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# Who is Doing What: The Impact of Task and Role Documentation on Outsourcing Service Quality

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#### **ABSTRACT**

Our research contributes to the quest for management action items that drive outsourcing management success. We hypothesize and empirically show that a certain piece of IT governance, the explicit documentation of roles and responsibilities of staff residing in the client firm's retained organization contributes to social alignment in terms of interaction quality, shared knowledge, and trust between the client firm's business and side and the outsourcing vendor. Our model is quantitatively tested by using data from 171 IT outsourcing arrangements in the German banking industry. We show that the documentation of tasks and responsibilities affects the service quality delivered by the vendor in terms of reliability and responsiveness, and that this impact is fully mediated by both client-internal social alignment and vendor/client alignment. This result represents a piece for helping practitioners to develop a better understanding of how to design their outsourcing governance to maintain and improve ongoing outsourcing relationships.

#### **Keywords**

IT outsourcing, IT service quality, outsourcing relationship management, IT governance, social alignment, social capital.

# INTRODUCTION

IT outsourcing has become a very common phenomenon. However, reaching outsourcing success, particularly in terms of strategic IT value and strong business/IT alignment, remains a key challenge. Despite all progress in research there is still no conclusive framework for explaining how superior IT outsourcing arrangements can be achieved, and which governance mechanisms should be considered. The main focus of recent research has been laid on the role of contractual components. while research on appropriate governance mechanisms in ongoing outsourcing relationships is very sparse. Moreover, only few studies have investigated soft factors like trustful communication, commitment, or cooperative conflict resolution in order to achieve high relationship quality, effective knowledge exchange, and strategic outsourcing success (Goo et al., 2009). On the other side, business/IT alignment as driver of IT business value has received much attention in research (Sabherwal and Chan, 2001). Although business/IT alignment is, in general, not fully understood and thus hard to master for organizations (Chan and Reich, 2007), it becomes even more complicated when a third party vendor needs to be considered. Then, there is not only the (client's) firm-internal alignment that has to be established, but the IT provider and its activities have to be aligned as well in terms of vendor/client alignment. While many studies concentrate on factors addressing interfirm relational issues (like vendor/client alignment), only little has been published about the role of success factors related to the client (like e.g. client-internal alignment) (Ranganathan and Balaji, 2007). Chan and Reich (2007) highlighted a gap concerning the identification of alignment antecedents. Recent studies started to overcome this issue, and developed models that explain the creation of, e.g., shared knowledge as constituent of strategic business/IT alignment (Preston and Karahanna, 2009). But, since the strategic level is increasingly studied, the issue of aligning business and IT between client and vendor, as well as client-internally, both at the tactical and the operational level from a social perspective is even more elusive.

This paper tackles these issues as follows: (1) We develop a research model that considers both vendor/client and client-internal business/IT alignment as drivers of IT outsourcing success in terms of service quality; (2) we propose the explicit documentation of tasks and responsibilities at the client's retained organization as one important antecedent for vendor/client and client-internal business/IT alignment, and thus, for outsourcing service quality. In doing so, we provide a piece of the puzzle on how to achieve business/IT alignment and outsourcing success through distinct governance mechanisms.

Our guiding research question is: How does documentation of tasks and responsibilities influence social client-internal and vendor/client business/IT alignment and thus outsourcing service quality?

Based on data from 171 IT outsourcing arrangements, we quantitatively show that indeed the documentation of tasks and responsibilities of the client's IT unit affects IT outsourcing service quality, and is fully mediated by both client-internal alignment and vendor/client alignment.

The paper proceeds as follows. In the next section, we give a brief overview about our conceptualization of business/IT alignment based on the theoretical concept of social capital. Subsequently, the research model is developed, followed by the research methodology, data analysis, and results. Finally, we discuss the results and limitations.

#### THEORETICAL FOUNDATION

#### The Role of Social Capital for Alignment

According to the Social Capital Theory (SCT), relationships between different entities are a precondition for knowledge transfer and the creation of intellectual capital (Nahapiet and Ghoshal, 1998). Relationships, or social capital, can be assessed by three main dimensions: (1) the structural dimension is about the existence of ties between two or more entities; (2) the cognitive dimension refers to shared codes, beliefs and language (Grant, 1996; Kogut and Zander, 1996); (3) the relational dimension addresses qualitative aspects of social ties by considering concepts like mutual trust, norms, obligations, and identification (Granovetter, 1985). As Nahapiet and Goshal (1998) point out, social capital cannot be held by one individual rather than it "is owned jointly by the parties in a relationship" (p. 244).

