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Successfully implementing it outsourcing strategy in German banks: the role of contract design and risk analysis

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SUCCESSFULLY IMPLEMENTING IT OUTSOURCING STRATEGY IN GERMAN BANKS: THE ROLE OF CONTRACT DESIGN AND RISK ANALYSIS

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Abstract

From the outsourcer's perspective, the IS outsourcing literature emphasizes the importance of contracts and risk awareness for managing outsourcing ventures. However, there is a lack of proven and tested outsourcing management concepts in theory and practise incorporating contractual designs to effectively counter risk. By extending the risk model of Bahli and Rivard (2001) we investigate the influence of risk analysis on contract quality and their interrelation with outsourcing success. Using multiple case studies within the German banking industry our Research-In-Progress paper aims at answering the following questions: (1) 'How does the contract contribute to outsourcing success from a risk mitigation perspective?' and (2) 'How does risk analysis affect the risk mitigation quality of the contract?'. Our research provides insights on how the conduction of a thorough risk analysis can improve contract quality. We show that involving business staff as well as IT staff in an outsourcing project helps to optimize contract clauses. In addition, we demonstrate how the design of contract contents such as pricing schemes, service level agreements, and penalty-reward-systems can ensure the expected cost savings and thereby contribute to outsourcing success.

Keywords: Outsourcing Contract, Risk Analysis, Risk Mitigation, Outsourcing Success

1 INTRODUCTION AND RESEARCH OBJECTIVE

The examination of outsourcing — the purchase of a good or service that was previously provided internally (Lacity & Hirschheim 1993) — has been a domain of IS research for several years now. When considering the potential gains that can be achieved through outsourcing most of the academic discussions have addressed the questions of "why", "what" and "how" to outsource (Dibbern & Goles & Hirschheim & Jayatilaka 2004). This research focuses on "how to outsource", especially on an important prerequisite of a successful outsourcing deal: the design of an effective contract. The complexity of IT outsourcing arrangements and severity of potential damages is acknowledged within the outsourcing community (see e.g. (Earl 1996; Willcocks & Currie 1997)). Therefore, there is an increased concern with the management of an outsourcing venture, and in particular with the issue of risk mitigation. The most prevailing management instrument for mitigation of such risks is the outsourcing contract (Willcocks & Kern 1998). It enables managers to diminish the effect of risk on success. More precisely, efficient contract structures are not only beneficial to reducing the probability of occurrence of undesirable outcomes but also contribute to loss protection (Aubert & Dussault & Patry & Rivard 1999). The quality of the contract design heavily depends on risk analysis (Aubert & Patry & Rivard 2002). A thorough understanding of risk, risk causes and potential negative outcomes is an important prerequisite to set up an effective contract ensuring outsourcing success. Thus, we aim at answering the following research questions:

Q1: How does the contract contribute to outsourcing success from a risk mitigation perspective?

Q2: How does risk analysis affect the risk mitigation quality of the contract?

To approach these research questions we first review the current literature on the role of contracts in outsourcing relationship management and the interplay between risk (analysis) and the design of the contract (section 2). Using these insights we develop a causal model in section 3 to illuminate causal relations between risk, risk analysis, contract design and outsourcing success as motivated in our research questions. Since the objective of our study is analytical generalization, we follow Yin (2003) to use case studies for empirical validation. This Research-in-Progress Paper is part of a large multi university research project analyzing Information Technology Outsourcing (ITO) arrangements within the German banking industry. Preliminary results of our first interviews are presented in section 4 indicating (but so far not validating) that our causal relations seem to hold. As this paper is a Research-in-Progress Paper, section 5 summarizes the *expected* contributions of our research.

2 THEORETICAL FOUNDATIONS

In general, any business interaction consists of communicative and material exchanges. The contract builds the formal basis to put these exchanges on a sound ground. According to the business interaction model (BAT) – a six-phase model describing a generic business interaction logic – the contract search and establishment phases as well as the contractual phase itself are important building blocks for business interaction (Goldkuhl & Lind 2004).

