addresses the identified research gap on outsourcing governance in innovation-focused relationships. We develop a theoretical model to assess the effects of potential differences in the impact of governance for innovation-focused IT outsourcing relationships. The model relates governance mechanisms to exchange performance. As measures we particularly focus on service quality and satisfaction. Service quality is a precarious outcome of innovation-focused relationships given the high level of uncertainty of the desired outcomes and the potentially strong interdependence of the services of the outsourcing provider and the planned service or product of the outsourcing customer. Satisfaction as a consequence of service quality is generally accepted as a measure of overall performance of outsourcing relationships. The theoretical model builds on previous findings that posit a complementary relation between contractual and relationship governance (Poppo and Zenger, 2002). Using the model, we assess if this complementary relationship changes as a predictor of outsourcing performance for innovation-seeking vs. non-innovation-seeking customers based on a data set of 268 CIOs and IT executives in Germany.

The paper is structured as follows: We first review current research on outsourcing motives (esp. innovation-focused intents), governance, service quality, and satisfaction. We then propose hypotheses to be tested with a structural equation model (SEM). After presenting the survey instrument and discussing key results of the empirical study, we derive implications for future research and managerial practice.

## 2 THEORETICAL FOUNDATIONS AND RELATED LITERATURE

### 2.1 Outsourcing objectives and motivations

IS outsourcing is generally understood as “... the handing over to a third party management of IT/IS assets, resources, and/or activities for required results” (Willcocks and Lacity, 1998). As the focus of this paper is on the governance and continuous management of an outsourcing relationship, we will use a specific definition of an outsourcing relationship adopted from Goles and Chin (2005) that will also be followed in this research: “an ongoing [...] linkage between an outsourcing vendor and customer arising from a contractual agreement to provide one or more comprehensive IT activities, processes, or services with the understanding that the benefits attained by each firm are at least in part dependent on the other.”

General objectives for outsourcing IT can be categorized into financial, business, technological, strategic, and political intents (Grover, Cheon and Teng, 1996; Lee and Kim, 1999). The most common expectations associated with an outsourcing decision focus on cost reduction and efficiency (Dibbern, Goles, Hirschheim and Jayatilaka, 2004; Kern and Blois, 2002). Strategic objectives address the client's ability to leverage the knowledge capabilities of the vendor to achieve strategic advantages (Feeny, Hindle, Lacity and Willcocks, 2004) while technological intents refer to access to technological expertise and improved services (Lacity and Willcocks, 2001). In between strategic intents aiming at business advantages and technological intents aiming at improved IT services, *IT-enabled innovations* have recently become an emerging customer demand for competitive success (Jahner, Böhmman and Krcmar, 2006). An innovation is broadly understood as "the generation, acceptance, and implementation of new ideas, processes, products or services" (Thompson, 1965). Innovations are IT-enabled when they combine hardware and/or software assets with business capabilities to generate a unique and new process, product, or service for the business advantage of the organization (Mahnke et al., 2006). If the client firm does not have all necessary competences in-house to generate IT-enabled innovation or internal development is slow and cost-intense, outsourcing the innovation potential by acquiring external capabilities across firm boundaries is a legitimate means to continuously fuel the organizational innovation pipe (Barney and Lee, 2000). But only a few companies use the innovation capabilities of their vendor. A prominent example of IT-enabled innovations for business advantage through outsourcing is the case of the British Broadcasting Corporation (BBC) which contracted their outsourcing provider for continuous innovation in a 10-year deal (Kumar, 2006). Such innovation-focused partnerships require a specific *outsourcing governance* to leverage the full potential of greater intellectual depth and access, innovation, or value-added solutions (DiRomualdo and Gurbaxani, 1998; Quinn, 2000).

## 2.2 Outsourcing governance: relational and contractual governance modes

IT outsourcing governance encompasses a complex set of issues including performance measurement and management, staffing and talent management, as well as relationship building and development. Literature on organizational strategy has recognized two research streams on outsourcing governance: *arm's length* and *embedded* governance structures in IS outsourcing relationships (Lee, Miranda and Kim, 2004; Miranda and Kavan, 2005). Arm's length relationships exclusively rely on formal means of governance, i.e. a specified contract (Miranda and Kavan, 2005). This governance mode facilitates the efficient deployment of economic capital, i.e. value capture. Embedded relationships, on the other hand, focus on the "social content" of the relationship and aim e.g. at the creation of value through innovation (Dutta, Zbaracki and Bergen, 2003). Many researchers stress the importance of both contractual and relational governance (Goles and Chin, 2005; Klepper, 1995). Miranda and Kavan (2005) show that the development of these governance modes differs with respect to value capture and creation. In other words, the adequate governance approach depends on the intent of the outsourcing.

