

## The Role of Internal Business/IT Alignment and IT Governance for Service Quality in IT Outsourcing Arrangements

Frank Schlosser  
University of Bamberg, Germany  
frank.schlosser@uni-bamberg.de

Daniel Beimborn  
University of Bamberg, Germany  
daniel.beimborn@uni-bamberg.de

Heinz-Theo Wagner  
German Graduate School of Management and Law  
heinz-theo.wagner@ggs.de

Tim Weitzel  
University of Bamberg, Germany  
tim.weitzel@uni-bamberg.de

### Abstract

*This paper theoretically argues and empirically evaluates how a firm's internal alignment and governance processes impact the service quality received from an external IT outsourcing provider. Using data from 154 firms, it is shown that good internal business/IT alignment leads to better and more accurate provider control processes which in turn improve service level agreements. The paper contributes to the literature in linking internal governance with external IT service quality, and by disclosing a largely neglected influence of alignment on governance and control processes.*

### 1. Introduction

Business/IT alignment has been shown to be a crucial predictor of superior business process performance, IT success, and competitive advantage [1, 20, 28, 42, 50]. Also and in particular in the context of IT governance, business/IT alignment is mentioned as one important aspect of IT governance when it comes to implementing IT and business strategy so that both work together in a value creating manner [15]. Previous work on IT governance also suggests that IT governance influences business/IT alignment [48] referring to the goal of IT governance to improve alignment [27]. On the other hand, many studies are engaged in identifying and evaluating the effects of alignment. While there are studies indicating a direct effect of business/IT alignment on business or firm performance [5, 47], several others have revealed a rather indirect impact, incorporating e.g. IS usage and IT flexibility as mediators [4, 50]. Business/IT alignment is also important in inter-firm relationships by influencing outsourcing governance. This is due to the IT unit which is engaged in alignment activities towards business units but also towards external

providers and thus plays a mediating role. Additionally, the role of a 'good' contract becomes even more distinctive when at least parts of the focal firm's IT are outsourced to an external vendor.

However, research that investigates the effect of business/IT alignment on performance in an outsourcing context while considering IT governance not as an antecedent but as a mediator and moderator is rare. A prevalent and widely accepted perspective on the relationship between IT governance, business/IT alignment, and business performance or business value postulates IT governance as an enabler of alignment and alignment as an enabler of IT-generated business value [49].

Our research tries to extend this view and to contribute to the understanding of how IT governance and business/IT alignment are interrelated in regard to explaining superior service quality (SQ) in IT outsourcing relationships. Therefore, we examine the role of various formal control processes, which represent one aspect of IT governance, between vendor and client for enhancing the effect of business/IT alignment on success. We choose control processes, because the controlling of service providers is an important core element in outsourcing relationships that almost always encompasses formal and written descriptions of procedures, is always contractually agreed on, and is implemented in every relationship. In addition, we suggest including the quality of service level agreements (SLAs) when looking at the interrelationship between business/IT alignment and outsourcing success, to which we refer in terms of service quality delivered by the service provider. Finally, we aim at a more granular picture of IT governance considering its various facets, showing that there are some parts of IT governance which moderate and/or mediate the effect of alignment on performance,

while others, as shown in prior literature, improve alignment [48].

Our underlying research question is:

*How does IT governance and client-internal business/IT alignment affect service quality in IT outsourcing relationships?*

To answer this question, we build on data from an empirical survey among the 1,000 largest German banks in 2008. Precisely, the main focus of this survey was on the relationship between the bank and its respective IT service provider.

The remainder of the paper is structured as follows: First, a brief literature review is given reflecting business/IT alignment and IT governance. Then, the research model is developed and statistically tested, and the results are described. Finally, we discuss the results and present our limitations and conclusions.

## 2. Theoretical foundation

### 2.1. Business/IT alignment

There is a quite mature strand of literature on business/IT alignment in general, and regarding strategic alignment in particular [9]. The main focus of strategic alignment lies in assuring congruence of IT and business plans and goals over time, and furthermore to make them support each other. Previous literature has investigated alignment as a construct covering different facets on both a strategic and a structural level within a firm [25]. While the facets of strategic alignment and the ways of how to implement actions to improve these facets in practice are widely understood, there is no consistent model that explains the concrete implementations of these strategies into daily business processes or projects. But “strategies are only effective when they are translated into actions readily” [20, p. 23], leading to the assumption that more research into alignment on tactical or operational level is needed.

This issue is addressed by recent studies which have suggested looking especially on a social dimension of alignment [41, 42]. Based on [21, 36, 41, 42, 52], [50] has proposed and empirically tested a three-dimensional operational alignment construct (interaction, shared domain knowledge, cognitive linkage) to cover the key areas that should be incorporated in research as well as in practice.

First, interaction refers to both the extent and the quality of interaction taking place between business and IT personnel. Hence, it involves e.g. how often distinct employees meet and talk to each other, whether

these conversations are more formal or informal in nature, and if meetings and other interaction patterns are of high quality, thus leading to an acceptable result.