Business/IT alignment is a widely discussed issue in research (Chan and Reich, 2007) and practice (Luftman et al., 2009). However, no generally agreed-on framework has been developed. At least, there are some dimensions which are regularly mentioned in the context of alignment. Besides strategic or intellectual dimensions (e.g., Reich and Benbasat, 2000; Kearns and Lederer, 2003), structural dimensions (e.g., Chan, 2002), and cultural dimensions, the social dimension of alignment has proven to be of significant importance (Reich and Benbasat, 2000, 2003). According to Lederer and Mendelow (1989), the social dimension of alignment addresses personnel linkages. Reich and Benbasat (2000) consider social alignment as "the state in which business and IT executives within an organizational unit understand and are committed to the business and IT mission, objectives, and plans" (p. 82). In general, there is agreement on the importance of interaction which reflects structural linkage, shared knowledge, and trust (Reich and Benbasat, 2000; Tiwana et al., 2003). We adapt these three dimensions into a social alignment construct, consisting of interaction quality, shared knowledge, and trust. These dimensions are used for representing both social *vendor/client* and *client-internal* alignment.

#### **IT Governance**

As already mentioned, it is still not clear *how* (social) business/IT alignment can be achieved, in particular on the operational level. Van Grembergen and De Haes (2009) have considered IT governance as "enterprise governance of IT [which] 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" (p. 1). Consequently, IT governance can be seen as a driver of business/IT alignment (Van Grembergen, 2003), reflecting one of the goals of IT governance, which is improving alignment (ITGI, 2003). One of the structures related to IT governance can be seen in the documentation of tasks and responsibilities among the staff. In this paper, we particularly investigate the role of a detailed formalization of what individuals or teams of the client's IT unit do, and who is responsible for what. According to the goals of IT governance, we expect such a formalization to positively influence social alignment, and thus outsourcing service quality.

#### **RESEARCH MODEL**

Our research model proposes that social alignment both between the vendor and the client firm, as well as between the client firm's internal business unit and the internal IT unit (retained organization), are important for service quality. Both forms of social capital or social alignment are positively affected by an explication of the role models and task description of the staff and management belonging to the retained organization – and thus mediate the positive impact of responsibilities documentation on outsourcing service quality (conceptualized by the two dimensions of reliability and responsiveness). Figure 1 visualizes our research model which will be derived in detail in the following sections.

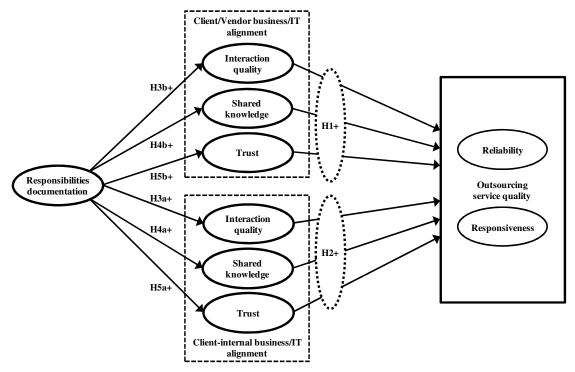


Figure 1: Research Model

#### The Role of Client-internal and Vendor/client Social Alignment on Outsourcing Service Quality

IT outsourcing relationships represent complex and knowledge-intensive partnerships between an outsourcing service provider and a client firm. Problems with the provided IT system and frequent change requirements in the client's business require frequent or even continuous adaptation of the IT systems by the vendor. Thus, the vendor both needs to get adequate information about problems and requirements to sufficiently understand them, in order to provide an effective solution (Tiwana, 2003; Martin et al., 2008). For an appropriate understanding, knowledge exchange is important Lee (2001), which in turn is enabled and facilitated by tight social ties (Nahapiet and Ghoshal, 1998).

Correspondingly, Lee and Kim's earlier study (1999) showed that there is a positive correlation between vendor-client interaction quality and partnership quality, which in turn affects outsourcing success. Social ties and communication across them does not only help to successfully route necessary information about change requirements from the client side to the vendor side. It also helps the vendor to generally learn about the client's business, and the particularities related with its organizational structures, processes, culture, etc. (Lee, 2001; Dibbern et al., 2008).

Recent studies have highlighted the importance of "relational governance" (Goo et al., 2009) or "outsourcing relationship management" (Beimborn et al., 2009), which aim at improving relationship quality between vendor and client. These studies have used certain concepts of relationship quality which usually contain interaction quality (Lee and Kim, 1999; Goles and Chin, 2005), shared knowledge (Blumenberg et al., 2009), and trust (Lee and Kim, 1999; Goo et al., 2009). All of them agree in that this kind of relationship quality helps to align the interests of the vendor and the client, and thus enables a long-term outsourcing partnership, while contractual governance alone cannot sufficiently ensure a vendor's cooperative behavior. According to these works, we propose:

H1: Social alignment (in terms of interaction quality, shared knowledge, and trust) between the vendor and client firm increases outsourcing service quality.

