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5-15-2012

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Daniel Beimborn
University of Bamberg

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CONSIDERING THE RELATIVE RELEVANCE OF OUT-SOURCING RELATIONSHIP QUALITY

Beimborn, Daniel, University of Bamberg, Feldkirchenstr. 21, 96049 Bamberg, Germany, daniel.beimborn@uni-bamberg.de

Abstract

Outsourcing relationship quality (ORQ) has shown to be an important construct in previous research on outsourcing effectiveness. But, while there are various works that have conceptualized and operationalized ORQ as a rich and multi-dimensional construct, other studies which consider ORQ as (usually mediating) component of their theoretical models make hardly use of those works but often use less rich constructs. The research on hand attempts bridging the gap between those two groups of works. A multi-dimensional ORQ construct is used to evaluate the relative importance of different ORQ dimensions, such as commitment, trust, etc., in regard to different dimensions of outsourcing success (overall satisfaction, goal achievement, service quality). For example, while many studies use trust as proxy for ORQ, our study shows that, depending on the outcome variable, other ORQ dimensions might be more relevant and should be used instead or additionally. Thus, the main contribution is identifying those ORQ dimensions which are most relevant regarding different outsourcing success variables. Future studies on outsourcing success factors will have a better ground to argue for or against using certain ORQ dimensions in their studies. Moreover, the study sensitizes managers for different distinct ORQ dimensions and their importance for a successful outsourcing relationship.

Keywords: Outsourcing, Relationship Quality, Outsourcing Success, Service Quality, Survey

1   Introduction

Outsourcing research has addressed questions about the role of relationship management or "relational governance" for at least 15 years (e.g., Grover et al., 1996; Klepper, 1995). Those studies often selected and used more or less arbitrarily different dimensions of outsourcing relationship quality (ORQ) to reflect the overall concept in a compact instrument. This was recognized and criticized by Goles and Chin (2005), who then developed the first comprehensive conceptualization and operationalization of ORQ by specifying six ORQ attributes (e.g., trust, commitment, consensus). However, their aim was not to put this new instrument into context in terms of showing the importance or contribution of ORQ for outsourcing success. The work on hand steps into this gap. Based on the works of Goles/Chin and others, it quantitatively examines the relationship between different ORQ dimensions and relevant outcome variables such as overall outsourcing satisfaction, goal achievement, or service quality. Precisely,   we   aim   at   answering   the   following   question: *What is the relative relevance of different dimensions of ORQ?*

For quantitative research, it is critical to develop sound and rich instruments, as Goles and Chin did. But, we also need a deeper understanding about the *relevance* of distinct ORQ dimensions so that future research on outsourcing governance has a basis for deciding on capturing those dimensions that are most relevant. Similarly, the results will support managers by showing them which ORQ aspects they should emphasize on when putting outsourcing relationship management practices into action.

After giving a brief overview about related research, we develop a "baseline model", consisting of different ORQ dimensions related with various outsourcing success variables. To explore these relations, we use survey data from 171 outsourcing arrangements. The paper concludes with a discussion of the results, its limitations, and contributions.

2   Related Research

Outsourcing is a long term exchange relation between two organizations which is governed by contractual as well as relational mechanisms – both of them are important research areas (Lacity et al., 2009; Lacity et al., 2010). While the outsourcing contract is the necessary core of an effective outsourcing arrangement (Goo et al., 2009; Lacity and Willcocks, 2003), successful outsourcing also requires non-contractual elements (Goles and Chin, 2005; Poppo and Lacity, 2002). This is reflected by a shift in academia and practitioner attention from increasingly well understood contract management to complementary and even more challenging relationship management. The underlying argument is that higher relationship quality goes along with higher outsourcing success (Willcocks and Kern, 1998). Relational governance is necessary because contracts are by nature incomplete due to environmental uncertainty and complexity (Milgrom and Roberts, 1992). Hence, ORQ influences the both the partners' ability and willingness to cope with remaining challenges. The nature of these relations, though, is not fully understood yet and remains an challenge in outsourcing research. The role of the relationships as the realm where trust (Levinthal, 1988), communication, mutuality, and similar phenomena help to facilitate knowledge exchange and to resolve problems and conflicts (Anderson and Narus, 1990) has been analyzed mostly using social exchange theory and relational exchange theory (Blau, 1964; Emerson, 1972). Accordingly, it could be shown empirically (a) that relationship quality and outsourcing success are correlated (e.g., Grover et al., 1996; Lee and Kim, 1999) and (b) how relationship quality can be understood along certain attributes and processes (e.g., Blumenberg, 2008; Goles and Chin, 2005).

