

**THE INFLUENCE OF PERCEIVED RISKS ON BANKING MANAGERS'
INTENTION TO OUTSOURCE BUSINESS PROCESSES
- A STUDY OF THE GERMAN BANKING AND FINANCE INDUSTRY -**

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ABSTRACT

Information Technology (IT) is a key productive factor in the banking and finance industry (BFI) as almost the entire production and delivery of services can in principle be digitized. Driven by cost pressure and new competitors, outsourcing IT together with the relevant business processes is a promising way to focus on core competencies and to restructure the corporate value chain. While there is a rich literature on the risks and benefits of IT outsourcing, little is known about the next step of business process outsourcing (BPO) and especially the associated risks. Our main hypothesis is that the perceived risks associated with BPO strongly influence managers' intention to outsource business processes. Based on an empirical survey of BFI managers covering 90% of the cumulated German BFI balance sheet, it is shown that perceived risk does indeed have a significant impact on managers' attitudes towards BPO and that these attitudes strongly influence the outsourcing decision. Financial risks turn out to be a major risk facet, exerting pressure on banks which decide solely in terms of potential cost savings. In addition, the high importance of performance risk requires banks to invest in sophisticated vendor management.

Keywords: *banking and finance industry, perceived risk, business process outsourcing*

1 Introduction

The benefits of IT outsourcing in the banking and finance industry (BFI) seem to be quite well understood from both an academic and a practitioner's perspective [Ang and Straub 1998; Baldwin, Irani and Love 2001; Lancellotti, Schein, Spang and Stadler 2003; Adeleye, Annasingh and Nunes 2004]. However, we still lack a thorough and empirically validated understanding of the risks of outsourcing, especially concerning business processes. This raises questions about the impact of risk facets such as financial, strategic, performance and social risks on outsourcing decisions in firms and ultimately challenges the field to propose sound outsourcing decision support that considers benefits *and* risks in one model.

As financial processes are almost fully digitizable, the banking and finance industry heavily relies on information technology. Accordingly, IT has been a strong driver of developments in the BFI with ATMs being a renowned example [Benaroch and Kauffmann 2000]. Powerful information systems have made the processing of large transaction volumes possible (e.g., payments and securities processing), at the same time enabling new E-Commerce products and services like online banking. But despite its long history and the success of many firms, the overall industry structure is still surprisingly unchanged and modern network-like structures like supply chains are widely unknown. A major reason is that outsourcing as the major pillar of restructuring value chains has long been much more complicated or even impossible due to regulatory constraints in the BFI. Recently, a change in regulation tendencies together with further advances in IT has provided banks with the opportunity to use outsourcing as a means to reduce costs and focus on core competencies. This is expected to enable the industry to move towards value network structures as has been successfully done in other industries [Homann, Rill and Wimmer 2004].

While banks have gained some experience in IT outsourcing (ITO) over the past decade, business process outsourcing (BPO), i.e., procuring a business process together with the relevant IT from the market, is quite a new challenge. BPO is widely seen as an opportunity – enabled by advancements in IT – to make business architectures sufficiently flexible and efficient. Accordingly, BPO is considered to be of substantial importance in the banking and

finance industry [Kumar and Hillegersberg 2004; Lammers, Löhndorf and Weitzel 2004]. In fact, a survey of Germany's top 500 banks reveals that 9 out of 10 banks plan to focus on core business functions and that the current wave of BPO in the BFI is just the beginning of a major trend [Wahrenburg, König, Beimborn, Franke, Gellrich, Hackethal, Holzhäuser, Schwarze and Weitzel 2005]. Accordingly, in the survey 80.5% of the banks expect BPO to enable cost savings in banks, and 79.4% a focus on core competencies. Nevertheless, few banks have so far outsourced any processes, and only 14.2% have selectively outsourced one or two subprocesses. While the benefits of BPO to banks are obvious, the role of risk is substantially under-researched.