## 2.3 Service quality in outsourcing

When examining the quality of an outsourcing relationship, one has to acknowledge that the delivery of outsourcing services is fundamentally different from physical goods. Not only are they intangible and involve simultaneous production and consumption, they also integrally involve the customer in their creation (Parasuraman, Zeithaml and Berry, 1988). Because of these unique characteristics, it is more difficult to assess the quality of (outsourcing) services compared to the evaluation of physical goods (Grover et al., 1996). Service quality refers to the degree and direction of divergence between the customer's expectations and the actual perception of the service (Parasuraman et al., 1988). In line with this, Gronroos (1983) found that customers compare expected service levels that are also determined by the original intent of the outsourcing decision with the perception of the service received to evaluate the overall quality. Similarly, Smith and Houston (1983) showed that satisfaction with services is related to the confirmation of expectation.

## 2.4 Outsourcing success and satisfaction

Following Dibbern et al. (2004), success of IT outsourcing can be understood either as satisfaction, i.e. the positive attitude and realization of objectives, or the performance of operations that are being outsourced. For this research we used satisfaction of the customer with the outsourcing relationship as a success measure (Oliver, 1996; Susarla, Barua and Whinston, 2003). Satisfaction is a well-established construct in the literature (Grover et al., 1996; Lee and Kim, 1999). It has been defined as “a judgment that a service provided a pleasurable level of consumption-related fulfillment” (Oliver, 1996). Anderson and Sullivan add that it can also be understood as a “post-purchase evaluation of product quality given pre-purchase expectations” (Anderson and Sullivan, 1993), which closely relates satisfaction as well as perceived (expected) service quality to expectation confirmation theory of Oliver (1996). Yi (1991) also identified perceived quality as one of the main antecedents of customer satisfaction.

# 3 RESEARCH MODEL, HYPOTHESES, AND CONSTRUCT DEVELOPMENT

## 3.1 Hypotheses and Research Model

### *Governance modes in innovation and non-innovation-seeking outsourcing relationships*

Despite the importance and value of a written formal contract, outsourcing research has acknowledged that reliance on a legal contract alone is insufficient, given the complexities of real-life outsourcing arrangements and the rapid changes in technology and organizational environments (Jahner et al., 2006; Koh, Ang and Straub, 2004; Lee et al., 2004). Specifying long-term exchange relations such as outsourcing arrangements is complex as they have to cover various unspecified obligations and thus are inherently incomplete. Relationship measures are to be set in place alternatively or complementary to contracts (e.g. Koh et al., 2004; Poppo and Zenger, 2002). Extant research has explored the interplay of relational and contractual governance, discussing a substitutive and a complementary relation between these governance modes (see e.g. Poppo and Zenger, 2002). The “substitutive view” suggests that relational norms are a less costly alternative to contract. In contrast, the “complementary view” implies an additive relationship between contractual and relational governance. The contract can be viewed as an instrument to build trust by limiting the scope and severity of risks and providing a track record of performance (Das and Teng, 1998). The complementary view also acknowledges the difficulty to design complete contracts. While both relational and contractual governance modes are regarded as important for the perceived service quality of the outsourcing relationship, we put forward that contractual obligations are hard to define when outsourcing services are complex and new to both client and vendor. Moreover, to leverage the full potential of innovation and value-added solutions, knowledgeable experts on both sides have to cooperate to find new ways to deliver the process and provide value-added services. As service level agreements can hardly be designed to retain these benefits, embedded relationship mechanisms are better set in place because of their superior ability to facilitate knowledge transfer and acquisition. On the contrary, literature suggests that non-strategic intentions can be achieved through arm’s length governance modes (Lee et al., 2004; Miranda and Kavan, 2005). We therefore hypothesize:

*H1a: Contractual governance positively impacts on the service quality of the outsourcing relationship.*

*H1b: The impact of contractual governance on the service quality is greater among customers who do not seek innovation opportunities in their outsourcing relationship compared to those customers who expect innovation from their outsourcing vendor.*

*H2a: Relational governance positively impacts on the service quality of the outsourcing relationship.*

*H2b: The impact of relational governance on the service quality is greater among customers who strive for innovation potential in their outsourcing relationship compared to those customers who do not expect innovation from their outsourcing vendor.*

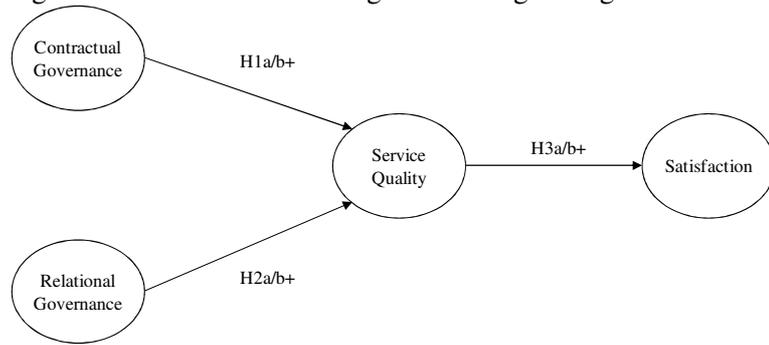
**The interplay of service quality and satisfaction**

As stated by Parasuraman et al. (1988), service quality refers to the degree and direction of divergence between the customer’s expectations and the actual perception. The smaller the difference, the better the service quality is achieved. The perceived quality of the service provided is critical to the success of the IS outsourcing relationship (Grover et al., 1996). In outsourcing settings, however, where innovation is the dominant focus of the outsourcing relationship, the provision of quality-ensured and value-add service is critical for the success. At the same time, the uncertainty and risk of failure of the innovation venture is great. We therefore hypothesize:

*H3a: The perceived service quality strongly influences the success, i.e. the satisfaction with the outsourcing relationship.*

*H3b: The impact of service quality on satisfaction is greater in innovation-seeking outsourcing relationships compared to those customers who do not expect innovation from their outsourcing.*

Figure 1 depicts our research model with the interdependences and hypotheses we will investigate in an innovation-seeking and non-innovation seeking outsourcing setting.