Interestingly, a research gap appears between these two strands. In the first strand, most research focuses on explaining outsourcing success by different properties of the outsourcing arrangement (e.g., specifity, complexity, uncertainty, such as in (Grover et al., 1996)) or governance elements (e.g. contract items, such as in (Goo et al., 2009)). The second group focuses on developing a rich and multi-dimensional ORQ concept and operationalization (e.g., Goles and Chin, 2005). Interestingly, works

from the first group hardly use the results from the second group, although the aim of the latter is to serve the first group needs for sound and rich instruments. One exception are Lee/Kim (1999), who explicitly investigated the role of different ORQ dimensions of ORQ for outsourcing success.

3 Baseline model

The baseline model guiding this research consists of a set of ORQ dimensions and a set of outsourcing success variables, both derived from the

literature. As a baseline model, all ORQ dimensions are proposed to be positively related with all dimensions of outsourcing success. An exploratory data analysis will reveal which of those will hold and how the "strength" of these relationships will differ.
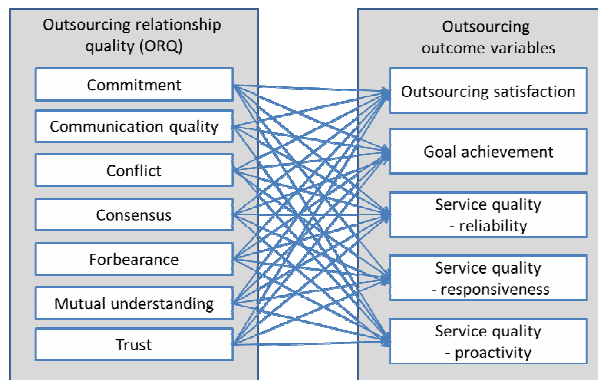

Figure 1. *Baseline model*

Research on outsourcing of the IT function (or parts of it) has mainly used overall satisfaction, goal achievement, and perceived service quality as the variables describing outsourcing success from the client perspective (Lacity et al., 2010). Accordingly, our baseline model includes outsourcing success in terms of achieving the projected outsourcing objectives such as cost reduction and transparency, increase in quality, and focus on core competencies (Han et al., 2008) ("*goal achievement*" *GA*), as operationalized in the earliest outsourcing studies (Grover et al., 1996; Lee and Kim, 1999). Further, it covers three outcome variables focusing on different aspects of service quality as perceived by the client: *reliability* (*SQ-rel*; does the vendor provide accurate services and quickly resolve problems as, e.g., specified in the SLAs) (Grover et al., 1996; Lee and Kim, 1999), *responsiveness* (*SQ-resp*; does the vendor flexibly react to changing demands from client side) from the SERVQUAL instrument (Parasuraman et al., 1988), and *proactivity* (*SQ-pro*) because clients often demand the provider to be more proactive and to come up with innovative ideas for improving the services, introduce new technologies etc. Finally, we consider overall *outsourcing satisfaction* (*OS*), reflected by satisfaction and client retention. Outsourcing satisfaction often serves as an overall indicator for outsourcing success, which implicitly aggregates all of the previous outcome variables (Rouse, 2006).

Outsourcing relationship quality (ORQ) has usually been conceptualized as a multi-dimensional construct in earlier research. According to the classification of (Polites et al., 2011), it was sometimes conceptualized as aggregate construct (e.g., Lee and Kim, 1999) while others conceptualized it in a subordinate (i.e., reflective) mode (e.g., Goles and Chin, 2005). However, since our research aims at examining the differential impact of the ORQ dimensions, none of those approaches would be adequate. Instead, we use the more basic concept of "dimension sets" which treats the dimensions separately under a common umbrella concept instead of integrating them to second-order constructs.