As for business interaction in general, the importance of a contract in the special case of outsourcing has been as one of several key success factors that has been stressed by various researchers (e.g. (Kern 1997) and (Kern & Willcocks 2001)). The contract can be regarded as the pivotal-point: it regulates the venture (Kern 1997) meaning that it states the purpose of the cooperation, the obligations to be met by the supplier, and the arbitration procedures in case of disputes (Sharma 1998). From the outsourcer's perspective it is important to have contractual means to mitigate risks.

The study of contractual mechanisms in IT outsourcing is still at an early stage (Aubert & Houde & Patry & Rivard 2003). IS outsourcing studies dealing with contractual issues often incorporate a

broader view by dealing with all aspects of relationship management. Our research specifically deals with two important aspects of relationship management: (1) the moderating effect of contracts on outsourcing risk, (2) and the subsequent effect on outsourcing success, more precisely, the achievement of outsourcing objectives.

Outsourcing risk attracts researchers (for an overview see Gewald and Hinz (2004)) and practitioners (Gartner 2004) alike. The primary objective is to illuminate risk severity, identify risk causes and analyze effects of risks on outsourcing success. However, throughout the outsourcing literature no consistent definition of the risks of outsourcing has yet emerged (see the reviews in e.g. (Aubert et al. 2002)). Since the traditional quantitative evaluation of outsourcing risk is hard to perform (Bahli 2002), we use a qualitative risk definition based upon transaction cost economies and agency theory (Barki & Rivard & Talbot 1993; Aubert & Patry & Rivard 1998): risk is a combination of **risk factors** (causes) and **undesirable outcomes**. The risk factors represent the probability of undesirable outcomes. When risk (or the combination of risk factors and undesirable outcomes) turns to loss, **negative consequences** occur.

Risk analysis refers to activities and instruments to identify and assess risks and has been acknowledged as an important contributor towards outsourcing success (Rao & Nam & Chaudhurry 1996). Thus, it is critical for outsourcing managers to intensively involve in risk analysis activities. This becomes particularly present when designing contracts to effectively tackle risks (Aubert et al. 2002; Aubert & Patry & Rivard 2003). Therefore, a combined view of the activities associated with risk identification and assessment and contract design can contribute to an enhancement of the overall quality of an outsourcing deal.

3 RESEARCH MODEL AND HYPOTHESES

In this section we develop our research model. First, the underlying causal model which takes up the three aspects introduced in section 2 (risk analysis, risk, and contract) is introduced. Then, the model's underlying hypotheses and constructs are described. Finally, we outline the methodology used in our research.

3.1 Research Model

Figure 1 presents our research model as used within our case studies. Our hypotheses are reflected by the arrows. The 'circles' represent the constructs. They are both described in further detail in section 3.2.