Second, shared domain knowledge is concerned with the IT and business units’ knowledge about the respective other unit’s domain. Consequently, this is also a bidirectional issue. On the one hand, in order to being able to support the business with adequate services and fulfill the demands, the IT unit should have considerable knowledge about the business processes and activities [47]. On the other hand, the business should have basic IT knowledge as well as knowledge about IT processes, so that e.g. the potential provided by the IT can be leveraged and requirements are communicated correctly.

Third, cognitive linkages address mainly soft factors like mutual trust, commitment, and respect between business units and IT. Besides the fact that these three dimensions are highly interrelated, the latter one has already been shown to be very important for developing and maintaining strong relationships between different people and work groups.

### 2.2. IT governance

In 2007, Luftman and Kempaiah [34] provided an update on the status of business/IT alignment in practice. They provide a maturity assessment with five important elements of which governance is one element. Governance deals with the distribution of decision authority [44, 45] and with processes at different levels “to set priorities and to allocate IT resources” [34, p. 166], and “also involves managing external partners and ensuring regulatory compliance” [34, p. 171]. More recently, van Grembergen and De Haes have provided an updated definition of IT governance by stating that “enterprise governance of IT addresses the definition and implementation of processes, structures and relational mechanism[s] that enable both business and IT people to execute their responsibilities in support of business/IT alignment and the creation of value from IT-enabled business investments” [49, p. 1]. This definition reflects a shift from viewing IT governance as an end to itself to a more business-centered point of view with a clear focus on the interests of the whole company regarding the governance of IT.

In practice, several frameworks exist to guide managerial action. Maybe, the most prominent guidelines for IT governance are provided by the IT Governance Institute (ITGI - <http://www.itgi.org>). ITGI, founded in 1998, provides resources for managers such as case studies and best practices. Among those is an IT governance framework exhibiting a feedback between five elements: (1) set

objectives; (2) provide direction; (3) IT activities; (4) measure performance; and (5) compare intention and result of actions. IT activities are actions to actually “exercise the IT governance responsibilities and the subjects comprise those items that typically get onto an IT governance agenda (objectives, opportunities, risks, key processes and core competencies)” [27, p. 34]. IT processes are directed by strategy, use resources such as information systems and IT skills and report e.g. on outcomes and risks.

Among those processes are IT governance processes such as IT performance measurement, SLAs, and benefits management and reporting [16]. In an outsourcing context, formal agreements and contracts with the provider along with more or less sophisticated outcome-oriented and/or behavior-oriented control mechanisms are quite common and are investigated from different perspectives in many studies (e.g. [8, 11, 17, 19, 33]). Therefore, for our purpose we focus on IT governance processes in terms of formal control processes in the following paragraphs.

In general, control processes are recognized to help organizations to achieve their goals [30]; thus, control can be broadly viewed as an attempt by an individual or a group of individuals to influence people to take

actions and make decisions which are consistent with the goals and objectives of the organization [13, 18, 38]. There exist two categories of control: formal and informal control. Formal control can be distinguished into behavioral or process control (dealing with the control of process execution and employee behavior), and result or outcome control (reflecting traditional comparisons of to-be and as-is) [14]. Informal control is considered in terms of social control, meaning the check for compliance of codes and values [38]. In this part of our research, with respect to IT control processes, we focus on the formal modes of control, because those modes are well documented in contracts and procedures and, to the best of our knowledge, are implemented in all outsourcing relationships.

### 3. Research Model

In this section we develop our research model which then will be statistically tested. First, the different constructs are described, and then the hypotheses are developed. The overall model is shown in figure 1.

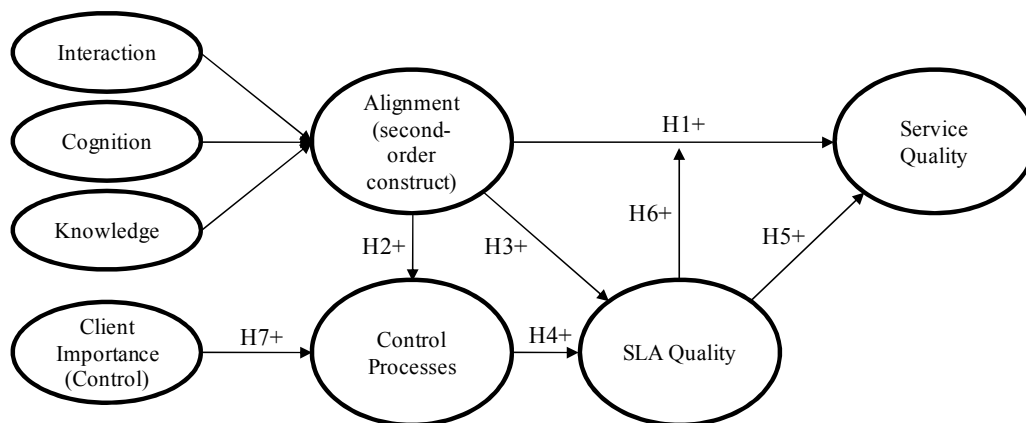


Figure 1. Research model.

Our final dependent variable representing the outsourcing success measure is the service quality delivered by the outsourcing provider. While performance or success could also be assessed by looking at the overall satisfaction and degree of achieving outsourcing goals (e.g. cost reduction) [32], we think that a perspective focused on service quality is appropriate since the goal is to better understand the influence of alignment on an operational level, not a strategic one.