Obviously, outsourcing success in terms of service quality is not only determined by the relationship between the vendor and the client firm. The relationships between the different parties within the client firm, particularly between the business side (representing the actual users of the IT system) and the IT side (retained organization in charge of managing the outsourcing relationship, i.e., interaction and change processes with the vendor) play a crucial role as well. As Martin et al. (2008) showed, this client-internal alignment between business side and IT side, reflected by comparable dimensions of interaction quality, shared knowledge, and trust also contributes to a successful outsourcing partnership. If the business side needs a change to the IT system, it will formulate a change request. High client-internal alignment will ensure both a joint creation of

the change request, an appropriate IT specification, and the subsequent effective realization of the change. The reason is that the retained organization has been enabled to fully understand the demand, and thus can successfully control the implementation process. Consequently, the speed and accuracy of the provider's solution to the problem or change request partly depends on the quality of the interaction and understanding within the client firm. The client firm needs to be able to aggregate and explicate firm-internal knowledge in order to serve the vendor's needs. Higher client firm-internal interaction quality enables a more reliable and effective transfer of client-related information to the vendor. This in turn enhances the vendor to provide prompt and reliable services.

As in the client/vendor relationship, interaction quality is related with both shared knowledge and tight relational linkages between the IT and business side (Tiwana et al., 2003). Therefore, we can apply the three-dimensional concept of social alignment to this client-internal interface, as well, and hypothesize:

H2: Social alignment (in terms of interaction quality, shared knowledge, and trust) between the client firm's business unit and IT unit (i.e. retained organization) increases outsourcing service quality.

### The Role of Task and Responsibilities Documentation for Social Capital along the Business/IT Interface

The documentation of tasks and responsibilities reflects well understood organizational structures. What is well understood does not include causal ambiguities and can be made explicit (Nonaka, 1994), implying that this documentation is correlated with higher effectiveness (see also Raymond, 1990) due to clear communication structures. If tasks and responsibilities of (client-side) IT personnel are documented, interaction between business and IT domain as well as between service provider and internal IT organization is facilitated. Lines of communication are easy to detect and thus "more formalized interactions would decrease the ration of missed communications" (Fortune, 2003, p. 122). Therefore, exchange is positively influenced by codification (Galunic and Eisenhardt, 2001). Thus, for the relation between documentation and client-internal and vendor/client alignment, we propose:

H3a: Documentation positively influences interaction in client-internal social alignment.

H3b: Documentation positively influences interaction in vendor/client social alignment.

IT personnel deals with a broad range of tasks, reaching from pure technical tasks such as server administration to demand management tasks such as analyzing business requirements. Ideally, those IT professionals best suited for specific tasks due to their education and work experience are assigned to the respective position. Therefore, documenting the tasks and responsibilities not only reveals the organization of the IT unit to the business domain, but also delineates the areas of expertise that guide the selection of IT personnel, their operational activities, and their future education. This also reduces causal ambiguities (Nonaka, 1994). Furthermore, "participants in a 'field' of action share explicit knowledge that is gradually translated, through interaction and a process of trial-and-error, into different aspects of tacit knowledge" (Nonaka, 1994, p. 20), which in turn increases the level of shared knowledge. Due to the selection of personnel with business skills and the allocation of respective operational activities to this personnel, business-related experience accumulates over time, and thus the level of shared knowledge is increased. Therefore, we propose:

H4a: Documentation positively influences shared knowledge in client-internal alignment.

Similarly, regarding the interface to the service provider, IT personnel knowledgeable about the business is selected according to documented guidelines and assigned to respective areas of responsibility. Therefore, in case of proper documentation of tasks and responsibilities, it can be expected that IT personnel capable of interpreting business challenges and of understanding business needs interacts with the service provider, and effectively transfers IT-related business knowledge. Building on this knowledge transfer helps the provider to build an understanding of how to best serve the customer. Therefore, we formulate:

H4b: Documentation positively influences shared knowledge in vendor/client alignment.

The availability of explicit, formal documentation (Grover and Segars, 2005) is an important indication of organizational maturity and increases efficiency by reducing ambiguities (Dewett and Jones, 2001). This applies also to the formation of trust. There are different views on trust. One of these views is based upon minimizing business risks by increasing the "confidence in the predictability of one's expectations" (Ring and Van de Ven, 1994, p. 93). In this view, parties engaged in a relationship hedge against uncertainties by formal mechanisms such as organizational hierarchy. Therefore, uncertainties associated with organizational roles foster "that the parties employ 'life jackets' recognized by their organizations (e.g., formalized contracts, exogenous safeguards) in lieu of exclusive reliance on trust" (Ring and Van de Ven, 1994, p. 96). Thus, the level of trust among parties in an organization is supported by formal structures such as the documentation of who is responsible for what. Accordingly, we propose:

H5a: Documentation positively influences trust in client-internal alignment.