This paper aims to bridge this gap by revealing the importance of different risk facets for BPO in the banking and finance industry. From a theoretic perspective, a thorough understanding of the risks associated with outsourcing will be a building block towards a more complete understanding of outsourcing. The managerial contribution is to pinpoint key risks and develop solutions for both market sides, outsourcing firm as well as vendor.

Methodologically, a problem is measuring the associated risks and the effectiveness of risk reducing actions. While there is usually abundant loss data and financial evaluation for high frequency low impact events (e.g., delayed execution of client orders due to high order volume), many low frequency high impact events (e.g., 9/11, fraud) and outsourcing specific risks (e.g., anticipated cost savings cannot be achieved, outsourcing vendor service quality decreases over time) are largely unaccounted for. A way to evaluate these risks despite the non-availability of quantitative data is to use the expert judgment of BFI managers. Supported by studies showing that the actual outsourcing decision is strongly influenced by the particular manager in charge of the process (rather than by a monolithic firm) and is thereby an individual rather than a group decision [Barthelemy and Geyer 2001; Kakabadse and Kakabadse 2002], it becomes obvious that a manager's individual perception of outsourcing risks and benefits plays a major role as an antecedent to corporate outsourcing. We specifically focus our research on the risks of BPO as managers perceive them, contrary to any objective risk measure. This is done because, although the BFI is an industry sector which professionally deals with risk as one of its major functions in developed economies [Grill, Perczynski and Grill 2005], a coherent model to objectively measure the risks inherent in outsourcing has not yet been published [Gewald and Hinz 2004]. Therefore, if managers are involved in the decision process towards BPO it is of utmost importance how they perceive the risks as no reliable objective measure is currently available. Thus, our research question is: *What is the influence of the risks BFI managers associate with business process outsourcing on their outsourcing intention?*

In the following, we first review the current literature on business process outsourcing and the reported risks of BPO. To analyze a manager's risk perceptions, we then apply Perceived Risk Theory [Bauer 1967] and the Theory of Reasoned Action [Ajzen and Fishbein 1980] to develop a structural equation model. The hypotheses of the model are explicated and the overall model is tested in the German BFI. For this purpose, a questionnaire was sent to 593 BFI managers in charge of one of four designated business processes in Germany's 200 largest banks. 218 usable questionnaires were returned, resulting in a response rate of 36.8% covering 63% of the targeted banks and 90% of the cumulated German BFI balance sheet. The analysis indeed reveals the strong impact of performance, financial, strategic and psychosocial risk on the perception of overall risk.

The four risk facets were derived from Perceived Risk Theory and applied to the outsourcing context by arguing with Transaction Cost Economics [Commons 1934; Coase 1937], Agency Theory [Eisenhardt 1989] and Resource Dependency Theory [Thompson 1967; Aldrich 1976; Pfeffer and Salancik 1978] as well as empirical evidence from former studies. Overall, risk has a strong negative influence on a manager's attitude towards business process outsourcing. The attitude towards outsourcing, in turn, has a strong impact on a manager's intention to outsource business processes, which adds to current findings on outsourcing decision research. Our findings thereby contribute to antecedent research on the outsourcing decision and to the literature on outsourcing in the BFI.

2 Current State of Research

In this section, we first give a brief overview of different types of outsourcing and a review of current research on BPO. We then discuss research on the specific risks of BPO. The risks discussed below are used in section 4.2 for developing indicators of the latent variables of our model.

2.1 Different Types of Outsourcing

From a broad perspective, we define outsourcing as the divestment of all or parts of specific IT-enabled corporate functions and the repurchasing of those services from one or more external vendors (based on the arguments of De Looft [1995]; an overview of alternative definitions is given in [Gilley and Rasheed 2000] or [Dibbern, Goles, Hirschheim and Jayatilaka 2004]).