Achieving a sufficiently high level of IT service quality not merely depends on the ability of the service provider (firm-internal IT unit or external IT vendor) to perform the requested services reliably and

dependably. In order to enable the vendor to deliver high service quality, client firm-internal business/IT alignment (in terms of the three social dimensions defined above) is important as argued in the following.

Actually, an outsourcing relationship involves three different parties, being the client’s business units as service users, the client’s IT unit, as retained IT organization and intermediary to the third party, which is the service provider.

First, looking at the interaction dimension of alignment, it is necessary that service users (i.e. the client’s business units) and the client’s IT unit interact in an effective and efficient way in order to clearly articulate and discuss e.g. actual demands and

problems so that each party is accurately informed. Close interaction ensures that channels are available that enable and ensure timely and accurate transfer of knowledge between service user and the client's IT unit, which then can in turn inform the service provider in a timely and accurate manner. This enables faster and more solution-oriented reactions of the IT service provider as well as services that better fit the needs of the client.

Second, the cognitive dimension of business/IT alignment is expected to facilitate service quality, too. When people trust and rely on each other, they will likely be more responsive and perform in a better way, because they do not want to disappoint the other part in such well-established relationships [51]. Furthermore, the flow of knowledge is facilitated by trusting relationships [21].

Third, knowledge sharing is important for high service quality. The reason lies, among others, in the fact that if the retained IT unit has considerable knowledge about the client's processes it will most likely be able to request better solutions customized to the requirements from the provider. Considering an outsourcing context, shared domain knowledge has already proven to be of high relevance for success [31, 32]. In this research, the focus is on the internal IT unit's knowledge about the firm's business, which is particularly important since the retained IT unit acts (at least partly) as gateway to the external IT service provider. Thus the IT unit's knowledge about the client's business is enhanced by business/IT alignment as well as the responsiveness to requirements of the business unit. This in turn increases the ability and willingness of the client's IT unit to equip the service provider with accurate and relevant knowledge about the business unit's needs and to force the service provider to provide responsive services that match with business needs.

As already noted in the theory section, the three dimensions of business/IT alignment are highly interrelated. Thus, we model alignment as a second-order construct.

Based on these considerations, we propose the following hypothesis:

*Hypothesis 1 (H1+): Business/IT alignment within the client firm positively affects service quality of the vendor.*

Considering the control processes as part of IT governance processes business/IT alignment can also be argued to lead to a better implementation of such control mechanisms both regarding client-internal control (like user satisfaction surveys) and other mechanisms with vendor involvement (e.g.

performance reports by the vendor which show the true service level, and the client's possibility to directly assess the provider's performance measurement tools). When there is a high level of knowledge and a good relationship between business units and internal IT unit, the retained IT may support this by implementing formal control processes to improve or maintain a good relationship to the external IT provider. So it can ensure high responsiveness and proof to the business unit that it is truly engaged in guaranteeing high service quality. Thus, we state the following hypothesis:

*Hypothesis 2 (H2+): Business/IT alignment positively affects control processes.*

Furthermore, it is important that the contents of the outsourcing contract including the service level agreements (SLAs) are designed accurately. However, there are several crucial issues like e.g. the level of detail, the definition of tasks and responsibilities, and the granularity of performance reports that need to be respected. These aspects, building another construct in our model, are hard to address in a sufficient way in situations where IT and business do not work together very closely. The reason is that only when alignment is good in terms of the three dimensions described in section 2.1, all involved persons will know what really needs to be controlled, which data have to be collected and shared, and which tasks have to be conducted by whom. This leads to our third general hypothesis:

*Hypothesis 3 (H3+): Business/IT alignment positively affects the quality of service level agreements.*

Furthermore, firms that have implemented appropriate formal control processes might be able to improve service levels or to increase the probability that agreed upon SLAs are fulfilled, respectively.

SLAs, among others, define the requested services and at least the desired minimum quality levels. Additionally, an SLA might comprise descriptions how monitoring will be applied and by whom. Furthermore, it can be agreed on what is to be monitored besides the pure outcomes of a service, i.e. controls of process inputs and the service process itself. Those measures render possible to detect probable issues in advance, before service outcomes might be affected.

Whenever clear monitoring rules are set up, the controlled party (which is the IT provider in our case) will be likely to show reduced opportunistic behavior, since including wrong or too weak service levels into an SLA, or potential problems with the provided service causing outages and violations of the SLA later

on, will be noticed quite early by the client. Therefore corrective actions can take place at an early stage. The same holds for deviations from negotiated service levels which will be noticed very fast and corresponding corrective actions can be carried out. Consequently, our next hypothesis is as follows:

*Hypothesis 4 (H4+): Control processes positively affect the quality of service level agreements.*

A rather intuitive assumption is the one that high quality SLAs will cause higher service quality [22]. When it is clearly defined and contractually agreed upon what the client firm needs and expects from its provider, this provider is able to create and maintain precisely those services. This leads to our next hypothesis:

*Hypothesis 5 (H5+): The quality of service level agreements positively affects service quality.*

As already described at the beginning of this paper, there are different findings concerning the way business/IT alignment influences success. In general, it can be said that good alignment not necessarily leads to a superior performance in a direct way. The underlying rationale is that alignment manifests to a considerable extent in more or less soft factors which depend on and influence other aspects, resulting in a rather complex system of factors that are interrelated and influence each other [50]. Although we model a direct relationship between client-internal business/IT alignment and service quality received from an outsourcing provider, our main contribution is including contractual issues like e.g. service level agreements as one possible issue influencing the impact of alignment on service quality. While items fixed in an SLA of course serve as a mean to improve controllability, reliability, and certainty in a vendor/client collaboration, we argue that they can also affect the inter-relationship between alignment and service quality.