The works from Lee/Kim (1999) and Goles/Chin (2005) were the first exhibiting a holistic view on relationship quality. One of their goals was to identify a broad set of relationship quality dimensions. Lee and Kim (1999) identified five dimensions of relationship quality from social exchange theory (Lee and Kim, 1999). Later, Goles and Chin (2005) did a review of important works in the fields of

outsourcing, interorganizational relationships, marketing, and organization science, and thus identified six dimensions of relationship quality. Another few years later, (Blumenberg, 2008) aggregated the findings from these two works. He came out with the following picture covering the ORQ dimensions from both Lee/Kim (1999) and Goles/Chin (2005) (white boxes represent dimensions from Goles and Chin, gray boxes are derived from Lee and Kim (1999), striped constructs are used in both works).
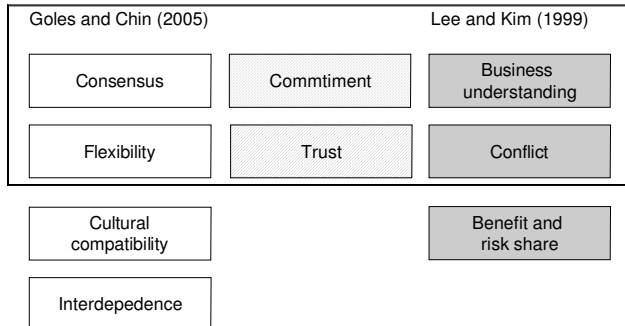
Goles and Chin (2005)		Lee and Kim (1999)
Consensus	Commtiment	Business understanding
Flexibility	Trust	Conflict

Cultural compatibility		Benefit and risk share
Interdepedence		

Figure 2. ORQ Dimensions from Goles/Chin (2005) and Lee/Kim (1999) (src.: (Blumenberg, 2008))

In a next step, Blumenberg reduced the broadness of ORQ to the six framed dimensions because he argued that the lower three are determinants based on the chosen outsourcing governance, but not ORQ *dimensions*. This is also in accordance with other works such as (Cheon et al., 1995; Lee and Kim, 1999). Further, Blumenberg integrated the flexibility dimension into the dimension of commitment because Goles and Chin (2005) conceptualize flexibility as the "willingness to accommodate each other as conditions change". In this context, willingness describes the commitment of the provider, but not how flexible the provider is *able* to act. Finally, Blumenberg added two more dimensions (communication quality and forbearance) from other related literature, which led eventually to a seven-dimensional ORQ construct. In the following, we use this ORQ framework from (Blumenberg, 2008) and define the seven dimensions according to him as follows:

Commitment "refers to an implicit or explicit pledge of relational continuity between exchange partners" (Dwyer et al., 1987). In an outsourcing partnership, both the vendor and the client can and should allocate sufficient resources and signal bearing sufficient or even extra efforts in order to sustain and improve the relationship over time (Blumenberg, 2008; Goles and Chin, 2005).

The amount of unnecessary or emotional **conflicts** between parties is a crucial factor to characterize the quality of the outsourcing relationship (Anderson and Narus, 1990). Obviously, this dimension is negatively related to the overall ORQ construct.

Consensus "is the extent of general agreement between parties" (Mejias et al., 1996). A comparable mindset between the employees of both companies, in terms of aiming at similar goals, helps to reach consensus in case of diverging interests or conflicts (Blumenberg, 2008; Subramani et al., 1999).

Mutual understanding is defined as "the ability of IT and business […], at a deep level, to understand and be able to participate in the other´s key processes" (Reich and Benbasat, 2000). Mutual understanding is important to enable knowledge transfer and to make the vendor staff able to provide effective services to the client (Kern, 1997; Lee and Kim, 1999). As Blumenberg notes, this is "consistent with previous IS research that points out the importance of IS managers to understand business requirements, constraints and opportunities (Lee et al., 1995; Ross et al., 1996)".

Trust is defined as "the firm's belief that another company will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm" (Hart and Saunders, 1997). Thus, trust is an important factor to maintain and improve an ongoing outsourcing relationship (Kern, 1997; Willcocks and Kern, 1998).

Communication quality as one of the two dimensions added by Blumenberg (2008) "describes the efficiency and effectiveness of information exchange between partners". While Goles and Chin (2005) argue that communication is a relationship *determinant*, Blumenberg counters that communication is

more multifaceted and that quantitative and qualitative aspects need to be differentiated. Communication intensity is a determinant of communication quality, which in turn can be considered as an ORQ dimension.

Forbearance as the second and final dimension added by Blumenberg "is forgoing certain behaviors that are not in the best interest of both parties" (Marcolin and McLellan, 1998). Forbearance was adopted from the international joint venture literature (Parkhe, 1993) and was already introduced by Marcolin and McLellan (1998) to the outsourcing context. Forbearance is an important aspect of a complete ORQ construct because it is needed to describe the reciprocity, or, the "give and take" between partners. "A good partnership consists of a relationship with both parties acting, to a certain degree, forbearing towards each other (Marcolin and McLellan, 1998)" (Blumenberg, 2008).