The concept of outsourcing has been applied to different domains, from hardware to software to business processes. Outsourcing of IT is considered the first wave of outsourcing, starting with the famous Kodak deal in 1989 [Lee, Huynh, Kwok and Pi 2003]. Even though the first major IT outsourcing deals in the BFI were made in the

1980s, ITO in the BFI received broad academic and public attention only in the 1990s, when IT became a prime competitive factor [McLellan, Marcolin and Beamish 1995]. At the same time, IT became increasingly complex and, despite decreasing hardware and network technology costs, often a major cost factor in the BFI. Drawing on Earl's view, we define ITO as outsourcing hardware-oriented IT activities such as data center operations [Earl 1996].

In BPO, the most recent trend in outsourcing, the responsibility for a business process is handed over to a service provider [Weerakkody, Currie and Ekanayake 2003]. For the scope of this paper, we define BPO as "outsourcing one or more specific business processes together with the IT that supports them" [Halvey and Melby 2000, p.1], while a business process is defined as a "set of logically related tasks performed to achieve a defined business outcome" [Davenport and Short 1990, p.12].

2.2 The Literature on Business Process Outsourcing

Current Information Systems (IS) research has not yet paid much attention to the specifics of BPO. Most studies rather emphasize the high growth potential of BPO. In their conceptual work, Tas and Sunder [2004] compare the financial services sector with the manufacturing industry and conclude that the financial services industry will follow a trend towards vertical disintegration similar to that in the manufacturing industry and that the strategy of focusing on core competencies will be a major driver for the growth of BPO. Based on interviews with 70 board-level executives of 31 different European banks about their BPO practices, Lancellotti et al. [2003] find that all banks – especially the level of BPO. However, they also show that only 42% of the outsourcing deals (ITO and BPO) delivered the expected value.

In summary, there is minimal empirical evidence on the specifics of outsourcing business processes. In reviewing the literature, Rouse and Corbitt [2004] came to the similar conclusion that "... despite the growth of BPO, an examination of the literature reveals a virtual absence of academic publications on the topic" [Rouse and Corbitt 2004, p.2]. This motivates our research to add to the current knowledge on the specifics of BPO with a particular focus on the risks associated with BPO.

2.3 Risks of Business Process Outsourcing

The role of risk in ITO has been addressed by several authors, especially in the IS literature, as outsourcing of IT has the longest history of all types of outsourcing [Willcocks and Margetts 1994; Earl 1996; Aubert, Dussault, Patry and Rivard 1999; Willcocks, Lacity and Kern 1999; Aubert, Patry and Rivard 2002]. While practitioners and researchers alike agree on the importance of understanding the risks of BPO as well, this issue has so far only been addressed by a few authors [Currie, Desai, Khan, Wang and Weerakkody 2003; Gewald and Franke 2005], and there is a serious lack of theoretical and empirical knowledge on the impact of BPO risk in general and in the BFI in particular. One elementary question thus is whether the risks of ITO and BPO are basically the same, or if they differ in structure and magnitude and thus each justify a research domain on their own. The only available research on this issue is a paper by Gewald and Franke [2005], who assess the differences in the risks of outsourcing based on a series of interviews in the German BFI. Based on an extensive literature review, the risks assessed are amongst the most commonly quoted in IS literature namely service debasement, hidden costs, inexperienced customer or vendor, customer using more resources than anticipated, loss of competence, failing interfaces, loss of cross-functional skills, not achieving anticipated benefits, default of vendor, communication mismatch, lock-in, loss of business flexibility, incapable vendor, wrong measurements, misuse of trust and security breaches. One finding is that ITO and BPO risks indeed differ, especially in magnitude. Of the initially investigated 15 risks, 11 are shown to be higher in BPO than in ITO, 2 are regarded as identical and 2 are considered lower in BPO than in ITO. One additional risk previously ignored, i.e., "misuse of trust," is identified as specific to BPO (see [Bryant and Colledge 2002] for the role of trust in Electronic Commerce Business Relationships). Here, the authors refer to a misuse of trust in a data privacy respect, arguing that the external service provider needs access to non-encrypted sensitive data from the customers of the bank in order to process the outsourced transactions. The risk is that service provider employees may use this data in an unauthorized manner (e.g., fraud or sale to competitors). This risk was found to be primarily relevant for BPO and therefore much higher than in ITO.