*Figure 1: Research Model*

**3.2 Construct Development**

The following table presents the operationalization of the constructs and shows related literature.

Construct	Item	Question	Related literature
Contractual Governance	q2301	The contractual agreement fully regulates all tasks and responsibilities for both partners.	(Poppo and Zenger, 2002), (Aubert, Houde, Patry and Rivard, 2003)
	q2302	It is not a problem to cover and to control all tasks of the sourcing relationship within the contract.	
	q2303	The contract itself is sufficient to cover and control all contingencies and events during the sourcing relationship.	
	q2304	It is easy to specify the agreed tasks and expectations in the contract in detail.	
Relational Governance	q2704	In the current relationship we do not or rarely insist on the contract, but arrange the collaboration by discussions or exchange.	(Goles and Chin, 2005), (Poppo and Zenger, 2002), (Lee and Kim, 1999), (Lee et al., 2004)
	q3903	During the outsourcing project relationship management is very important.	
	q3904	A cooperative collaboration with the vendor is important for the relationship.	
Service Quality	q4401	The service delivery of the outsourcing provider is reliable.	(Parasuraman et al., 1988; 1985), (Grover et al., 1996)
	q4402	We are satisfied with our service provider’s delivered quality.	
	q4403	The quality of the sourcing relationship is high.	
Satisfaction	q4301	Overall, we are satisfied with the outsourcing relationship.	(Susarla et al., 2003), (Grover et al., 1996), (Oliver, 1996)
	q4302	We think that the outsourcing benefit is higher than the costs.	
	q4303	From today’s point of view sourcing is a good option that we would do again.	
	q4304	From today’s point of view we will renew the current outsourcing agreement.	

*Table 1: Construct measurement*

## **4 RESEARCH METHODOLOGY AND DATA COLLECTION**

### **4.1 Research Design and Development of Questionnaire**

In order to validate the causal model elaborated in Figure 1, we used an online questionnaire to empirically test our proposed hypotheses. The research model was operationalized and transferred into a structural equation model (SEM) to be analyzed with the Partial Least Squares (PLS) approach (Chin, 1998; Wold, 1985). In contrast to covariance-based approaches PLS has minimal demands on measurement scales, sample size, and normal/residual distribution (Chin, 1998).

Each construct in our research model is represented by a set of indicators that were measured on a fully anchored 7-point Likert scale expressing attitudes ranging from “strongly disagree” to “strongly agree”. Whenever possible, the measures used in the model were derived from other studies and adapted to the specific research domain. The resulting draft questionnaire was discussed with academics from the field and pre-tested with IT managers that were excluded from the final sample. For this research top IT decision makers from approx. 5400 German companies in various industries were chosen as the unit of analysis. Among them were all 658 members of a German non-profit CIO networking organization, the “CIO Circle”. From June to October 2007 the IT executives were invited to participate in an online survey by a personal letter containing a unique access code for the survey website. Overall, 268 usable questionnaires were returned which equals a response rate of approx. 5% resp. 15% in the CIO network. Each data point represents an outsourcing project. Thus, the unit of analysis are outsourcing projects in companies, thereby considering only one, i.e. the most relevant from a monetary or strategic point of view, outsourcing relationship per firm.

### **4.2 Descriptive Statistics**

We categorized the respondents along the experience with IT or business process outsourcing in their company. As 11.2% had no outsourcing in place and another 15.7% had only begun to outsource their IT, we excluded participants with low experience in IT outsourcing from the analysis and 196 data points remained. The respondents basically covered all industries with banking/finance (12.24%), manufacturing (12.24%), and automotive (9.18%) being most prominently represented in the sample. Regarding the expectations towards outsourcing, we asked the question “To what extent do you associate the following goals and expectations with the sourcing relationship?” and offered several options to which the respondents could choose on a 7-point likert scale. One of these options was labeled “Suggestions for new/innovative IT based products and services by your service provider (idea creation and IT-enabled innovation seeking)”. By analyzing the answers to this option, we identified two groups in our sample representing different perceptions on the innovation capabilities the outsourcing relationship is to deliver. One group (“non-innovation seekers”) stated that they rather do not expect an innovation potential from their outsourcing relationship. The other group (“innovation seekers”) expected innovation opportunities for IT-enabled innovations through outsourcing. We identified these groups by separating answers “1” to “3” (non-innovation seekers; n=91) from answers “5” to “7” (innovation seekers; n=67). Managers with answer “4” (n=38) were removed from the sample. The groups were analyzed using PLS multi-group analysis (Chin, 2004).