Adopting the above argumentation for the relationship to an external service provider, documenting tasks and responsibilities reduces ambiguities for the service provider, and clarifies the interface in terms of who can to be contacted in which situation. This clarification of lines of communication, together with properly assigned communication partners with respect to their expertise, supports trust by fostering the expectation that the "results of somebody's intended action will be appropriate ..." (Misztal, 1996; recited in Nahapiet and Ghoshal, 1998) and "that a partner's word or promise is reliable and that a partner will fulfil its obligations in the relationship" (Inkpen, 2000, p. 1027). Therefore, we formulate:

H5b: Documentation positively influences trust in vendor/client alignment.

#### **ANALYSIS**

#### Data and methodology

In order to test our model we collected data via questionnaires which have been sent to the largest 1,000 German banks (according to total assets in 2007). Addressee was the person who is in charge of managing the relationship to the IT outsourcing provider which runs and maintains the information system for handling private construction loans. In a first step, we called the bank to ask whether the focal information system is operated by an external provider. In case of outsourcing (948 of the 1,000 banks), we asked for the responsible manager and tried to contact him personally. After the call, we distributed the questionnaire by mail, e-mail, or fax, as preferred by the manager. Banks that stated not to have outsourced the respective IS were replaced by the next largest bank from our database. Overall, the data collection process took place from April until October 2008 and resulted in 171 surveys returned (response rate of 17.1%). For the analysis, we used PLS (SmartPLS 2.0.M3 (Ringle et al., 2007)) based on 160 of the 171 completed surveys, which remained after deleting those data sets that contained missing values regarding the needed items.

#### Measurement

All constructs are measured in a reflective way. Outsourcing service quality was conceptualized by two dimensions: *reliability* reflects the quality of the basic service provision and captures system availability, low level of errors, and change projects being realized in time and in budget. *Responsiveness* reflects the behavior of the provider's IT personnel in terms of how quickly and cooperatively they react to problems and change requests posted by the client.

The items for social alignment were derived from the alignment and social exchange literature, as well as from outsourcing relationship management research. Since structural linkages or interaction intensity only reflect how often or regularly business and IT meet or talk to each other rather than how effectively, we only focus on interaction *quality*. Concerning shared knowledge, the focus lies on investigating the business knowledge of IT personnel since the retained organization represents the focal element in our scenario. Since the vendor is the one who delivers the IS to be used by the client, it is crucial that both the bank's IT and the vendor do understand the loans business. Table 4 in the Appendix gives an overview about all indicators used, and refers to the corresponding literature sources.

The statistical validity of the measurement models of each of the constructs was assessed in terms of indicator reliability (item loadings), convergent validity, and discriminant validity. Tables 2+3 in the Appendix show that the common criteria are fulfilled by all indicators and constructs. Moreover, comparing the answers of early (N=81) and late (N=90) respondents by conducting the Mann-Whitney test did not reveal any significant differences so that non/late-response bias is unlikely.

#### Structural model

Figure 2 shows the path coefficients and explained variances resulting from the PLS analysis. Table 1 summarizes the test results. As can be seen, the dimensions of vendor/client and client-internal business/IT alignment explain 36.6% and 50.7% of service quality in terms of reliability and responsiveness. Particularly, *vendor/client* alignment with its strong path coefficients can be assumed as an important predictor of service quality. The *client-internal* alignment showed to have at least moderate influence on responsiveness, but none on reliability.

Our independent variable of documentation shows to be a highly significant antecedent for all three dimensions of both vendor/client and client-internal alignment. Moreover, a mediation test showed that both forms of alignment act as full

<sup>&</sup>lt;sup>1</sup> Indicator loadings > .7; composite reliability > ,8; AVE > ,5; square root of AVE larger inter-construct correlations, and loadings higher than cross-loadings of the indicator with each other construct (Fornell and Larcker, 1981; Chin, 1998)

mediators of documentation on service quality<sup>2</sup>. As a result, we can expect this kind of documentation to be an effective governance mechanism for outsourcing success.