Building on the insights gained in this study, the risks mentioned above form the basis of our study as well and are used to form the risk indicators as described in section 4.2.

3 Conceptualization of Research Model

3.1 Research Object

As the research object for our study we chose managers who are responsible for one of four designated business processes (see section 5) in Germany's 200 largest banks. We chose managers, as Power Theory [Pfeffer 1981] states that they are able to influence their environment to make their attitudes and intentions prevail. This intrinsic behavior typically contradicts a rational selection process and outweighs normative decision processes, which con-

centrate on 'how decisions should be made'. Therefore, the object of analysis for research on outsourcing decision making needs to be the manager in charge of the business function which has to be decided upon. This is also acknowledged by other researchers [Barthelemy and Geyer 2001; Kakabadse and Kakabadse 2002], who show that many organizational-level decisions are ultimately made or strongly influenced by single individuals. Additionally, Dibbern [2003] shows that outsourcing decisions – as a major management decision – are made by individuals rather than organizations.

3.2 Conceptualization of Risk

Throughout the outsourcing literature no consistent definition of the risks of outsourcing has yet emerged [Aubert et al. 2002; Quelin and Duhamel 2003]. In some cases, causes and effects are not separated or risks and problems are confused [Barki, Rivard and Talbot 1993]. To avoid this issue we first clarify the concept of risk applicable to this study. Reviews of alternative risk definitions are available in [Baird and Thomas 1990; Barki et al. 1993; Aubert et al. 2002]. For the purposes of this research we adopt a broad definition of risk, regarding it as the potential for an undesired outcome due to uncertainty about future developments.

To realize how senior managers derive decisions for risky choices (i.e., decisions with a high degree of uncertainty), it is important to understand how they cognitively form their perception. Therefore, we first discuss the often applied rational decision approach and argue why this framework is not applicable to our study. Instead, we use a magnitude of risk approach, which is more suitable to explain management's attitude towards major decisions. Finally we introduce perceived risk theory as our theoretical framework for the conceptualization of risk.

In **Rational Decision Theory**, the concept of risk reflects the variation in the distribution of possible outcomes, their likelihood and their subjective values [Knight 1921]. This implies that alternatives are assessed on the basis of their expected probability distributions in conjunction with subjective values of the expected outcomes [March and Shapira 1987], which have to be precisely calculated [Kaplan and Garrick 1981]. Rational decision theory suggests that decision-makers deal with decisions under uncertainty in a rational way, i.e., by computing different alternatives and selecting the option that best suits their personal risk-return profile, which is generally risk-averse [Yates 1992]. However, empirical studies indicate that this theoretical view is not consistent with how managers deal with risky choices in reality: several studies have shown that managers follow a less precise calculus, not using accurate probability calculations [March and Shapira 1987; Boholm 1998]. Instead, they rather deploy a **magnitude of undesired outcome concept** [Bell 1985], showing a loss-averse manner rather than rational decision making [Lyytinen, Mathiasen and Ropponen 1998]. To account for this issue, we theoretically ground the focus of this study, the influence of perceived risks on a manager's intention to increase the level of BPO, in **Perceived Risk Theory** (PRT) [Bauer 1967]. PRT analyzes the risk a person subjectively associates with the consequences of a decision and its impact on the intention to close a transaction, and thus is better able to capture management's attitude than a rational decision approach. PRT implies that, as long as the perceived benefits outweigh the perceived risks, the manager has a positive attitude towards the particular decision. Perceived risk has been described as comprising the subjective perception of two components: the amount at stake and the degree of certainty about possible negative consequences [Cox 1967; Cunningham 1967]. The notion of perceived risk therefore combines both measures: the subjective probability of loss and the perceived severity of the negative impact. Essentially it measures the expected negative magnitude of an undesired outcome. The negative magnitude depends on the amount at stake, which Cox [1967] describes as having three possible sources: 1) not gaining what one is trying to gain, 2) having to pay a penalty, or 3) losing the means by which the gain is expected to be made. The degree of subjective certainty is solely the certainty felt by the individual and does not necessarily have to be in line with any other possibly more objectively measured degree of certainty [Cunningham 1967].