4 Approach

The relationships of the baseline model were examined using data from a survey among the German banking industry. We identified the 1,000 largest German banks (based on total assets in 2007) that have outsourced major parts of their IT operations. We specifically focused on the outsourcing relationship with the vendor that operates the main loans system for the B2C business (usually handling private building construction loans and mortgages). Almost all German banks have outsourced these IT operations to domestic IT providers. Although this focus on one type of outsourcing lacks generalizability potential, its charm is that many contingencies (such as type of outsourcing, industry, distance between vendor and client etc.) are a priori excluded from disturbing the results. Moreover, since the majority of outsourcing research focuses on IS development outsourcing (Schroiff et al., 2010), our study provides a complement by focusing on IT operations outsourcing.

We contacted the largest 1,000 German banks via phone in order to identify whether they had outsourced the operations of their main loans system and, if yes, who is the manager responsible for managing the relevant outsourcing provider. For each bank which had not outsourced its operations, the next smaller bank was added. After having identified the responsible managers, the questionnaires were mailed out. After two reminders, we eventually received 171 completed questionnaires (response rate of 17.1%). Regarding the items used in the following, up to 5.2% of the values were missing. Because (Kristensen and Eskildsen, 2010) showed that estimation results will be more accurate if replacing (a minor proportion of) missing values by using sophisticated replacement algorithms, we used the EM algorithm as implemented in SPSS and replaced those blank spots in the data set.

For examining the baseline model, we used multiple regression and PLS, employing smartPLS (Ringle et al., 2007). The five outsourcing outcome variables and seven ORQ dimensions specified abovewere measured by two to five items each (cf. Appendix), which fulfilled the typical requirements regarding reliability and indicator validity (cf. Appendix). Where appropriate, the items were taken from previous literature (mostly from Goles and Chin, 2005; Grover et al., 1996; Lee and Kim, 1999); further items were identified using a Delphi approach among 20 outsourcing experts from the industry. For regression analyses, the indicator scores of each construct were aggregated to single scores either by using factor analysis (reflective measures) or, in case of the formatively specified construct of goal achievement, by calculating average values. So, each construct was represented by single scores. Convergent and discriminant validity were carefully examined by using exploratory factor analyses among all ORQ indicators and among all SQ indicators. The details and resulting (minimum) loadings for each component are given in the Appendix. Common method bias was assessed using the Harmon Single Factor Test (largest component accounts for 31,5% of the total variance) and by adding theoretically unrelated marker variables as control factors to the model (Podsakoff et al., 2003); there was no relevant difference in the significance levels or in R^2 when testing the model with or without these marker variables[1] and thus we can assume that CMB is not a major threat to our results.

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[1] Introducing the common method factor to the model changed the existing path coefficients about .016 on average and .043 in maximum. The maximum change in R^2 was .019 (goal achievement).

5 Empirical Results

First, the bivariate correlations between the single scores of the ORQ dimensions and the outcome variables were calculated (Table 1). The correlations are very strong and highly significant in most cases. The weakest correlations appear in the SQ-proactivity column and in the forbearance row.

Pearson correlation and level of significance	Outsourcing satisfaction	Goal achievement	SQ – reliability	SQ – responsiveness	SQ - proactivity
Commitment	.563**	.400**	.518**	.602**	.306**
Communication	.534**	.391**	.562**	.629**	.182*
Conflict	.388**	.292**	.361**	.367**	.078*
Consensus	.519**	.434**	.507**	.626**	.068
Forbearance	.232**	.303**	.330**	.246**	-.022
Mutual understanding	.346**	.363**	.449**	.522**	.258
Trust	.505**	.342**	.500**	.472**	.280**

Table 1. Bivariate correlations (**: p<.01, *: p<.05, +: p<.1)

Next, we tested the relationships using multivariate regressions based on the same single scores data. The standardized coefficients and their significance levels are shown in Table 2. Since the ORQ dimensions are also correlated among each other, some damping effects occur. However, multicollinearity is unlikely because the VIFs vary only between 1.2 and 2.4. Because we want to compare the different ORQ dimensions, we are less interested in the significance of the coefficients, but more in the levels of difference (or: in identifying the strongest coefficients).