When clear guidelines and commitments are set, soft factors in the partnership like trust and respect are supported in a way that e.g. the effort that is put into providing good services can also (at least partly) be quantified. Furthermore, if interaction between IT and business is good, its positive impact on service quality will become even better when concrete commitments direct the communication towards higher service quality.

Considering these points in addition to the other hypotheses, we propose the following hypothesis:

*Hypothesis 6 (H6+): The quality of service level agreements moderates the relationship between*

*business/IT alignment of the client and service quality of the vendor.*

In addition to these constructs, we also have included one indicator reflecting the client's importance for the vendor in order to control for external effects. The rationale is that the more important the respective client is for the vendor, the better the control mechanisms will be implemented.

*Hypothesis 7 (H7+): The level of the client's importance to the IT provider positively affects the implementation of governance processes in terms of control mechanisms.*

## 4. Data and methodology

In this section, we first describe the collection of data used for this analysis, and then present the measurements and the applied methodology.

This analysis is part of an empirical survey conducted among the 1,000 largest German banks (according to total assets in 2007) that have outsourced the operation and maintenance of the IS for granting and managing private construction loans and mortgages to an IT service provider. Consequently, the study is not concerned with the outsourcing of the business process itself rather than with the software system which supports that process. Data collection took place from April till October 2008. We contacted the Chief Information Officer (CIO) or other IT manager responsible for managing the relationship to the respective IT provider in each bank by phone to ask for participation. When the IS was provided completely by the internal IT unit (52 out of the 1,000 initial banks), we excluded the bank from our list and replaced it by another one (next largest). Those managers who agreed to fill the questionnaire, received it by the channel preferred by them (e-mail, fax, mail). Finally, we received 171 completed and analyzable questionnaires, indicating a response rate of 17.1%. Within this sample, the smallest bank exhibited total assets of 358 million Euro, the largest one 434 billion Euro (mean=8.6 billion Euro). After deleting those data sets containing missing values with regard to the indicators incorporated in our research model, 154 data sets remained for testing the model.

While using service quality to measure performance is widely accepted, this analysis concentrates on a selection of distinct measures to accurately address service quality in an information systems (IS) context. Nevertheless, all indicators used are to be categorized into measures of perceived service quality. As mentioned in the previous section, we investigate SQ from an IS point of view and

therefore adopt items from the IS-SERVQUAL tool as introduced by Kettinger and Lee [29]. This instrument has already been used in an IT/IS outsourcing context, indicating sufficient applicability in this area [23].

Overall, most of the used indicators in the questionnaire were derived from prior literature and, where necessary, adapted to our application domain.

Only a few measurements come from own case studies which have been executed prior to the quantitative survey. Table 1 shows the operationalization of the constructs (please be aware that the indicators in our questionnaire are in German and are translated here). All items were measured on a five-point-Likert scale ranging from 1 (fully disagree) to 5 (fully agree).

**Table 1. Indicator table**

Construct	ID	Item	References
Alignment (interaction) Int	IB1	There are meetings on a regular basis between IT unit and business unit.	[7, 12, 41]
	IB2	IT and business units effectively exchange information.	
	IB3	Communication between IT and business units in our bank is very good.	
Alignment (cognition) Cog	IB4	There is a high level of mutual trust between IT unit and business unit.	[6, 12, 40, 41]
	IB5	There is a high level of mutual respect between IT unit and business unit.	
	IB6	The business unit views our IT unit as an important consultant.	
Alignment (shared knowledge) Sha	IB7	The employees of the IT unit know the credit process.	[2, 41, 46]
	IB8	The employees of the IT unit are able to interpret business-related problems and to develop solutions.	
	IB9	Our IT staff has a sufficient banking know how to understand business problems and find solutions.	
Control processes CP	CP1	The provider's service reports offer an accurate picture of the provider's services.	Own case studies [3]
	CP2	We can directly access service evaluation measurements to avoid sugarcoated reports.	
	CP3	We regularly conduct service satisfaction surveys among users.	
SLA quality	SLA1	The outsourcing contract (including SLAs) meets all our requirements and expectations.	
	SLA2	The outsourcing contract (including SLAs) completely controls tasks and responsibilities of the partners.	
	SLA3	The granularity of the service reports meets our demands.	
Service quality SQ	SQ1	Problems are resolved reliably.	[23, 29, 39]
	SQ2	The service provider reacts quickly if there are problems.	
	SQ3	The service provider shows adequate readiness to respond to our requests.	
	SQ4	Provider staff has a service-oriented attitude.	
Client importance	CI1	We are an important customer for the service provider.	