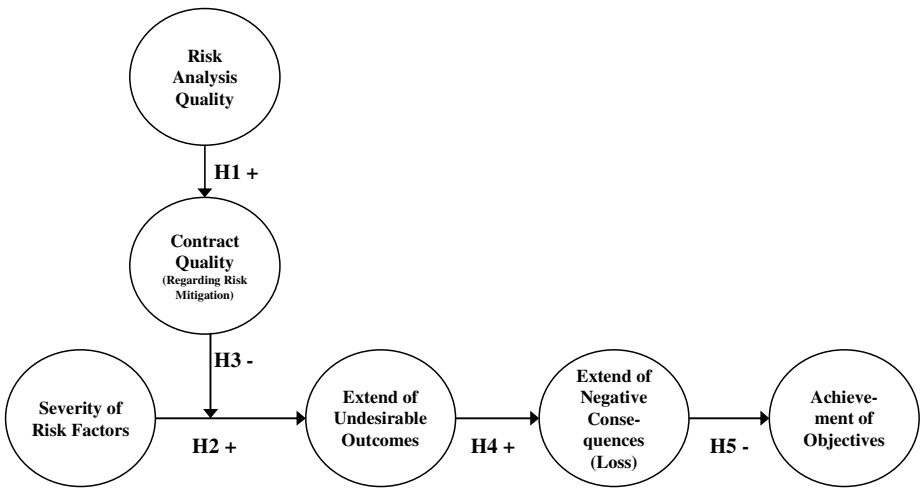

Figure 1: Research Model

Our model is an extension of the model of Bahli and Rivard (2001; 2003). Their model consists only of the first three elements of the chain of causation (i.e. Risk Factor, Undesirable Outcome and Negative Consequence). We extend this model by explicitly analysing concrete risk mitigation contents of the outsourcing contract. This was particularly recommended by Aubert et al. (2003). Furthermore, we add risk analysis quality as an important determinant of a sound contract. This takes up the proposition made by Aubert et al. (2002) and Willcocks and Lacity (1999). Our 'rear' extension goes back to the early discussions about risk: its proposed negative effect on outsourcing success (Earl 1996). We measure success as the achievement of outsourcing objectives to fundamentally identify the importance of risk, risk analysis and contract design.

We propose that quality of risk analysis positively affects contract quality regarding risk mitigation. Contract quality moderates the relationship between a risk factor and an undesirable outcome (by doing this, we focus only on those risks which possibly could be mitigated by contract clauses). For example, the goal of an IT outsourcing project is to reduce costs. Within a risk analysis the risk factor 'service debasement' has been identified as a potential threat. The severity of this risk factor can be partially mitigated by a high quality contract in which Service Level Agreements (SLAs) combined with a penalty system are defined. Thereby, the extent of the undesirable outcome (i.e. the actual occurrence of a service debasement such as the breakdown of an Internet-Banking-Application for securities trading) can be limited. This implies that the actual extend of this risk is expected to be smaller than it would be without respective SLAs. As a consequence, the extent of the negative consequence — i.e. the resulting loss or the amount of reparation payments the bank has to pay to its customers — should be limited. Thus, the goal of cost reduction should not be affected to such a large extend as it could be without an effective risk analysis resulting in a high quality contract.

3.2 Hypotheses and Constructs

Our hypotheses and constructs are based upon literature reviews and expert interviews. They are summarized in this section. Table 1 describes our hypotheses as reflected by the arrows in Figure 1:

No.	Hypothesis
H1	The quality of risk analysis positively influences the quality of the contract (regarding risk mitigation). If risks have been thoroughly and continuously identified and assessed, this can adequately be addressed in the contract (Aubert et al. 2002).
H2	The severity of risk factors are positively associated with the extent of undesirable outcomes (Bahli et al. 2003).
H3	The impact of risk factors on undesirable outcomes is moderated by the contract quality (Bahli et al. 2001).
H4	Undesirable outcomes positively impact the extent of negative consequenes (loss) (Bahli et al. 2001).
H5	Negative consequenes negatively contribute to the achievement of outsourcing objectives (Earl 1996; Willcocks et al. 1997).

Table 1: Hypotheses

The following Table 2 provides a brief overview of the results of the model's construct development. During discussions with experts it turned out that SLAs, Pricing, Liabilities and Renegotiation Clauses were most suitable for risk mitigation purposes. Therefore, they are chosen as measures for the construct "contract quality". Usually, a contract consists of many other clauses which may to some extend also be suitable for risk mitigation purposes. For an overview of all contract clauses see Kern and Willcocks (2000).

Construct	Measures	
Risk Analysis Quality	- Identifying all risks associated with the outsourced process (Aubert et al. 2002) - Precisely assessing risk severity (Aubert et al. 2002) - Building and retaining human resource capabilities for risk analysis (Willcocks et al. 1999)	
Contract Quality (with regard to risk mitigation) (Kern 1997; Saunders & Gebelt & Hu 1997; Kern et al. 2001)	SLA Clauses (Lacity & Willcocks 2003)	- Definition of penalties for not meeting the service (Beulen & Ribbers 2002) - Existence of behavior-based SLA attributes (Logan 2000) - Basement of SLAs on business rules rather than on technical requirement (Alborz & Seddon & Scheepers 2003)
		- Existence of detailed SLAs for all services comprehending the outsourcing deal (Domberger & Fernandez & Fiebig 2000) - Relatedness of SLAs to pricing (i.e penalty-reward-system) (Harris & Giunipero & Hult 1998)