## **5 MODEL VALIDATION AND RESULTS**

All calculations for the following analysis were carried out with PLS-Graph Version 3.0. Settings were left to default, except the number of bootstrap samples, which was increased to 500.

To control for and evaluate a potential common method bias (CMB) of the study, we calculated the CMB based on the procedure recommended by (Podsakoff et al. 2003). This procedure specifies an ‘artificial’ common method. We assessed the variance explained by both constructs. The explained variance by the substantive constructs is 0.72 while the variance explained by the common method construct is 0.03. The analysis sustains the conclusion that CMB did not impact our results.

## 5.1 Reflective measurement model

Tests were conducted to show validity of the model constructs for both the “innovation seekers” and the “non-innovation seekers” sample as well as for the overall sample. Before conducting multi-group analysis comparison, it is necessary to ensure that the measures perform adequately. The quality of the reflective measurement model is determined by (1) *convergent validity*, (2) *construct reliability* and (3) *discriminant validity* (Bagozzi, 1979; Churchill, 1979; Peter, 1981).

*Convergent validity* is analyzed by indicator reliability and construct reliability (Peter, 1981). Indicator reliability can be examined by looking at the construct loadings. In the model tested, all loadings are significant at the 0.001 level and above the recommended 0.7 parameter value, except for one indicator (q2704) measuring the relational governance construct. However, as outlined by Hulland (1999) new developed constructs may have relatively low indicator loadings, but should not be excluded as long as the loadings are above 0.4. *Construct reliability* was tested using (1) the *composite reliability* (CR) and (2) the *average variance extracted* (AVE) (Fornell and Larcker, 1981). Estimated indices were above the recommended thresholds of 0.7 (Nunnally, 1978) for CR and 0.5 for AVE (Fornell and Larcker, 1981) (see Table 2). *Discriminant validity* of the construct items was assured by looking at the cross-loadings. They are obtained by correlating the component scores of each latent variable with both their respective block of indicators and all other items of the model (Chin, 1998). Table 3 and Table 4 show that all items load higher on their respective construct than on any other construct.

Construct	Item	Overall Sample (n=196)				Innovation Seekers (n=67)				Non-Innovation Seekers (n=91)			
		Load.	Sign. Level	CR	AVE	Load.	Sign. Level	CR	AVE	Load.	Sign. Level	CR	AVE
Relational Governance <i>reflective</i>	q2704	0.60	0.001	0.84	0.64	0.76	0.001	0.89	0.74	0.51	0.05	0.82	0.62
	q3903	0.83	0.001			0.87	0.001			0.82	0.001		
	q3904	0.93	0.001			0.94	0.001			0.96	0.001		
Contractual Governance <i>reflective</i>	q2301	0.81	0.001	0.89	0.68	0.85	0.001	0.85	0.60	0.75	0.001	0.91	0.73
	q2302	0.89	0.001			0.80	0.001			0.89	0.001		
	q2303	0.81	0.001			0.77	0.001			0.89	0.001		
	q2304	0.79	0.001			0.66	0.001			0.87	0.001		
Service Quality <i>reflective</i>	q4401	0.93	0.001	0.96	0.89	0.92	0.001	0.96	0.89	0.94	0.001	0.96	0.89
	q4402	0.95	0.001			0.97	0.001			0.94	0.001		
	q4403	0.94	0.001			0.94	0.001			0.94	0.001		
Satisfaction <i>reflective</i>	q4301	0.90	0.001	0.88	0.64	0.88	0.001	0.85	0.60	0.91	0.001	0.90	0.69
	q4302	0.73	0.001			0.72	0.001			0.75	0.001		
	q4303	0.83	0.001			0.84	0.001			0.80	0.001		
	q4304	0.74	0.001			0.61	0.001			0.86	0.001		

Table 2: Indicator and Construct Reliability for overall and both group data samples

Item	Construct			
	Contract Governance	Relationship Governance	Satisfaction	Service Quality
q2301	0,845	0,165	0,343	0,419
q2302	0,796	-0,003	0,163	0,170
q2303	0,765	0,011	0,171	0,244
q2304	0,657	0,091	0,160	0,197
q2704	-0,035	0,756	0,294	0,378
q3903	0,082	0,868	0,379	0,381
q3904	0,180	0,940	0,633	0,659
q4301	0,322	0,499	0,882	0,846
q4302	0,171	0,433	0,723	0,541
q4303	0,148	0,445	0,839	0,641
q4304	0,289	0,265	0,607	0,472
q4401	0,286	0,499	0,776	0,917
q4402	0,403	0,537	0,800	0,971
q4403	0,366	0,611	0,787	0,936

Table 3: PLS Crossloadings of constructs for group sample “innovation seekers”