For testing the proposed research model we used SmartPLS (Version 2.0.M3) [43]. In order to being able to identify mediating and/or moderating effects, a multi-step approach has to be conducted. First, only the direct effects were calculated. Second, the mediating role of formal control processes for the impact of alignment on the quality of SLAs was assessed. Third, the moderating role of SLA quality on the effect of alignment on service quality was examined.

## 5. Results

Before calculating the PLS algorithm, we evaluated our measurement model. The analysis of the measurement model was carried out with respect to content validity, indicator reliability, and construct

validity. To ensure stability and statistical significance of the constructs we conducted a bootstrapping with 500 random samples.

Table 2 shows the factor loadings and T-values of the indicators used in the model. While the literature suggests that all loadings should be above .707 and must not be below .5 [26], only one indicator (CP3) is between these thresholds and slightly below .707. Overall, indicator reliability can be assumed.

Convergent validity can be assumed when the AVEs are above .5 [10] and composite reliability is above 0.7 [37]. Table 3 shows that these requirements are fulfilled by our data.

The correlations between the different constructs are smaller than the square root of the average variance

extracted (shaded cells in table 4), which demonstrates sufficient discriminant validity.

**Table 2. Measurement model parameters.**

Construct	Ind. ID	Loading	T-Value
Alignment (interaction)	IB1	0.776	21.959
	IB2	0.900	51.210
	IB3	0.838	30.266
Alignment (cognition)	IB4	0.884	43.858
	IB5	0.896	54.422
	IB6	0.826	25.312
Alignment (shared knowledge)	IB7	0.893	46.634
	IB8	0.921	76.692
	IB9	0.849	31.166
Control processes	CP1	0.810	23.165
	CP2	0.780	16.648
	CP3	0.681	10.179
SLA quality	SLA1	0.829	19.280
	SLA2	0.793	19.520
	SLA3	0.818	30.838
Service quality	SQ1	0.763	12.311
	SQ2	0.757	13.387
	SQ3	0.801	14.176
	SQ4	0.778	16.373

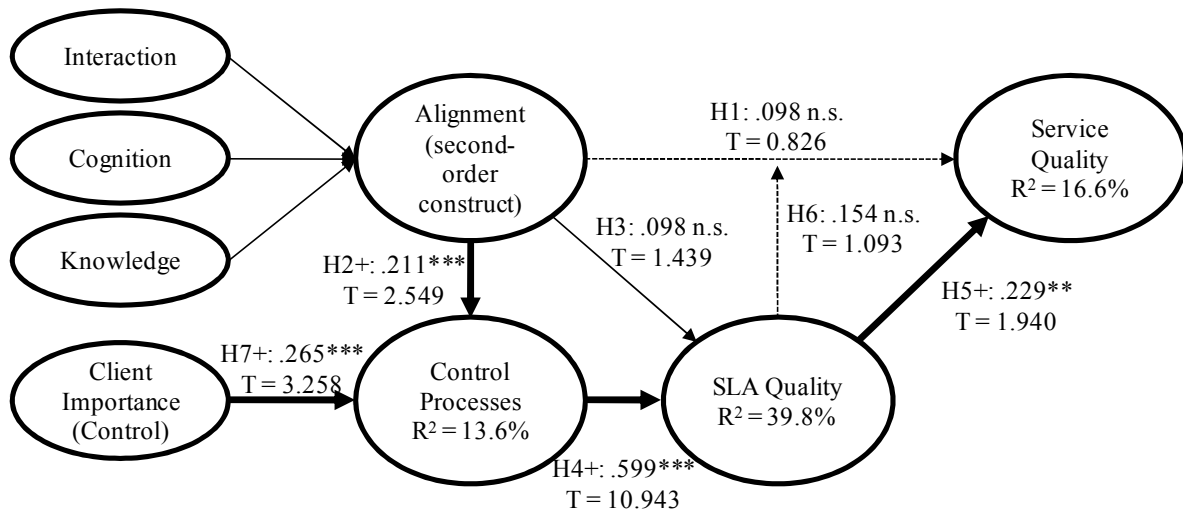
**Table 3. Quality measures for constructs.**

	Composite Reliability	AVE	Cronbach's Alpha	R <sup>2</sup>
Int	0.877	0.705	0.791	
Cog	0.902	0.755	0.837	
Sha	0.918	0.789	0.866	
CP	0.802	0.576	0.640	0.136
SLA	0.854	0.662	0.748	0.399
SQ	0.857	0.600	0.782	0.166

**Table 4. Correlations of latent variables and AVE square roots (shaded cells)**

	Int	Cog	Sha	CP	SLA	SQ
Int	0.840					
Cog	0.601	0.870				
Sha	0.350	0.352	0.888			
CP	0.304	0.121	0.183	0.759		
SLA	0.336	0.149	0.100	0.624	0.814	
SQ	0.164	0.132	0.271	0.354	0.368	0.775

Next, we present the results of testing the structural model. An overview of the final test including all mediating and moderating effects is given by figure 2.