For achieving more reliable results, we conducted a third approach and put all ORQ dimensions and all outcome variables into a fully saturated PLS model, using the indicators directly instead of single scores. The results are presented in Table 3. AVEs and composite reliabilities are above the required thresholds (cf. Appendix, Table 6). Table 7 shows the discriminant validity of the constructs.

Regress. coefficients and sig. levels	Outsourcing satisfaction	Goal achievement	SQ – reliability	SQ – responsiveness	SQ – proactivity
Commitment	.292**	.151	.168+	.273**	.280**
Communication	.183*	.029	.222	.230**	.036*
Conflict	.154*	.134+	.124+	.085	-.054
Consensus	.145	.210*	.085	.299**	-.293**
Forbearance	-.051	.138+	.080	-.057	-.182*
Mutual understanding	-.061	.136	.105	.163*	.162+
Trust	.117	-.083	.073	-.117	.287**
R^2 (R^2 corr)	.423 (.398)	.264 (.233)	.410 (.384)	.543 (.524)	.194 (.159)

Table 2. Multivariate regression results (**: p<.01, *: p<.05, +: p<.1)

The PLS results are very similar to the regression results. However, considering the inter-item correlations leads to more significant results than the regression, which used the pre-aggregated single scores. Based on the PLS results, we could even argue that some of the outcome variables get better explained than overall outsourcing satisfaction but the difference in R^2 is too marginal.

Path coefficients and significance levels	Outsourcing satisfaction	Goal achievement	SQ – reliability	SQ – responsiveness	SQ - proactivity
Commitment	.277**	.102	.165*	.275**	.317**
Communication	.194*	.051	.246**	.225**	.010
Conflict	.162**	.070	.121*	.103*	-.047
Consensus	.129+	.230*	.083	.280**	-.286*
Forbearance	-.053	.219**	.099+	-.047	-.206**
Mutual understanding	-.068	.131+	.112+	.158**	.180*
Trust	.142+	-.069	.059	-.098+	.277*
R^2	.431	.291	.440	.550	.209

Table 3.   PLS results (**: p<.01, *: p<.05, +: p<.1)

Summarizing the results and ordering the different ORQ dimensions based on the strength of the relation with the various outcome variables leads to the following "ranking":

Rank	Outsourcing satisfaction			Goal achievement			SQ – reliability			SQ – responsiveness			SQ - proactivity		
Method	*Corr.*	*Reg.*	*PLS*	*Corr.*	*Reg.*	*PLS*	*Corr.*	*Reg.*	*PLS*	*Corr.*	*Reg.*	*PLS*	*Corr.*	*Reg.*	*PLS*
#1	CM	CM	CM	CS	CS	CS	CQ	CQ	CQ	CQ	CS	CS	CM	TS	CM
#2	CQ	CQ	CQ	CM	CM	FB	CM	CM	CM	CS	CM	CM	TS	CM	TS
#3	CS	CF	CF	CQ	FB	MU	CS	CF	CF	CM	CQ	CQ	MU	MU	MU
#4	TS	CS	TS	MU	MU	CM	TS	MU	MU	MU	MU	MU	CQ	CQ	CQ
#5	CF	TS	CS	TS	CF	CF	MU	CS	FB	TS	CF	CF	CF	CF	CF
#6	MU	FB	FB	FB	CQ	CQ	CF	FB	CS	CF	FB	FB	CS	FB	FB
#7	FB	MU	MU	CF	TS	TS	FB	TS	TS	FB	TS	TS	FB	CS	CS

Table 4.   Summary of results: ranking of ORQ dimensions (CF = conflict (reverse); CM = commitment; CQ = communication quality; CS = consensus; FB = forbearance; MU = mutual understanding; TS = trust)

Of course, this approach is quite straight-forward and limited since it does not take the distance and the significance of differences between coefficients into account. But, it helps to get a basic classification of the importance of different ORQ dimensions[2]. Taking the quantitative results from Tables 1-4 together, we can summarize the findings as follows:

- Outsourcing satisfaction: For overall outsourcing satisfaction, *commitment* shows to be the most important ORQ dimension, followed by *communication quality*. *Forbearance* and *mutual understanding* play the least important role.

- Goal achievement: Basically, goal achievement is less related with ORQ than outsourcing satisfaction and most of the service quality dimensions are. For goal achievement, reaching *consensus* is the most relevant ORQ dimension. *Commitment* is important, too, while the results regarding the other dimensions are mixed. *Trust* quite consistently plays the least important role.