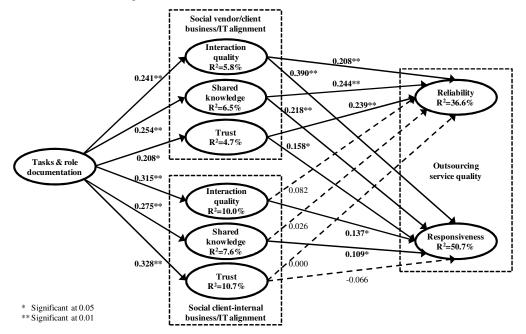


Figure 2: PLS Results

| Hypotheses                                                                                    | Path coefficient | Support for hypothesis |
|-----------------------------------------------------------------------------------------------|------------------|------------------------|
| H1a: Interaction quality (vendor/client alignment) → Service quality (reliability)            | 0.208**          | Supported              |
| H1b: Shared knowledge (vendor/client alignment) → Service quality (reliability)               | 0.244**          | Supported              |
| H1c: Trust (vendor/client alignment) → Service quality (reliability)                          | 0.239**          | Supported              |
| H1d: Interaction quality (vendor/client alignment) → Service quality (responsiveness)         | 0.390**          | Supported              |
| H1e: Shared knowledge (vendor/client alignment) → Service quality (responsiveness)            | 0.218**          | Supported              |
| H1f: Trust (vendor/client alignment) → Service quality (responsiveness)                       | 0.158*           | Supported              |
| H2a: Interaction quality (client-internal alignment) → Service quality (reliability)          | 0.082            | Not supported          |
| H2b: Shared knowledge (client-internal alignment) → Service quality (reliability)             | 0.026            | Not supported          |
| H2c: Trust (client-internal alignment) → Service quality (reliability)                        | 0.000            | Not supported          |
| H2d: Interaction quality (client-internal alignment) → Service quality (responsiveness)       | 0.137*           | Supported              |
| H2e: Shared knowledge (client-internal alignment) → Service quality (responsiveness)          | 0.109*           | Supported              |
| H2f: Trust (client-internal alignment) → Service quality (responsiveness)                     | -0.066           | Not supported          |
| H3a: Tasks & responsibilities documentation → Interaction quality (vendor/client alignment)   | 0.241**          | Supported              |
| H4a: Tasks & responsibilities documentation → Shared knowledge (vendor/client alignment)      | 0.254**          | Supported              |
| H5a: Tasks & responsibilities documentation → Trust (vendor/client alignment)                 | 0.208*           | Supported              |
| H3b: Tasks & responsibilities documentation → Interaction quality (client-internal alignment) | 0.315**          | Supported              |
| H4b: Tasks & responsibilities documentation → Shared knowledge (client-internal alignment)    | 0.275**          | Supported              |
| H5b: Tasks & responsibilities documentation → Trust (client-internal alignment)               | 0.328**          | Supported              |

**Table 1: Summary of Hypothesis Tests** 

<sup>&</sup>lt;sup>2</sup> We tested the model without the alignment dimensions, just drawing links from documentation to both service quality dimensions. These showed to be strong (.256 and .229 to reliability and responsiveness, respectively) and highly significant (p<.01), but became insignificant when again adding the 2\*3 dimensions of alignment as mediators.

#### DISCUSSION

As hypothesized, our results show that the documentation of tasks and responsibilities has a considerable and consistent effect on all three dimensions (interaction quality, shared knowledge, trust) of vendor/client and client-internal social business/IT alignment. Overall, the path coefficients do not differ that much with regard to the three alignment dimensions. However, all of the paths from task and role documentation to client-internal alignment are slightly stronger than the corresponding paths yielding to vendor/client alignment. One reason could be that the measurement of documentation is directed more towards the client's internal IT tasks and responsibilities. Nevertheless, such formalization appears to be a relevant antecedent of business/IT alignment and extents previous findings which have, e.g., revealed that both the existence and the joint work on a business process documentation are drivers of alignment (Beimborn et al., 2008). The findings suggest that a clear and documented specification of who is responsible for what improves communication, shared knowledge, and trust in both vendor/client and client-internal business/IT relationships. This happens by reducing causal ambiguities, uncertainties, chance of misunderstandings and misallocation of employees, and by increasing reliability.

Looking at the effects of alignment on service quality, we find differential results regarding client-internal and vendor/client alignment. The path coefficients from all three vendor/client alignment dimensions to reliability are significant. The same holds for the paths from vendor/client alignment to responsiveness. This indicates that good interaction, a high level of shared knowledge, and a high level of mutual trust between client and vendor are preconditions for reliable IT services delivered by the provider. Furthermore, under these preconditions, the provider is more responsive when it comes to dealing with problems, change requests, or to raise individual attention to the respective client. While all three sub-dimensions of vendor/client alignment show rather equal effects on reliability, interaction has the strongest effect on responsiveness followed by shared knowledge and trust. Consequently, high quality of interaction seems to work best in making the IT provider more responsive. One reason might be that for responding to problems or requests, effective communication is important and sufficient, while for really solving problems in regard to to content, addressing client requests, and providing service adequately, shared knowledge gains importance.