**Figure 2. PLS results (overall model)**

Looking at the results, we can accept our hypotheses H2, H4, H5, and H7, while rejecting H1, H3. H6 shows a considerable path coefficient. However, it turns out to be insignificant. In addition, comparing the R<sup>2</sup> of service quality in the model with moderator (.1659) and the one without (.1594) indicates no considerable effect size (f<sup>2</sup>=.0078) to assume a moderating effect. Support for H2 indicates a positive impact of client-internal business/IT

alignment on the implementation of formal control processes for controlling the IT service provider. However, these control processes are also dependent on the client's importance for the IT service provider (H7). Moreover, there is a strong positive effect of such control processes on the quality of service level agreements (H4). The quality of SLAs in turn has a significant positive effect on service quality (H5).

Although we had to reject H1 representing the direct link between alignment and service quality in the final model, we could uncover a mediating effect here, since H1 was significant in the model that only consisted of the direct paths.

## 6. Limitations

Before discussing the findings, we like to discuss some limitations to critically reflect the results. Besides the general shortcomings of quantitative studies such as potential limitation of generalizability (we only investigated IT outsourcing relationships in the German banking industry), subjectivity of answer (questionnaire was sent to only one person in each bank), and absent longitudinal data (data collection took place at only one point in time), there are a number of more specific limitations that need to be addressed here. First, we investigated only client-internal business/IT alignment, omitting the alignment between the client (bank) and the vendor (IT service provider) – often defined as relational governance [22] – , which could also significantly influence the choice, implementation and extent of formal control processes and furthermore the level of SLA quality. Second, some of the indicators used have been derived from case studies instead of adopting them from prior literature. Third, we included only one contingency variable (importance of client to the vendor). However, there might be several other factors affecting the results such as e.g. firm size. Finally, looking at the control processes, we only included formal modes of control (behavioral and outcome control), while not taking informal control into account. Fourth, we measured control processes with only three indicators which might not comprehend the diversity of control processes.

## 7. Discussion and Outlook

The goal of this work was to look at the relationship between business/IT alignment and IT governance processes from another perspective than previous literature has done. So far and to the best of our knowledge, IT governance processes have predominantly been considered as antecedents of alignment [27, 48]. This paper tries to extend this view by proposing formal control processes and qualitative issues in SLAs as aspects that arise from superior business/IT alignment, and influence the effect of alignment on service quality within an IT outsourcing relationship. We found some interesting results by applying the PLS analysis. Essentially, we

have found that the effect of alignment on SLA quality and service quality is mediated by formal control processes. Control processes directly and positively impact SLA quality that in turn drives SQ.

There is an indication that client-internal business/IT alignment has no direct effect on the service quality within an IT outsourcing relationship. In particular, we could show that there is quite a strong correlation between business/IT alignment and formal control processes in an IT governance context. This may indicate an attempt of the retained IT organization to implement better or more accurate processes to control the external IT service provider when the relationship to the business departments is good. One reason might be to demonstrate great efforts in order to continuously satisfy and improve the collaboration with the business units. Furthermore, such formal control processes can serve as a way to show high sensibility and responsiveness to business needs and demands.

Formal control processes showed a highly significant relationship to the quality of service level agreements. Thus, implementing control processes in an appropriate manner can help to more accurately specify contractual issues in terms of SLAs. Only when the client-firm itself knows about problems identified by the IS users, how good or bad the services provided by the vendor really are, the client has the chance to adjust SLAs so that they best fit the current and future business needs. A retained IT that is highly knowledgeable of its company's business requirements can negotiate tight SLAs and challenge the respective IT provider instead of maybe accepting poor SLAs due to insufficient knowledge, opening the door to the vendor for behaving opportunistically. This would be the case when the provider is in a position to dictate SLAs easily to fulfill while not completely satisfying the client's needs. In this context, another aspect has to be discussed. Although only considering contractual issues as a means to achieve a successful outsourcing arrangement is not sufficient [24, 35], good and flexible contracts play an important role, especially in rather intensely regulated industries like the financial services industry where information security and system reliability are crucial success factors. Consequently, being able to identify problems and deviations from plans very fast by having dependable control processes and thus determining reasonable SLAs can be seen as one way to leverage business performance.

Precise and business-oriented rather than too technical service level agreements can then result in high service quality. The significant path between these two constructs in our model can be explained by a retained IT organization who knows about the



business needs, how these needs can be addressed by IT services and how this knowledge can be made explicit in form of SLAs. This, in turn, increases the probability of a well-performing provider. Also, the provider's willingness to perform well may be higher, since there is a higher probability that the services implemented will fit the needs of the client, thus avoiding complaints and penalties.

A bit surprising is the insignificance of the direct link between business/IT alignment and SLA quality. The rationale might be that e.g. a high level of shared knowledge and mutual understanding between business and IT combined with regular and effective communication would lead to more precise SLAs. One possible explanation to be further elaborated would be that alignment itself is not sufficient as long as it is not accompanied by concrete IT governance processes making the services measurable, thus forming a starting point to (re)negotiate SLAs. One step further, one could say that 'only' knowing what business needs is not enough when clear measurements are missing. Turning it the other way round, this would also indicate at least weak support for a moderating effect of SLA quality on the link between firm-internal alignment and service quality, which could not be revealed in a more significant way in our model, but with a considerable path coefficient of .154. Alignment can lead to better service quality, and even better when a good business/IT relationship is manifested in formal SLAs. We suggest further investigating this interrelationship to come to a more complete model for explaining these first insights.