- SQ – reliability: Achieving high and reliable service quality is mainly related with *communication quality*, followed by *commitment*. Of course, communication is critical for the vendor to provide good service, but it is not sufficient if the vendor is not willing to do so. Commitment is important as well. (Reliable services might also be a proxy for commitment from the client's perspective, although the measurement for these two constructs was sufficiently discriminant).

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[2] For the PLS results, we actually tested for significance of the differences using the parametric approach from (Keil et al., 2000). We are aware that this approach has been criticized recently because it assumes normality of the bootstrapping results (Chin and Dibbern, 2010). However, we tested our bootstrap results and found all path coefficients to be sufficiently normally distributed, according to the K-S-test. Therefore, we are in line with the recommendations from (Qureshi and Compeau, 2009). The results of the differential analysis are provided in the Appendix (Table 8).

- SQ – responsiveness: For responsiveness, the results are not as clear as for the previous outcome variables. Overall, *communication quality*, *consensus*, and *commitment* are the Top-3 ORQ dimensions, without one dimension clearly leading the stack. Again, trust, but also forbearance, is found to be at the lower end.

- SQ – proactivity: Finally, proactivity, which is the SQ dimension least considered by previous research, but increasingly demanded by client-side practitioners, is less accurately explained by ORQ than the other SQ dimensions. Interestingly, *trust* plays a much bigger role here and is at the top of the important ORQ dimensions, together with *commitment*. The following positions are very clear and consistent: *mutual understanding* is the third important dimension, followed by *communication quality, conflicts,* and finally *forbearance* as well as *consensus*.

6   Discussion and Conclusion

The analysis has shown which ORQ dimensions are most or least strongly related with different relevant outsourcing success variables. Overall, commitment and communication quality are the most important ORQ dimensions. While communication quality has been used as ORQ dimension in some outsourcing studies, this is hardly the case for commitment – future research might think about including this variable.

Trust, which has often been used as an important or sometimes even the only proxy for ORQ, turns out to be less strongly related with outsourcing success than expected. However, when it comes to service quality in terms of proactivity, it becomes highly important. Proactivity is the most strategic outcome variable; usually it is not (and hardly can be) formalized in the contract and SLAs, but even those clients who just outsourced because of cost reasons often come to a point where they request more proactivity from their vendor. Due to inherently incomplete contracts, this is very difficult to establish so that relational governance and ORQ play a particularly important role.

Mutual understanding, which has also been used as one of the main concepts for operationalizing ORQ in previous studies, shows consistently to be of medium importance. Mutual understanding is an important enabler for making the vendor capable to provide effective service, but its contribution might simultaneously also be restricted to this basic enabling effect rather than being a main contributor to success. Finally, conflicts are related more strongly with less strategic outcomes, such as reliability and responsiveness. By contrast, when it comes to goal achievement and proactivity, relationship managers seem not to care about conflicts that much and accept them when the arrangement can be brought to a more strategic level in that way.

This work has several limitations: First, neither the approach nor theory can unambiguously identify the direction of causality. ORQ dimensions and outcomes will always affect each other mutually. However, the contribution of this work is not affected by this limitation, since researchers still get a better sense for the relevant ORQ dimensions to be used in future research. From a practitioner perspective, ORQ represents a concept that is manageable to a certain degree by the client (in contrast to the outcome variables which can only be affected by the vendor). For example, enforcing commitment or implementing trust-building mechanisms will improve ORQ and thus the outcome of the relationship, no matter whether there is a unidirectional or a bidirectional relationship between ORQ and outsourcing success. The second limitation is that the ORQ dimensions are interdependent. However, this becomes more of an issue when investigating the impact of management actions for improving certain ORQ dimensions, but does less affect the results of this work. Third, generalizability of our results is lacking because we focused on only one type of IT outsourcing object in one industry in one country. While we cannot think of many substantial arguments why the results should be completely different in other industries, they will be clearly affected by the type of outsourcing object, particularly when comparing them to outsourcing of software development – which has been the unit of analysis of the majority of outsourcing research works (Schroiff et al., 2010). Thus, the lack of generalizability of this research is partially compensated by providing more empirical insights into the less researched outsourcing domains. Finally, this work can be criticized for being descriptive and exploratory. In our

future research, we will follow a more theory-driven approach in order to understand *why* certain ORQ dimensions are important and what their differential role for effective outsourcing governance is.