Item	Construct			
	Contract Governance	Relationship Governance	Satisfaction	Service Quality
q2301	0,753	0,011	0,353	0,268
q2302	0,885	0,050	0,334	0,345
q2303	0,891	0,086	0,268	0,397
q2304	0,872	0,047	0,315	0,413
q2704	-0,164	0,508	0,102	0,092
q3903	0,064	0,824	0,129	0,140
q3904	0,106	0,960	0,287	0,334
q4301	0,376	0,275	0,906	0,812
q4302	0,319	0,128	0,746	0,488
q4303	0,224	0,075	0,804	0,511
q4304	0,281	0,313	0,861	0,669
q4401	0,428	0,242	0,721	0,943
q4402	0,409	0,218	0,680	0,942
q4403	0,367	0,352	0,771	0,944

Table 4: PLS Crossloadings of constructs for group sample “non-innovation seekers”

## 5.2 Structural Model

The structural model is evaluated after having checked that the measures work appropriately for the overall and for both data samples. The adequacy of constructs in the structural model not only allows to evaluate the explanatory power of the entire model, but also to estimate the predictive power of the independent variables for both groups.

The *explanatory power* is examined by looking at the squared multiple correlations ( $R^2$ ) of the dependent variables. 26.8% ( $R^2=0.268$ ) in the overall sample ( $R^2=0.251$  for non-innovation outsourcing;  $R^2=0.439$  for innovation seekers) of the variation of service quality is explained by the independent variables relational and contractual governance, which is sufficiently high. Particularly the  $R^2$  value for the innovation-seeking sample is astonishingly high (see discussion). Also the  $R^2$  values for the dependent variable outsourcing satisfaction ( $R^2=0.641$  for overall sample;  $R^2=0.592$  for non-innovation outsourcing;  $R^2=0.700$  for innovation seekers in outsourcing) are high. *Predictive power* is tested by examining the magnitude of the standardized parameter estimates between constructs together with the corresponding t-values. All path coefficients exceed the recommended 0.2 level. Bootstrapping revealed extremely strong significance (at the 0.001 level) of all path coefficients. Analysis of the overall effect size ( $f^2$ ) of the antecedents of service quality as well as outsourcing satisfaction reveals that all constructs have at least a medium effect. Figure 2 depicts the structural model findings graphically. These findings support the hypotheses of our theoretical model at a general level of the overall data set (H1a – H3a). Contractual and relational governance are both positively related to the perceived service quality which is a strong predictor of overall satisfaction.

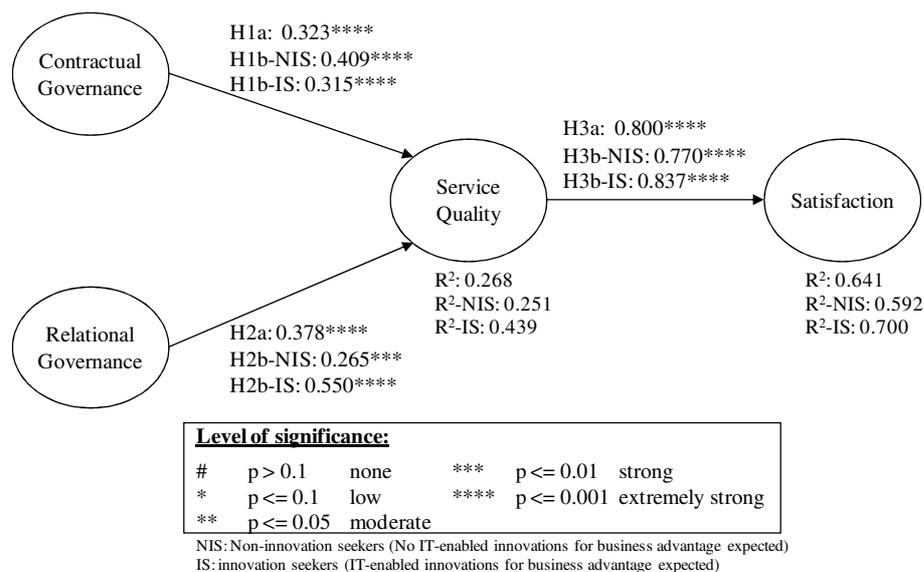


Figure 2: Structural Model Findings

## 5.3 Group Analysis: Relational vs. formal governance in innovation vs. non-innovation seeking outsourcing relationships

For the group analysis, we tested for significant differences between path coefficients of the structural model of both groups. We followed PLS multi-group analysis suggested by (Chin, 2004).

Hypothesis	Innovation seekers vs. non-innovation seekers	t-value	Degrees of freedom (df)	Level of Significance
1b	Contractual Governance → Service Quality	-0.9	158	n.s.
2b	Relational Governance → Service Quality	1.9	158	**
3b	Service Quality → Satisfaction	1.2	158	*

Table 5: PLS multi-group comparison with levels of significance for group samples innovation-seekers vs. non-innovation seekers in IS outsourcing

The results depicted in Table 5 support hypothesis 2b stating that the contribution of relational governance to achieving service quality is significantly larger for the group of innovation seekers (0.550 vs. 0.315). In line with hypothesis 3b, the impact of service quality on overall satisfaction with the outsourcing relationship is higher for innovation-focused relationship (0.837 vs. 0.770). Hypothesis 1b, however, is not supported. Although the path coefficient of contractual governance on service quality is stronger than the impact of relational governance in non-innovation seeking outsourcing settings (0.409 vs. 0.265), the difference between the overall impact of contractual governance in both groups is not significant. We thus cannot conclude that contractual governance is less relevant to achieving service quality in innovation-seeking relationships compared to other IS outsourcing arrangements although relational governance has a significantly stronger impact in innovation-seeking outsourcing relationships.