Finally, we think it would be worth further examining the interrelationship between IT governance processes and business/IT alignment, since our findings indicate that this relation is not unidirectional. Consequently, the next steps are to look at the mediating and moderating effects in more detail, and to extend the model by also incorporating antecedents of business/IT alignment as well as additional or other types of control processes. This could lead to a better understanding of how the implementation of distinct IT governance processes in connection with business/IT alignment can ultimately facilitate the level of IT services.

## 8. References

- [1] Avison, D., Jones, J., Powell, P., and Wilson, D., "Using and Validating the Strategic Alignment Model", *Journal of Strategic Information Systems*, 13(3), 2004, 223-246.
- [2] Bassellier, G. and Benbasat, I., "Business competence of information technology professionals: conceptual development and influence on IT-business partnerships", *MIS Quarterly*, 28(4), 2004, 673-694.
- [3] Beimbom, D., Blumenberg, S., Brodnik, B., Weitzel, T., Gunne, C., and Wendt, S., *Gestaltung partnerschaftlicher Outsourcingbeziehungen*, ibidem, 2008.
- [4] Beimbom, D., Franke, J., Wagner, H.-T., and Weitzel, T., "The impact of operational alignment on IT flexibility - Empirical evidence from a survey in the German banking industry", *13th Americas Conference on Information Systems (AMCIS)*, Keystone (CO), USA, 2007.
- [5] Bharadwaj, A., "A Resource-Based Perspective on Information Technology Capability and Firm Performance: An Empirical Investigation", *MIS Quarterly*, 24(1), 2000, 169-196.
- [6] Bhatt, G.D., "Managing information systems competence for competitive advantage: an empirical analysis", *24th International Conference on Information Systems (ICIS)*, Seattle (WA), 2003.
- [7] Broadbent, M. and Weill, P., "Improving business and information strategy alignment: learning from the banking industry", *IBM Systems Journal*, 32(1), 1993, 223-246.
- [8] Cardinal, L.B., "Technological Innovation in the Pharmaceutical Industry: The Use of Organizational Control in Managing Research and Development", *Organization Science*, 12(1), 2001, 235-256.
- [9] Chan, Y.E. and Reich, B.H., "IT Alignment: What Have We Learned?", *Journal of Information Technology*, 22(4), 2007, 297-315.
- [10] Chin, W.W., "The partial least squares approach for structural equation modelling" in: Marcoulides, G. A. (Ed.); *Modern Methods for Business Research*, Lawrence Erlbaum Associates, Mahwah (NJ), U.S., 1998, 295-336.
- [11] Choudhury, V. and Sabherwal, R., "Portfolio of Control in Outsourced Software Development Projects", *Information Systems Research*, 14(3), 2003, 291-314.
- [12] Chung, S.H., Rainer, R.K., and Lewis, B.R., "The impact of information technology infrastructure flexibility on strategic alignment and applications implementation", *Communications of the AIS*, 11), 2003, 191-206.
- [13] Das, T.K. and Teng, B.-S., "Between trust and control: developing confidence in partner cooperation in alliances", *Academy of Management Review*, 23), 1998, 491-512.
- [14] Das, T.K. and Teng, B.-S., "Trust, Control, and Risk in Strategic Alliances: An Integrated Framework", *Organization Studies*, 22(2), 2001, 251-283.
- [15] De Haes, S. and Van Grembergen, W., "IT Governance and its Mechanisms", *Information Systems Control Journal*, 1), 2004.
- [16] De Haes, S. and Van Grembergen, W., "An Exploratory Study into IT Governance Implementation and its Impact on Business/IT Alignment", *Information Systems Management*, 26(2), 2009, 123-137.
- [17] Dibbern, J., Winkler, J., and Heinzl, A., "Explaining Variations in Client Extra Costs between Software Projects Offshored to India", *MIS Quarterly*, 32(2), 2007, 333-366.
- [18] Eisenhardt, K.M., "Control: Organizational and Economic Approaches", *Management Science*, 31(2), 1985.
- [19] Ezzamel, M. and Willmott, H., "Accounting for Teamwork: A Critical Study of Group-based Systems of Organizational Control", *Administrative Science Quarterly*, 43), 1998, 358-396.