Construct	Measures	
Contract Quality (with regard to risk mitigation) (Kern 1997; Saunders et al. 1997; Kern et al. 2001)	Pricing Clauses (Lacity et al. 2003)	- Application of fix or variable pricing (McFarlan & Nolan 1995) - Existence of minimum or maximum fee (Elitzur & Wensley 1997) - Existence of price adjustment clauses (Harris et al. 1998)
	Liability Clauses (Lacity et al. 2003)	- Existence of liability clauses (Lacity et al. 2003) - Differentiation between willful misconduct, gross and ordinary negligence - Relatedness of limits/amounts to the deal size - Existence of vendor's insurance for liability issues
	Renegotiation Clauses (Lacity et al. 2003)	- Existence of renegotiation options (Elitzur et al. 1997) - Existence of contract flexibility in the type, the level and the quantity of service (Beulen et al. 2002) - Possibility of early termination (Harris et al. 1998)
Severity of Risk Factors (Bahli et al. 2003)	- Opportunism of the agent (adverse selection, moral hazard, imperfect commitment) - Uncertainty emerging from business and/or technological changes - Small number of service providers - Lack of expertise of the outsourcer and/or the service provider with managing contracts - Lack of expertise of the outsourcer and/or the service provider with the outsourced process - Interdependence of internal and external sub-processes - Process specificity - Measurement problems	
Extent of undesirable outcomes (Bahli et al. 2003)	- Increased costs of services - Unexpected transition and management costs - Costly contractual amendments - Service debasement - Lock-in - Disputes and litigation	
Extent of negative consequence (Bahli et al. 2003)	- Cost escalation - Service debasement	
Achievement of objectives	- Achievement of expectations within the outsourcing decision (Kern 1997; Lee et al. 1999)	

Table 2: Constructs and Measures

During our case study interviews we asked questions regarding each measure and hypothesis to validate our model.

3.3 Methodology

Since the interplay of risk analysis, outsourcing contract, risk, loss and success has not been addressed in an outsourcing context before, we perform analytical generalization. According to Yin (2003), this implies the conduction of case studies. To achieve the necessary rigor, case studies must be prepared and carried out thoroughly. It is important during design and preparation to explicit the research question, propositions and unit of analysis; questions of *how* and *why* are considered appropriate (Yin 2003). The research question employed for this paper has been introduced in section 1. The propositions used in the cases are grounded theoretically (see section 2). As unit of analysis IT outsourcing arrangements within German banks have been chosen. The financial services sector is the second largest buyer of outsourcing services (Gartner 2004) with increasing demand. The analyzed deals comprise payment applications featuring a high automation level due existence of standardized payment executions (e.g. SWIFT). Since automation and standardisation might contribute to precise service measurement, payment applications are suitable for our research intention.

Our interview partners are IT project managers, managers of the retained organization and bank's risk managers. The project managers were interviewed about the original goals that were followed by the respective outsourcing deal. In addition, IT project managers usually initiated risk analysis for contract negotiations and thereby know the intention behind each contract clause. The risk managers and the managers of the retained organization should provide us with details on how the contract is actually 'working' and whether or not the implemented risk mitigation strategies are suitable.

4 PRELIMINARY RESULTS

Table 3 provides an overview of our first three cases. Interviews were conducted with IT project managers and managers of the retained organization. Further interviews are scheduled. These deals

represent typical outsourcing arrangements within the German Banking Industry. As all deals relate to transaction banking results are comparable.

	Bank A	Bank B	Bank C
Outsourced Function	Further Development and Maintenance of Transaction Banking Applications		
Annual Contract Volume	5-10 MM €	5-10 MM €	1-5 MM €
Number of Transactions Processed (per year)	> 1 Million	0,5 - 1 Million	< 0,5 Million
Outsourcing Objectives	1. Cost Savings 2. Quality Improvement	1. Cost Savings 2. Quality Improvement	1. Quality Improvement 2. Cost Savings
Overall Satisfaction with Outsourcing Deal	High	High	Medium - Low

Table 3: Banking Sample

The following Table 4 presents the first results of these interviews.