4 Theoretical Foundation and Research Hypotheses

After explaining the concept of risk deployed in this study, we now describe the theoretical foundations of our model. Then, we elaborate the applied variables and introduce the research hypotheses and their theoretical and/or empirical grounding.

4.1 Theoretical Foundation

4.1.1 Perceived Risk Theory

Our main hypothesis is that perceived risk has a negative impact on a manager's attitude towards BPO. As a fundamental theory enabling the analysis of the associated risks, we chose Perceived Risk Theory [Bauer 1967]. We accordingly define perceived risk as the potential loss in the pursuit of a desired outcome of outsourcing business processes (adopted from [Featherman and Pavlou 2003, p.454]). Cunningham [1967] segregates perceived risk into five risk facets: performance risk, financial risk, psychosocial risk, safety risk, and opportunity/time risk.

In IS research, safety risk, the risk facet gauging possible harm of physical damage to the human being, is generally not applicable [Featherman and Pavlou 2003]. However, two objects of our study can potentially be harmed

by the actual decision to increase the level of BPO: the manager and the bank. The psychosocial risk facet captures the risk for the individual manager. It comprises two risks, psychological risk ("the risk that the selection or performance of the producer [service provider] will have a negative effect on the consumer's [manager's] peace of mind or self-perception" [Mitchell 1992, p.27]) and social risk ("the risk of loss of status in one's social group as a result of adopting a service" [Featherman and Pavlou 2003, p.455]). Psychosocial risk therefore accounts for the fears of the managers that their social environment will not value their role in the decision to outsource a business process as well as the fear of actually making a decision which may produce unwanted outcomes. To account for the risk for the bank we introduce the strategic risk facet, which comprises the risks which are potentially harmful to the intended long-term development of the bank, thus ultimately jeopardizing its existence in the market. The strategic risk facet includes elements of the safety and opportunity/time risk facets and replaces them in our research model.

Table 1: Definitions of Risk Facets in a BPO Context (based on [Mitchell 1992; Featherman and Pavlou 2003])

Risk Facet	Definition
Financial Risk	The risk that the actual costs may exceed the planned/budgeted costs of the outsourcing engagement.
Performance Risk	The risk that the service provided by the outsourcing vendor will not be delivered as expected by the bank.
Strategic Risk	The risk that the bank will lose its ability to react flexibly and unconstrained to changing market conditions.
Psychosocial Risk	The risk that the decision to outsource a business process will have a negative effect on the responsible manager's peace of mind or self-perception (i.e., loss of status in one's social group).

Each risk facet combines the perceptions regarding the underlying individual risks associated with this facet. For every risk facet the associated individual risks will be derived by applying theoretical knowledge and analyzing the literature on the risks of outsourcing, evaluating the information which has been gathered empirically by the academic community (see sections 4.2.4-4.2.7). The respective relevance of each risk facet will be assessed by analyzing its individual components and by testing the impact on overall risk perception. This approach offers additional insights on risk formation and emphasizes the relative importance of the hypothesized risk facets. Therefore, we model the risk facets as directly influencing the overall risk, thus indirectly influencing the attitude towards BPO (see sections 4.2.1 and 4.2.2).