Concluding, this piece of research tried to give some new insights into the concept of outsourcing relationship quality and its relation with outsourcing success. It contributed to the extant literature by identifying those ORQ dimensions which future research should particularly draw on when using ORQ as a variable in their research. Thus, it also helps to merge the different strands of outsourcing relationship research. Similarly, practitioners may gain a better understanding about which relationship dimensions should be in the focus of their outsourcing management practices. Other studies show that effective outsourcing management can still not be taken for granted as a substantial proportion of outsourcing arrangements still fail. It should be our aim to increase and to deepen our knowledge about the social and organizational factors involved, in order to create normative models for proper outsourcing relationship management. This study can hopefully act as a little paving stone along this path.

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Appendix

Construct	Indi-cator	Label (measured on 7-step Likert scale from "fully disagree" to "fully agree") (original labels were in German)	Descriptives (mean, st. dev.)
Outsourcing satiscation (OS)	OS1	We are comfortable with the relationship to our service provider.	.76; .67
	OS2	We would recommend our service provider to other firms.	.82; .81
	OS3	We would prolongate the arrangement with our service provider.	1.06; .91
	OS4	Our outsourcing relationship is an economic success.	.80; .82
Goal achievement (GA)	GA1	Cost reduction	.52; 1.27
	GA2	Increased cost transparency and fixed cost variabilization	.37; 1.36
	GA3	Quality improvement	.74; 1.11
	GA4	Focus on core competencies	.87; 1.21
SQ_rel (reliability)	SQ1	Problems are resolved reliably.	.80; .73
	SQ2	Changes to services are realized within the guaranteed time frame.	.46; .89
	SQ3	Applications and services are provided as promised.	.98; .74
	SQ4	There are never any critical system failures.	.61; 1.15
	SQ5	The service provider will react quickly if there are problems.	.47; .86
SQ_resp (responsive-ness)	SQ6	We get informed sufficiently about project status quos.	.69; .86
	SQ7	The service provider responds quickly to our requests.	-.37; .95
	SQ8	Provider staff has a service-oriented attitude.	.52; .84
	SQ9	The service provider gives us individual attention.	.03; .98
SQ_proactivity	SQ10	Our service provider is proactive in suggesting improvements regarding the credit system.	.63; .93
	SQ11	Our service provider is proactive in suggesting improvements regarding our entire IT landscape.	.65; 1.11
	SQ12	Our service provider is proactive in suggesting improvements regarding the credit process.	.24; 1.06
	SQ13	The service provider is proactive.	.33; .93
CQ (com-munication quality)	CQ1	Both parties in the relationship communicate well with each other.	1.26; 1.08
	CQ2	Both parties effectively exchange information with each other.	1.05; 1.24
	CQ3	Reports of the provider are clear and comprehensible.	-.69; 1.21
	CQ4	Provider personnel are available for phone calls on short notice.	1.26; 1.59
	CQ5	The process of resolving conflicts between both parties is effective.	1.04; 1.12
MU (mutual understand-ing)	MU1	The provider staff has good banking know how.	1.20; 1.26
	MU2	The service provider understands our credit business well.	1.06; 1.17
	MU3	The service provider understands our strategic goals well.	.86; 1.23
	MU4	The service provider advises well regarding the feasibility of implementing new solutions.	1.02; 1.23
CS (Con-sensus)	CS1	We and the provider are able to reach agreement on most matters.	1.29;1.24
	CS2	Both parties agree on nearly all issues.	.74; 1.21
	CS3	Both parties are willing to compromise.	.74; 1.34
FB (For-bearance)	FB1	We sometimes forgo financial penalties for not achieving promised service levels, in favor of the overall relationship.	.87; 1.65
	FB2	We put up with small errors if the provider corrects them in non-bureaucratic ways.	1.83; 1.04
CF (Con-flict) (REVERSE)	CF1	There are frequent conflicts with the service provider.	1.35; 1.26
	CF2	Small problems tend to escalate frequently.	1.94; 1.14
	CF3	The service provider is slow in solving escalated issues.	1.50; 1.29
	CF4	There are several issues the provider has not solved for a while.	1.96; 1.32
	CF5	Escalation is the only effective governance instrument.	1.78; 1.63
CM (Com-mitment)	CM1	Both parties are highly committed to the relationship.	1.42; 1.23
	CM2	We are willing to put effort and investment into building our relationship with the provider.	.80; 1.40
	CM3	Both parties are able to implement necessary technical adaptations in a flexible and fast manner.	.89; 1.30
	CM4	Provider employees are highly motivated.	1.23; 1.19
	CM5	The behavior of the services provider shows a desire to maintain the relationship with us.	1.67; 1.33
TS (Trust)	TS1	Both parties in the relationship can be trusted to do business fairly.	1.70; 1.00
	TS2	We trust that the reports of the service provider are correct.	1.59; 1.11
	TS3	We involve our service provider in our strategy development.	1.01; 1.79
	TS4	Our service provider acts in our best interests.	.90; 1.23
	TS5	None of the parties in the relationship will behave opportunistically.	1.59; 1.25