- [20] Feurer, R., Chaharbaghi, K., Weber, M., and Wargin, J., "Aligning Strategies, Processes, and IT: A Case Study", *Information Systems Management*, 17(1), 2000, 23-34.
- [21] Galunic, D.C. and Rodan, S., "Resource recombinations in the firm: knowledge structures and the potential for Schumpeterian innovation", *Strategic Management Journal*, 19(12), 1998, 1193-1201.
- [22] Goo, J., Kishore, R., and Rao, H.R., "The Role of Service Level Agreements in Relational Management of Information Technology Outsourcing: An Empirical Study", *MIS Quarterly*, 33(1), 2009, 119-145.
- [23] Grover, V., Cheon, M.J., and Teng, J.T.C., "The effect of service quality and partnership on the outsourcing of information systems functions", *Journal of Management Information Systems*, 12(4), 1996, 89-116.
- [24] Hart, O., "Incomplete contracts and the theory of the firm", *Journal of Law, Economics, and Organization*, 4(1), 1988, 119-139.
- [25] Henderson, B.D. and Venkatraman, N., "Strategic alignment: leveraging information technology for transforming organizations", *IBM Systems Journal*, 32(1), 1993, 4-16.
- [26] Hulland, J., "Use of Partial Least Squares (PLS) in strategic management research. A review of four recent studies", *Strategic Management Journal*, 20(2), 1999, 195-204.
- [27] ITGI, *Board Briefing on IT Governance*, Rolling Meadows, 2003.
- [28] Kearns, G., S. and Lederer, A.L., "A resource-based view of strategic IT alignment: how knowledge sharing creates competitive advantage", *Decision Sciences*, 24(1), 2003, 1.
- [29] Kettinger, W.J. and Lee, C.C., "Perceived Service Quality and User Satisfaction with the Information Services Function", *Decision Sciences*, 25(5/6), 1994, 737-766.
- [30] Kirsch, L.J., "Portfolios of Control Modes and IS Project Management", *Information Systems Research*, 8(3), 1997.
- [31] Lee, J.-N., "The impact of knowledge sharing, organizational capability and partnership quality on IS outsourcing success", *Information and Management*, 38(5), 2001, 323-335.
- [32] Lee, J.-N. and Kim, Y.-G., "Effect of partnership quality on IS outsourcing success: conceptual framework and empirical validation", *Journal of Management Information Systems*, 15(4), 1999, 29-61.
- [33] Lee, J.-N., Miranda, S.M., and Kim, M., "IT Outsourcing Strategies: Universalistic, Contingency, and Configurational Explanations of Success", *Information Systems Research*, 15(2), 2004, 110-131.
- [34] Luftman, J. and Kempaiah, R., "An Update on Business-IT Alignment: "A Line" Has Been Drawn", *MIS Quarterly Executive*, 6(3), 2007, 165-177.
- [35] Macneil, I.R., *The new social contract: an inquiry into modern contractual relations*, Yale University Press, New London, 1980.
- [36] Nelson, K.M. and Coopridge, J.G., "The contribution of shared knowledge to IS group performance", *MIS Quarterly*, 20(4), 1996, 409-432.
- [37] Nunnally, J.C., *Psychometric theory*, McGraw Hill, New York (NY), 1978.
- [38] Ouchi, W.G., "A Conceptual Framework for the Design of Organizational Control Mechanisms", *Management Science*, 25(9), 1979, 833-848.
- [39] Parasuraman, A., Zeithaml, A., and Berry, L., "SERVQUAL: A Multiple-item Scale for Measuring Consumer Perceptions of Service Quality", *Journal of Retailing*, 64(1), 1988, 12-40.
- [40] Ravichandran, T. and Lertwongsatien, C., "Effect of Information Systems Resources and Capabilities on Firm Performance: A Resource-Based Perspective", *Journal of Management Information Systems*, 21(4), 2005, 237-276.
- [41] Reich, B.H. and Benbasat, I., "Measuring the linkage between business and information technology objectives", *MIS Quarterly*, 20(1), 1996, 55-81.
- [42] Reich, B.H. and Benbasat, I., "Factors that influence the social dimension of alignment between business and information technology objectives", *MIS Quarterly*, 24(1), 2000, 81-113.
- [43] Ringle, C.M., Wende, S., and Will, A., "SmartPLS 2.0 M3 (beta)". 2007, Hamburg.
- [44] Sambamurthy, V. and Zmud, R.W., "Arrangements for information technology governance: a theory of multiple contingencies", *MIS Quarterly*, 23(2), 1999, 261-290.
- [45] Tavakolian, H., "Linking the Information Technology Structure with Organizational Competitive Strategy: A Survey", *MIS Quarterly*, 13(3), 1989, 309-317.
- [46] Teo, T.S.H. and Ang, J.S.K., "Critical Success Factors in the Alignment of IS Plans with Business Plans", *International Journal of Information Management*, 19(2), 1999, 173-185.
- [47] Teo, T.S.H. and King, W.R., "Integration between Business Planning and Information Systems Planning: An Evolutionary-Contingency Perspective", *Journal of Management Information Systems*, 14(1), 1997, 185-214.
- [48] Van Grembergen, W., *Strategies for Information Technology Governance*, Idea Group Publishing, Hershey, PA, USA, 2003.
- [49] Van Grembergen, W. and De Haes, S., *Enterprise Governance of Information Technology: Achieving Strategic Alignment and Value*, Springer, New York, 2009.
- [50] Wagner, H.-T., *A resource-based perspective on IT business alignment and firm performance - Theoretical foundation and empirical evidence*, ibidem, Stuttgart, Germany, 2007.
- [51] Ybarra-Young, C. and Wiersema, M., "Strategic flexibility in information technology alliances: the influence of transaction cost economics and social exchange theory", *Organization Science*, 10(4), 1999, 439-459.
- [52] Zmud, R.W., "Building relationships throughout the corporate entity" in: Elam, J., Ginzberg, M., Keen, P., and Zmud, R.W. (Eds.); *Transforming the IT organization: the mission, the framework, the transition*, 1988, Washington, 1988, 55-82.