4.1.2 Theory of Reasoned Action

Our theoretical foundation for analyzing the influence of perceived risk on the intention to increase the level of BPO is based on the Theory of Reasoned Action (TRA) [Ajzen and Fishbein 1980]. Ajzen states that attitude "[...] refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" [Ajzen 1991, p.188] and argues for a strong relationship between attitude and the intention to perform an actual behavior (in this context the intention to adopt BPO). Therefore we decided to use "attitude" as the latent variable mediating the influence of perceived risk towards the intention to increase the level of BPO (i.e., to outsource business processes). This has important implications for theorizing about the BPO decision: we analyze variations in the attitude towards BPO to predict the intention to increase the level of BPO. This approach is supported by two recent studies on IS outsourcing that adopted a similar approach to assess the IS sourcing decision [Benamati and Rajkumar 2003; Dibbern 2003].

The actual decision to outsource business processes is influenced by numerous factors which are not yet fully explored or framed in a single coherent model. Therefore we decided to add to knowledge by focusing this study on the in-depth examination of the influence of a single antecedent factor, the perceived risks of BPO. The resulting research model is illustrated in Figure 1 (only constructs are depicted, indicators are not shown).

The hypotheses underlying the model are explicated in the following sections. The respective indicators used to constitute the latent variables are given in Table 4 in the appendix.

4.2 Research Hypotheses

4.2.1 Perceived Risk

Outsourcing has acquired the reputation of being risky business [Aubert et al. 2002] and there is empirical evidence that numerous outsourcing engagements have failed to deliver their desired value [Lancellotti et al. 2003]. Some organizations have even decided to reintegrate the outsourced services into the internal organization because their expectations were not met [Lacity and Willcocks 2001]. But outsourcing is just as risky as many other uncertain business ventures [Aubert et al. 2002]. It is therefore sensible to assume that decision makers carefully analyze the risks associated with alternative governance modes before deciding to outsource a business function.

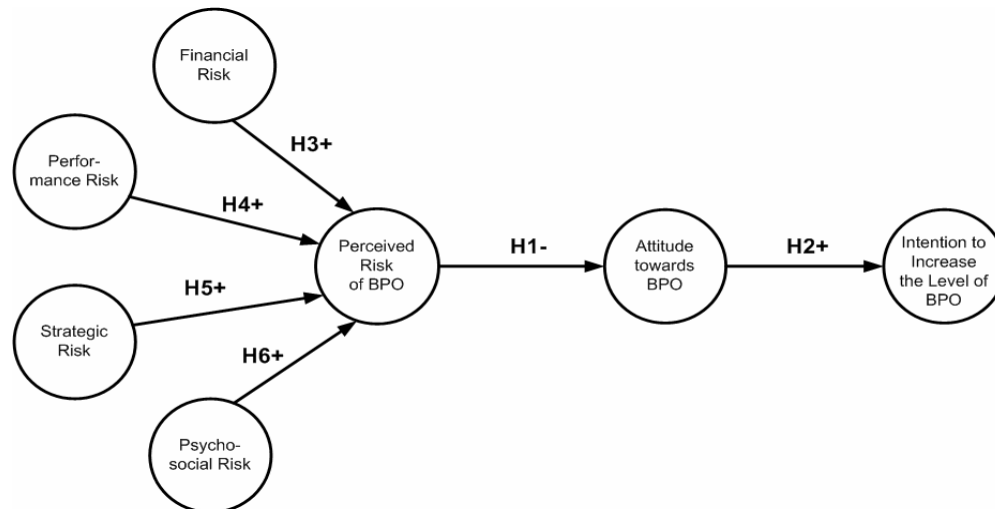


Figure 1: Research Model

This is particularly true of the banking industry in Germany. Regulations explicitly state that the responsibility for the execution of the outsourced processes remains with the bank [Bundesbank 2001]. This implies that the bank continues to be responsible for any errors of the service provider and cannot limit liability to clients, the regulator, or other third parties. This indirect responsibility is assumed to increase the awareness of BPO risks among senior managers who are responsible for business processes.