Table 5.   List of indicators and descriptive data

The convergent and discriminant validity of the models was not only validated by using the PLS results, but also by applying exploratory analyses among (1) all service quality indicators, and (2) all OSQ indica-

tors (minimum loadings given by first column of the following table). After having "re-identified" the constructs by using factor analysis, the loadings were again extracted by using a confirmatory analysis (second column). Additionally, Cronbach's alpha was calculated to estimate the reliability. (Those tests were not conducted for the formatively measured construct of goal achievement.)

Construct (reflective)	Loadings from exploratory factor analysis	Loadings from confirmatory factory analysis	Reliability analysis (Cronbach)	C.R. from PLS estimation	AVE from PLS estimation
Outsourcing saticsation (OS)	n/a	≥ .730	.848	.902	.697
SQ_rel (reliability)	≥ .538	≥ .683	.763	.848	.529
SQ_resp (responsiveness)	≥ .457	≥ .611	.716	.823	.540
SQ_proactivity	≥ .523	≥ .769	.825	.883	.655
CQ (communication quality)	≥ .631	≥ .743	.863	.910	.669
MU (mutual understanding)	≥ .682	≥ .813	.876	.915	.729
CS (Consensus)	≥ .455	≥ .737	.746	.858	.669
FR (Forbearance)	≥ .674	≥ .833	.517	.804	.676
CFL (Conflict)	≥ .564	≥ .742	.818	.875	.584
CM (Commitment)	≥ .505	≥ .721	.821	.875	.583
TS (Trust)	≥ .538	≥ .761	.817	.884	.566

Table 6.   Construct validity and reliability

Construct (refl.)	OS	SQ_rel	SQ_resp	SQ_pro	CQ	MU	CS	FR	CFL	CM	TS
OS	0,83	0,46	0,57	0,24	0,54	0,35	0,52	0,24	0,40	0,56	0,52
SQ_rel		0,73	0,67	0,12	0,59	0,47	0,52	0,36	0,37	0,54	0,52
SQ_resp			0,73	0,14	0,64	0,53	0,63	0,27	0,39	0,61	0,50
SQ_pro				0,81	0,19	0,27	0,08	-0,02	0,09	0,33	0,28
CQ					0,82	0,57	0,68	0,36	0,41	0,61	0,61
MU						0,85	0,49	0,29	0,30	0,50	0,51
CS							0,82	0,40	0,35	0,60	0,65
FR								0,82	0,14	0,38	0,47
CFL									0,76	0,33	0,37
CM										0,76	0,65
TS											0,75

Table 7.   Discriminant validity (correlations among latent construct scores, based on PLS; diagonal contains square root of AVE)

Significance of difference between:	OS	GA	SQ-pro	SQ-rel	SQ-resp	Significance of difference between:	OS	GA	SQ-pro	SQ-rel	SQ-resp
CM - CQ	**	+	**	**	+	CF - CS		**	**		*
CM - CF	**		**	+	**	CF - FB	**	**	**		**
CM - CS	**	**	**	**		CF - MU	**	*	**		*
CM - FB	**	**	**	*	**	CF - TS		**	**	*	**
CM - MU	**		**	*	**	CS - FB	**		*		**
CM - TS	**	**		**	**	CS - MU	**	**	**		**
CQ - CF			*	**	**	CS - TS		**	**		**
CQ - CS	*	**	**	**	*	FB - MU		**	**		**
CQ - FB	**	**	**	**	**	FB - TS	**	**	**	+	**
CQ - MU	**	*	**	**	*	MU - TS	**	**	**	*	**

*Table 8.   Significance of path differences in PLS (CF = conflict (rev.); CM = commitment; CQ = com. quality; CS = consensus; FB = forbearance; MU = mutual understanding; TS = trust) (**: p<.01, *: p<.05, +: p<.1)*