## **6 ANALYSIS AND DISCUSSION OF RESULTS**

Confirming the findings of (Parasuraman et al., 1988) and (Yi, 1991), our results support that perceived service quality has a strong influence on the overall satisfaction with the outsourcing relationship. As for the impact of service quality on customer satisfaction the results showed that the relation is significantly stronger in the innovation setting. This can be explained by the theoretical assumption that the perceived quality of the service provided is critical to the success of the IS outsourcing relationship (Grover et al., 1996). In outsourcing settings where innovation is the dominant focus of the relationship, the risk and uncertainty about the quality and the innovation potential of the service or the IT-enabled innovation provided is much higher compared to other outsourcing settings. Thus, the perception of the service quality is much more important to the overall customer satisfaction. Interestingly, innovation-seeking relationships benefit much stronger from good outsourcing governance than non-innovation-seeking relationships since the explained variance ( $R^2$ ) of service quality by informal and formal governance is higher for innovation-seekers. This emphasizes the need for outsourcing clients and service providers to establish good formal and informal relationship measures prior to embarking on a joint product or service development relationship. Given the uncertainty and reciprocal interdependence of such endeavors, the greater impact of relational governance mechanisms on service quality is plausible. These circumstances do not permit the full specification of complete contracts (Gietzmann, 1996). The close alignment of development activities, the need to exchange technical knowledge and joint decision making thus require relational governance through e.g. constant communication.

In contrast, the group analysis did not show significant differences in the role of contracts between innovation-seeking and other outsourcing relationships. In both settings, i.e. regardless of the degree of innovation expectation, contracts played an important role for the perceived service quality. One explanation for the importance of contracts in both settings could be found by considering the inherent characteristics of 'little complexity' in one setting and the 'perception of risk' in the other: In low innovation-seeking settings contracts can be easily specified if the services delivered are not very complex. Contracts are then a low-cost alternative of governance. In high innovation-seeking settings, the delivered outcome is uncertain as it cannot be specified a priori. This results in a high perceived risk which could be mitigated by using contractual agreements. But as the study found, contracts alone are not sufficient in the innovation context. Instead, relational governance has to be set in place to balance uncertainties and risks inherent to innovation outsourcing. A study in the context of risk mitigation in outsourcing through relational instruments showed that relational governance is mandatory in uncertain outsourcing situations (Wüllenweber, Jahner and Krcmar, 2008).

Still, the considerable impact of contractual governance on service quality in innovation-seeking outsourcing relationships is surprising given the limitations of this governance in situations with high uncertainty and reciprocal interdependence. Contracts, however, can facilitate innovation-seeking relationships in two ways. First, contracts can stipulate the right framework for relational governance by defining institutions that facilitate ongoing communication, coordination, and joint decision

making. Contracts can define procedures for calculating uncertain activities, demand regular interaction between stakeholders on various levels, and finally define procedures for contract change management. Secondly, contracts can also act as repositories of interorganizational learning (Mayer and Argyres, 2004). Firms may use contracts to document their evolving insight into the substance and the management of interorganizational relationships. As long as uncertainty exists about the specific IT services needed for implementing a new service, contracts may not be able to define these services *ex ante*. This uncertainty may decrease over time when firms gain experience with the new service. Based on this knowledge, the outsourcing partners can amend their contract to reflect the learning about the services and their management.

## **7 CONCLUSION AND OUTLOOK ON FURTHER RESEARCH**

Building upon extant literature on outsourcing intents and governance structures of IS outsourcing relationships as well as data from 268 CIOs and IT executives, our analysis revealed that the choice and impact of a governance mode on the service quality and subsequently the customer satisfaction is highly dependent on the outsourcing intent of the client. We could show for innovation-seeking outsourcing relationships that relational governance is critical for achieving service quality. These insights encourage further research to examine the relation between contractual and relational governance further to find out whether they rather exist in a parallel coexistence (substitutive or complementary) or in a (mutually) sequential relation which has not been answered yet. Future investigations should strive to deepen our knowledge on the relationship of contractual and relational governance in different stages of the outsourcing relationship. While contracts potentially set up an initial framework that shapes subsequent relational governance (Miranda and Kavan, 2005), this sequential view of contractual and relational governance neglects the role of contracts for formalizing emergent practices developed through relational governance in later stages of the outsourcing relationship.