Concerning the impact of client-internal alignment on service quality, our findings indicate only weak support for the stated hypotheses. First, none of the three sub-dimensions of client-internal alignment has a significant effect on reliability. This is somewhat counter-intuitive since one would assume that high client-internal alignment leads to more adequately specified change requests submitted to the provider, who then can deliver higher quality and solve problems more accurately. Apparently, this is not the case in our data. Maybe, high client-internal alignment leads to a (partial) disregard of the provider and some of the relevant facts do not reach the vendor. This matches to the claim of vendors that the client-internal IT unit often behaves in a protectionist way and inhibits information exchange in order to protect their own position. Nevertheless, the analysis shows at least weak but significant paths from interaction and shared knowledge (both client-internal alignment) to service quality in terms of responsiveness. However, trust (client-internal alignment) again is not related with responsiveness. One explanation might be that client-internal interaction and shared knowledge is better to "see" for the provider. When provider staff knows that business and IT of the client communicate effectively, and the respective persons with whom they interacts is highly business skilled, they will probably show better responsiveness. Poor responsiveness, in such a case, will more likely be seen as the provider's fault by the business users rather than as a client-internal communication problem.

#### Limitations

Of course, our results may be subject to the typical limitations related to survey-based research like common method bias (CMB), subjectivity of answers, and generalizability issues with regard to other industries, countries, etc. CMB was addressed by using different versions of the questionnaire with different orders of the items, by using two theoretically unrelated marker variables which showed no significant correlations with any item used in our model, and by applying the Harman single factor test (the largest component extracted by a PCA based on all items explained 28.5% of the overall shared variance).

Furthermore, there are some specific aspects that are tightly related to this work. Service quality only represents a certain dimension of outsourcing success – for example the actual achievement of outsourcing goals is not covered by this kind of success measurement. Moreover, service quality was only conceptualized by two (nevertheless the most important) dimensions while, e.g., the IS-SERVQUAL instrument (Kettinger and Lee, 1994) contains other dimensions as well.

Finally, we have not incorporated any contingency variables in our analysis, yet. We eliminated several contingencies by focusing on one particular industry, which consists of only a few number of very homogeneous bank groups (which even more use the same type of loans system) and predominantly shows rather old and mature outsourcing relationships.

Additionally, the focus is on a particular, very precisely described kind of outsourcing relationship (i.e., operating the main loans system).

#### **CONCLUSION AND FURTHER RESEARCH**

This paper contributes to the quest for success-driving management action items in outsourcing management. Based on data from outsourcing relationships in the German banking industry, we were able to show that the documentation of tasks and responsibilities of the client firm's retained organization is a significant driver of outsourcing service quality because it helps to implement social alignment in terms of interaction quality, shared knowledge, and trust between the vendor, the client's IT unit, and the user of the provided IT, i.e., the business side. In congruence with other outsourcing relationship studies, we found that vendor/client alignment and a good relationship quality facilitate outsourcing success, conceptualized as service quality. Moreover, we also found that social client-internal business/IT alignment drives service quality, at least regarding the reliability dimension. In future research, we will proceed with our investigations to more fully understand the role of different forms of alignment for outsourcing success and to identify further relevant governance items. This will help practitioners to develop a more profound "outsourcing governance construction kit" for not only setting up new outsourcing arrangements but rather for maintaining and improving ongoing outsourcing relationships.