		Bank A	Bank B	Bank C
Risk Assessment	Frequency of Assessment	Monthly assessement; intensive formal assessment prior to request for proposal	Monthly assessemen; intensive assessment prior to contract negotiations	Irregular assessement; informal (i.e. verbal) assessment parallel to contract negotiations
	Risk Analyis Quality	High	Medium to High	Low
Contract	Satisfaction with Contract Design	High	High	Medium
SLAs	Linkage to Penalty-Reward-System	All SLAs are linked to a Penalty-Reward-System	Most important SLAs are linked to a Penalty-Reward-System	No linkage to a Penalty-Reward-System
	Monitoring of SLAs	Permanent monitoring; fort-nightly meetings between both key account managers	Monthly monitoring; twice a year key account managers meet	So far, no monitoring; two people were just hired to controll and monitor the vendor
Pricing	Pricing Structure	Effort based	Effort based	Fix pricing
	Existence of Price Adjustment Clause	Yes, based on results of benchmarking	Yes, based on results of benchmarking	No

Table 4: Preliminary Results

Bank A and Bank B put a high effort in conducting risk assessments. Risk analysis is undergone on regular basis and has been intensively carried out prior to contract negotiations. All risk assessments have been performed by business and IT staff as well as on management level. As a consequence, all bank staff is risk aware which directly effected contract design. Business staff urged to insert clauses on system availability and usability to tackle risks of service debasement. IT people contributed by providing information about SLAs to reduce the risk of unexpected costs for contract amendments. Contrastingly, Bank C rarely conducts risk assessments. They did not implement a Penalty-Reward-System. Currently, Bank C experiences service debasements. As no Penalty-Reward-System was set-up Bank C is not able to introduce any incentives for the service provider to avoid such service debasements. At least, they are about to hire two resources to control and monitor the service provider's activities. However, these resources decrease expected cost savings from external delivery of services.

Bank A and Bank B are highly satisfied with their outsourcing contract. They both believe that all relevant aspects are covered within their respective contract. Their SLA Frameworks are linked to a Penalty-Reward-System meaning that the non-fulfilment of a service leads to the payment of a reduced fee by the outsourcer. An over-fulfilment of services results in the payment of a bonus. SLAs are controlled and discussed with the service provider on a regular basis. Within the SLA-Framework all outsourced processes and how their accomplishment can be measured has been agreed upon. Bank C did not implement a Penalty-Reward-System. They are currently experiencing service debasements. As no Penalty-Reward-System was set-up Bank C is not able to introduce any incentives for the service provider to avoid such service debasements.

Bank A and Bank B agreed upon an effort-based pricing scheme. The outsourcing contracts of Bank A and Bank B contain a clause that allows them once a year to benchmark the prices of their service provider with those of other service providers who deliver similar services. If prices of Bank A's or

Bank B's service provider are above a certain threshold, they have the right to renegotiate fees. This mechanism prevents them from paying excessive fees. Bank C agreed on a fix pricing. They did not implement any price adjustment mechanisms. Therefore, Bank C is stuck to the prices they initially negotiated. They do not have any flexibility to react to changes in demand or markets.

These first results indicate that extending the model of Bahli and Rivard (2001) by risk analysis and contract quality and the overall effect of outsourcing success provides detailed insights that the contract contributes to outsourcing success form a risk mitigation perspective. Further case study interviews and analysis of results are necessary to provide detailed evidence.

5 EXPECTED CONTRIBUTIONS

This study adds value in several ways. First, it contributes to a better understanding of important characteristics of the outsourcing contract from a risk perspective. This illuminates the concrete relation between the contract and outsourcing success. Second, it provides insights on how a 'good' contract with respect to risk mitigation should be designed, that is through continuous risk analysis performed by specialized staff.

While this study contributes to research by combining a risk perspective with contract contents, it is also particularly relevant for practitioners. We are aware that a contract represents the results of bilateral negotiations. However, outsourcers can benefit from our research knowing (under risk mitigating aspects) which clauses should be especially paid attention to and what is important for defining a clear 'going-in-position' when entering contract negotiations. Based on our results practitioners can evaluate the importance of different contract clauses and the respective contents when entering contract negotiations. Thereby, they become more aware 'what's worth fighting for' during contract negotiations when an effective risk management is among the desired goals.

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