The findings also have strong implications for managerial practice. Client firms and service providers that seek to facilitate the development and implementation of new services and products need to develop capabilities for customer relationship management and contracts simultaneously. In terms of relational governance, service providers need to design appropriate methodologies and frameworks for embedding their staff on multiple levels with the customer organization to ease communication and joint decision making. Likewise, customers need to prepare for such a closer integration of their outsourcing provider's staff into their business processes and decision-making bodies. This mutual embedding is particularly critical for innovation-seeking outsourcing relationships as the partners need to be able to react quickly to changed competitive circumstances for the new product. Decisions taken in such a way provide the necessary flexibility and facilitate the transfer of knowledge, but also run the risk of being elusive when the people involved on both sides change. Thus the partners should strive to progressively incorporate proven practices into the underlying contract, using the contract as a repository of inter-organizational learning. This calls for a regular assessment and revision of the contract. As a result, client and service provider should both develop instruments that regularly evaluate the current contractual situations and the future mode of operation of the outsourcing. These managerial implications also provide fruitful opportunities for future research, albeit primarily in a design-oriented fashion. Researchers could help to develop effective instruments through which outsourcing partners can evaluate their current operating model and define targets for a future operating model of outsourced IS. This future operating model should amalgamate the proven services and practices of the existing relationship with the opportunities created by technology innovations. Such a model can then serve as a basis for the evolution of the underlying contract, helping to establish IS outsourcing as a contributor to product and service innovation.

## References

- Anderson, E. W. and Sullivan, M. W. (1993) *The Antecedents and Consequences of Customer Satisfaction for Firms*, *Marketing Science*, 12 (2), pp. 125-143.
- Aubert, B. A., Houde, J.-F., Patry, M. and Rivard, S. (2003) *Characteristics of IT Outsourcing Contracts*, 36th Hawaii International Conference on System Sciences (HICSS'03) IEEE Computer Society.
- Bagozzi, R. P. (1979) *The Role of Measurement in Theory Construction and Hypothesis Testing: Toward a Holistic Model*, In *Conceptual and Theoretical Developments in Marketing* (Eds, Ferrell, O. C., Brown, S. W. and Lamb, C. W.) Chicago, pp. 15-32.
- Barney, J. and Lee, W. (2000) *Multiple Considerations in Making Governance Choices: Implications of Transaction Cost Economics, Real Option Theory, and Knowledge Based Theories of the Firm*, Oxford University Press, Oxford.
- Chin, W. W. (1998) *The Partial Least Squares Approach to Structural Equation Modeling*, In *Modern Methods for Business Research* (Ed, Marcoulides, G. A.) Lawrence Erlbaum Associates, Mahwah, NJ, pp. 295-336.
- Chin, W. W. (2004) *Multi-Group analysis with PLS*.
- Churchill, G. (1979) *A Paradigm for Developing Better Measures of Marketing Constructs*, *Journal of Marketing Research*, 16 (1), pp. 64-73.
- Das, T. K. and Teng, B.-S. (1998) *Between trust and control: developing confidence in partner cooperation in alliances*, *Academy of Management Review*, 23 (3), pp. 491-512.
- Dibbern, J., Goles, T., Hirschheim, R. and Jayatilaka, B. (2004) *Information Systems Outsourcing: A Survey and Analysis of the Literature*, *The DATA BASE for Advances in Information Systems*, 35 (4), pp. 6-102.
- DiRomualdo, A. and Gurbaxani, V. (1998) *Strategic intent for IT outsourcing*, *Sloan Management Review*, 39 (4), pp. 67-80.
- Dutta, S., Zbaracki, M. J. and Bergen, M. (2003) *Pricing Process as a Capability: A resource-based perspective*, *Strategic Management Journal*, 24 615-630.
- Feeny, D., Hindle, J., Lacity, M. and Willcocks, L. (2004) *IT and Business Process Outsourcing. The Knowledge Potential*, *Information Systems Management*, 21 (3), pp. 7-15.
- Fornell, C. and Larcker, D. F. (1981) *Evaluating Structural Equation Models with Unobservable Variables and Measurement Errors*, *Journal of Marketing Research*, 18 39-50.
- Gietzmann, M. B. (1996) *Incomplete contracts and the make or buy decision: Governance design and attainable flexibility*, *Accounting, Organizations and Society*, 21 (6), pp. 611-626.
- Goles, T. and Chin, W. W. (2005) *Information systems outsourcing relationship factors: detailed conceptualization and initial evidence*, *SIGMIS Database*, 36 (4), pp. 47-67.
- Gronroos, C. (1983) *Strategic Marketing and Management in the Service Sector*, Marketing Science Institute, Cambridge.
- Grover, V., Cheon, M. J. and Teng, J. T. C. (1996) *The Effect of Service Quality and Partnership on the Outsourcing of Information Systems Functions*, *Journal of Management Information Systems*, 12 (4), pp. 89-116.
- Hulland, J. (1999) *Use of Partial Least Squares (PLS) in Strategic Management Research: A Review of Four Recent Studies*, *Strategic Management Journal*, 20 (4), pp. 195-204.
- Jahner, S., Böhmman, T. and Krcmar, H. (2006) *Anticipating and considering customers' flexibility demands in IS outsourcing relationships*, 14th European Conference on Information Systems, Göteborg, Sweden, June 12 - 14.
- Kern, T. and Blois, K. (2002) *Norm Development in Outsourcing Relationships*, *Journal of Information Technology*, 17 (1), pp. 33-42.
- Klepper, R. (1995) *The management of partnering development in I/S outsourcing*, *Journal of Information Technology*, 10 (4), pp. 249-258.
- Koh, C., Ang, S. and Straub, D. W. (2004) *IT Outsourcing Success: A Psychological Contract Perspective*, *Information Systems Research*, 15 (4), pp. 356-373.