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# **APPENDIX**

| Indicators | Doc   | Int(ext) | Sdk(ext) | Tst(ext) | Int(int) | Sdk(int) | Tst(int) | SQrel  | SQresp |
|------------|-------|----------|----------|----------|----------|----------|----------|--------|--------|
| Doc1       | 0.832 | 0.236    | 0.275    | 0.195    | 0.220    | 0.180    | 0.273    | 0.258  | 0.255  |
| Doc2       | 0.833 | 0.107    | 0.179    | 0.183    | 0.237    | 0.233    | 0.256    | 0.121  | 0.106  |
| Doc3       | 0.881 | 0.253    | 0.194    | 0.177    | 0.335    | 0.283    | 0.302    | 0.185  | 0.180  |
| IntExt1    | 0.254 | 0.915    | 0.543    | 0.622    | 0.119    | 0.244    | 0.063    | 0.495  | 0.583  |
| IntExt2    | 0.245 | 0.867    | 0.497    | 0.537    | 0.163    | 0.166    | 0.137    | 0.368  | 0.517  |
| IntExt3    | 0.144 | 0.863    | 0.486    | 0.556    | 0.083    | 0.179    | 0.022    | 0.502  | 0.627  |
| SdkExt1    | 0.208 | 0.467    | 0.829    | 0.362    | -0.027   | 0.157    | 0.052    | 0.345  | 0.401  |
| SdkExt2    | 0.200 | 0.434    | 0.886    | 0.412    | -0.022   | 0.112    | 0.066    | 0.450  | 0.444  |
| SdkExt3    | 0.201 | 0.499    | 0.870    | 0.468    | 0.050    | 0.152    | 0.098    | 0.406  | 0.494  |
| SdkExt4    | 0.254 | 0.560    | 0.826    | 0.523    | 0.015    | 0.109    | 0.111    | 0.468  | 0.482  |
| TstExt1    | 0.138 | 0.551    | 0.407    | 0.880    | 0.012    | 0.074    | 0.110    | 0.418  | 0.454  |
| TstExt2    | 0.136 | 0.491    | 0.407    | 0.724    | 0.014    | 0.098    | 0.197    | 0.451  | 0.334  |
| TstExt3    | 0.187 | 0.521    | 0.495    | 0.821    | 0.126    | 0.089    | 0.096    | 0.436  | 0.525  |
| TstExt4    | 0.244 | 0.547    | 0.377    | 0.816    | 0.019    | 0.091    | 0.048    | 0.344  | 0.404  |
| IntInt1    | 0.266 | 0.099    | -0.008   | -0.032   | 0.841    | 0.272    | 0.305    | 0.135  | 0.234  |
| IntInt2    | 0.269 | 0.114    | 0.046    | 0.122    | 0.891    | 0.364    | 0.532    | 0.181  | 0.164  |
| IntInt3    | 0.257 | 0.136    | -0.035   | 0.062    | 0.758    | 0.244    | 0.613    | -0.025 | 0.079  |
| SdkInt1    | 0.290 | 0.161    | 0.118    | 0.055    | 0.384    | 0.889    | 0.310    | 0.068  | 0.250  |
| SdkInt2    | 0.272 | 0.210    | 0.127    | 0.145    | 0.347    | 0.922    | 0.339    | 0.204  | 0.229  |
| SdkInt3    | 0.162 | 0.229    | 0.170    | 0.082    | 0.203    | 0.852    | 0.308    | 0.168  | 0.249  |
| TstInt1    | 0.332 | 0.080    | 0.118    | 0.088    | 0.500    | 0.260    | 0.892    | 0.098  | 0.103  |
| TstInt2    | 0.247 | 0.053    | -0.001   | 0.123    | 0.423    | 0.358    | 0.859    | 0.060  | 0.045  |
| TstInt3    | 0.260 | 0.068    | 0.114    | 0.148    | 0.497    | 0.331    | 0.844    | 0.164  | 0.157  |
| SQrel1     | 0.093 | 0.513    | 0.417    | 0.458    | 0.016    | 0.100    | 0.030    | 0.825  | 0.578  |
| SQrel2     | 0.223 | 0.393    | 0.382    | 0.429    | 0.191    | 0.158    | 0.196    | 0.789  | 0.515  |
| SQrel3     | 0.233 | 0.294    | 0.361    | 0.290    | 0.125    | 0.137    | 0.079    | 0.740  | 0.423  |
| SQresp1    | 0.128 | 0.513    | 0.395    | 0.442    | 0.072    | 0.117    | 0.128    | 0.545  | 0.737  |
| SQresp2    | 0.165 | 0.482    | 0.308    | 0.366    | 0.283    | 0.273    | 0.104    | 0.490  | 0.783  |
| SQresp3    | 0.190 | 0.527    | 0.470    | 0.482    | 0.123    | 0.226    | 0.136    | 0.561  | 0.777  |
| SQresp4    | 0.172 | 0.480    | 0.459    | 0.340    | 0.145    | 0.212    | 0.006    | 0.389  | 0.755  |

Table 2: Loadings (Shaded Cells) and Cross Loadings

|          | Composite reliability (no. of items) | AVE   | Doc   | Int(ext) | Sdk(ext) | Tst(ext) | Int(int) | Sdk(int) | Tst(int) | SQrel | SQresp |
|----------|--------------------------------------|-------|-------|----------|----------|----------|----------|----------|----------|-------|--------|
| Doc      | 0.886 (3)                            | 0.721 | 0.849 |          |          |          |          |          |          |       |        |
| Int(ext) | 0.913 (3)                            | 0.778 | 0.241 | 0.882    |          |          |          |          |          |       |        |
| Sdk(ext) | 0.914 (4)                            | 0.727 | 0.254 | 0.577    | 0.853    |          |          |          |          |       |        |
| Tst(ext) | 0.885 (4)                            | 0.659 | 0.217 | 0.650    | 0.523    | 0.812    |          |          |          |       |        |
| Int(int) | 0.871 (3)                            | 0.692 | 0.316 | 0.135    | 0.006    | 0.057    | 0.832    |          |          |       |        |
| Sdk(int) | 0.918 (3)                            | 0.788 | 0.276 | 0.224    | 0.154    | 0.108    | 0.356    | 0.888    |          |       |        |
| Tst(int) | 0.899(3)                             | 0.749 | 0.328 | 0.080    | 0.098    | 0.137    | 0.553    | 0.340    | 0.865    |       |        |
| SQrel    | 0.829(3)                             | 0.617 | 0.224 | 0.521    | 0.494    | 0.509    | 0.135    | 0.166    | 0.128    | 0.786 |        |
| SQresp   | 0.848 (4)                            | 0.583 | 0.215 | 0.656    | 0.537    | 0.536    | 0.203    | 0.272    | 0.123    | 0.651 | 0.763  |

Table 3: Inter-construct Correlations (AVE square roots in the shaded cells on the leading diagonal)

| Variable                                | Item    | Operationalization                                                                                  | Source                                                   |  |  |  |
|-----------------------------------------|---------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------|--|--|--|
| Tasks &                                 | Doc1    | Roles and responsibilities of our IT employees are thoroughly documented.                           |                                                          |  |  |  |
| responsibilities                        | Doc2    | Our IT employees have a well defined scope of decision.                                             |                                                          |  |  |  |
| documentation                           | Doc3    | My own scope of functions is comprehensively documented.                                            |                                                          |  |  |  |
| Interaction                             | IntExt1 | Both parties in the relationship communicate well with each other.                                  | (Goles and Chin, 2005)                                   |  |  |  |
| quality<br>(vendor/client               | IntExt2 | Both parties effectively exchange information with each other.                                      |                                                          |  |  |  |
| alignment)                              | IntExt3 | The process of resolving conflicts between both parties is effective.                               |                                                          |  |  |  |
|                                         | SdkExt1 | The provider staff with whom I usually speak has good banking know how.                             | (Lee and Kim, 1999) Own case studies (anonymous)         |  |  |  |
| Shared                                  | SdkExt2 | The service provider understands our credit business well.                                          |                                                          |  |  |  |
| knowledge<br>(vendor/client             | SdkExt3 | The service provider understands our strategic goals well.                                          |                                                          |  |  |  |
| alignment)                              | SdkExt4 | The service provider advises well regarding the feasibility of implementing business solutions.     |                                                          |  |  |  |
|                                         | TstExt1 | Both parties in the relationship can be trusted to do business fairly.                              | (Goles and Chin, 2005)                                   |  |  |  |
| Trust<br>(vendor/client                 | TstExt2 | We trust that the reports of the service provider are correct.                                      | Own case studies                                         |  |  |  |
| alignment)                              | TstExt3 | Our service provider acts in our best interests.                                                    | (anonymous)                                              |  |  |  |
|                                         | TstExt4 | None of the parties in the relationship will behave opportunistically.                              |                                                          |  |  |  |
| Interaction                             | IntInt1 | There are meetings on a regular basis between IT unit and business unit.                            | (Broadbent and Weill, 1993; Chung et al., 2003)          |  |  |  |
| quality (client-<br>internal            | IntInt2 | IT and business units exchange information effectively.                                             |                                                          |  |  |  |
| alignment)                              | IntInt3 | Communication between IT and business units in our bank is very good.                               |                                                          |  |  |  |
|                                         | SdkInt1 | The employees of the IT unit know the credit process.                                               | (Teo and Ang, 1999;<br>Bassellier and Benbasat,<br>2004) |  |  |  |
| Shared<br>knowledge<br>(client-internal | SdkInt2 | The employees of the IT unit are able to interpret the change requests of the business units.       |                                                          |  |  |  |
| alignment)                              | SdkInt3 | Our IT staff has sufficient banking know how to understand business problems and develop solutions. |                                                          |  |  |  |
| Trust (client-                          | TstInt1 | There is a high level of mutual trust between IT unit and business unit.                            | (Bhatt, 2003; Chung et                                   |  |  |  |
| internal                                | TstInt2 | There is a high level of mutual respect between IT unit and business unit.                          | al., 2003)                                               |  |  |  |
| alignment)                              | TstInt3 | The business unit views our IT unit as an important consultant.                                     |                                                          |  |  |  |
| Reliability<br>(service quality)        | SQrel1  | Problems are resolved reliably.                                                                     | (Parasuraman et al., 1988;                               |  |  |  |
|                                         | SQrel2  | Changes to services are realized within the guaranteed time frame.                                  | Kettinger and Lee, 1994)                                 |  |  |  |
|                                         | SQrel3  | Applications and services are provided as promised.                                                 |                                                          |  |  |  |
| Responsiveness (service quality)        | SQresp1 | The service provider reacts very quickly if there are problems.                                     | (Parasuraman et al., 1988;<br>Kettinger and Lee, 1994)   |  |  |  |
|                                         | SQresp2 | The service provider shows adequate readiness to respond to our requests.                           |                                                          |  |  |  |
|                                         | SQresp3 | Provider staff has a service-oriented attitude.                                                     |                                                          |  |  |  |
|                                         | SQresp4 | The service provider gives us individual attention.                                                 |                                                          |  |  |  |

Table 4: Variable operationalization and sources of construct items