- Kumar, M. V. (2006) *Information Technology Outsourcing at BBC*, ICFAI, Center for Management Research.
- Lacity, M. and Willcocks, L. (2003) *IT Sourcing Reflections: Lessons for Customers and Suppliers*, *Wirtschaftsinformatik*, 45 115-125.
- Lacity, M. C. (1998) *Strategic Sourcing of Information Systems: Perspectives and Practices*, John Wiley & Sons, Inc.
- Lacity, M. C. and Willcocks, L. P. (2001) *Global Information Technology Outsourcing. In Search of Business Advantage*, Wiley, Chichester, New York.
- Lee, J.-N. and Kim, Y.-G. (1999) *Effect of Partnership Quality on IS Outsourcing Success: Conceptual Framework and Empirical Validation*, *Journal of Management Information Systems*, 15 (4), pp. 29-61.
- Lee, J.-N., Miranda, S. M. and Kim, Y.-M. (2004) *IT Outsourcing Strategies: Universalistic, Contingency, and Configurational Explanations of Success*, *Information Systems Research*, 15 (2), pp. 110-131.
- Mahnke, V., Özcan, S. and Overby, M. L. (2006) *Outsourcing Innovative Capabilities for IT-Enabled Services*, *Industry and Innovation*, 13 (2), pp. 189-207.
- Mayer, K. J. and Argyres, N. S. (2004) *Learning to Contract: Evidence from the Personal Computer Industry*, *Organization Science*, 15 (4), pp. 394-410.
- Miranda, S. M. and Kavan, C. B. (2005) *Moments of governance in IS outsourcing: conceptualizing effects of contracts on value capture and creation*, *Journal of Information Technology*, 20 152-169.
- Nunnally, J. C. (1978) *Psychometric Theory*, McGraw-Hill Book Company, New York.
- Oliver, R. L. (1996) *Varieties of Value in the Consumption Satisfaction Response*, *Advances in Consumer Research*, 23 143-147.
- Parasuraman, A., Zeithaml, V. A. and Berry, L. (1988) *SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality*, *Journal of Retailing*, 64 (1), pp. 12-40.
- Parasuraman, A., Zeithaml, V. A. and Berry, L. L. (1985) *A Conceptual Model of Service Quality and Its Implications for Future Research*, *Journal of Marketing*, 49 (4), pp. 41-50.
- Peter, J. (1981) *Reliability: A Review of Psychometric Basics and Recent Marketing Practices*, *Journal of Marketing Research*, 16 (February), pp. 6-17.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y. and Podsakoff, N. P. (2003) *Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies*, *Journal of Applied Psychology*, 88 (5), pp. 879-903.
- Poppo, L. and Zenger, T. (2002) *Do Formal Contracts and Relational Governance Function as Substitutes or Complements?*, *Strategic Management Journal*, 23 (8), pp. 707-725.
- Quinn, J. B. (2000) *Outsourcing Innovation: The New Engine of Growth*, *Sloan Management Review*, 41 (4), pp. 13-28.
- Smith, R. A. and Houston, M. J. (1983) *Script-based evaluations of satisfaction with services*, In *Emerging Perspectives on Services Marketing* (Eds, Berry, L., Shostack, G. L. and Uptth, G.) American Marketing Association, Chicago, pp. 59-62.
- Susarla, A., Barua, A. and Whinston, A. B. (2003) *Understanding the Service Component of Application Service Provision: An Empirical Analysis of Satisfaction with ASP Services*, *MIS Quarterly*, 27 (1), pp. 91-123.
- Thompson, V. A. (1965) *Bureaucracy and innovation*, *Administrative Science Quarterly*, 10 1-20.
- Willcocks, L., Hindle, J., Feeny, D. and Lacity, M. (2004) *IT and business process outsourcing: the knowledge potential*, *Information Systems Management*, 21 (3), pp. 7-15.
- Willcocks, L. and Lacity, M. (1998) *Strategic Sourcing of Information Systems: Perspectives and Practices*, Wiley, Chichester.
- Wold, H. (1985) *Partial Least Squares*, Wiley, New York.
- Wüllenweber, K., Jahner, S. and Krcmar, H. (2008) *Relational Risk Mitigation: The Relationship Approach to Mitigating Risks in Business Process Outsourcing*, 41th Hawaii International Conference on System Sciences (HICSS), Waikoloa, Big Island, Hawaii.
- Yi, Y. (1991) *A Critical Review of Consumer Satisfaction*, In *Review of Marketing* (Ed, Zeithaml, V.) American Marketing Association, Chicago, IL.