Therefore we assume that the level of perceived risk, the potential loss in the pursuit of a desired outcome of outsourcing business processes, negatively influences the attitude of senior management towards outsourcing a business process. The negative relationship between perceived risk and attitude has been conceptually indicated by Jurison [1995] and empirically tested in several environments (e.g., [Featherman and Pavlou 2003; Pavlou 2003; Gefen and Pavlou 2004]). Benamati and Rajkumar [2003] confirmed this relationship in an empirical study of application development outsourcing.

Referring to TRA, the perception of risk is a behavioral belief and as such an important antecedent of the attitude towards BPO. Therefore, we model perceived risk as directly impacting attitude, thus indirectly influencing the intention to increase the level of BPO through the effect of attitude on intention.

Hypothesis 1: *The higher the perceived risk of BPO, the lower (more negative) senior management's attitude towards BPO.*

4.2.2 Attitude towards BPO

A positive attitude towards BPO is assumed to positively influence the intention to increase the level of BPO. Based on TRA, we define the attitude towards BPO as the overall evaluative appraisal, made by a manager who is responsible for a business process, of having that process outsourced to an external service provider. The relationship between attitude and intention is based on TRA, which states that the beliefs about an outcome shape the attitude towards performing a behavior. Attitude, in turn, influences the intention to perform the behavior and, ultimately, influences the behavior itself [Wixom and Todd 2005]. Therefore, the more positive the attitude towards BPO, the greater the intention to increase the level of BPO will be. This relationship has been empirically tested in numerous studies, especially those focusing on the Technology Acceptance Model [Davis, Bagozzi and Warshaw 1989; Adams, Nelson and Todd 1992; Taylor and Todd 1995].

Hypothesis 2: *The higher (more positive) senior management's attitude towards BPO, the higher the intention to increase the level of BPO.*

4.2.3 Intention to Increase the Level of BPO

The intention to increase the level of BPO is the ultimate dependent variable in our model. We regard it as the manager's expression of support for the outsourcing of the process she/he is responsible for, barring unforeseen events [Ajzen and Fishbein 1980]. We explicitly refer to an increase in the level of BPO instead of asking for overall outsourcing of the business process, as pre-tests showed that numerous managers have already outsourced smaller tasks of their processes.

As laid out above, based on TRA, a positive attitude towards BPO is expected to positively influence the intention to increase the level of BPO. This relationship was successfully tested in the studies mentioned in section 4.2.2. We are aware of the difficulties that arise when predicting an actual outcome using the intended behavior, such as

possible changes in influential factors in the time between indicating an intention and performing a behavior [Ajzen and Fishbein 1980]. Therefore we regard intention predominantly as a control variable to assess whether our research model accurately predicts changes in the intention to increase the level of BPO. As Ajzen and Fishbein [1980, p.5] put it: "[There will not] always be a perfect correspondence between intention and behavior." Intention is measured using the following (reflective) indicators:

4.2.4 Financial Risk

Financial risk is defined as the risk that the actual costs may exceed the planned/budgeted costs of the outsourcing engagement. In other words: the fear of the manager that he will have to pay more for the service than originally anticipated. To analyze this, Transaction Cost Economics (TCE) was chosen, based on Coase [1937] and Commons [1934]. The analysis of transaction costs allows one to explore efficiencies in hybrid governance structures, such as joint ventures, strategic alliances or franchises [Williamson 1991]. Transactions are the transfer of goods or services between institutionally separable interfaces [Williamson 1985], which entails specific costs since TCE assumes limited rationality and opportunistic behavior [Dibbern et al. 2004]. In a BPO context, limited rationality refers to the limited capabilities of the outsourcer that render "complete" contracts impossible. Opportunistic behavior entails that this incapability could be exploited by the service provider. Various researchers have used TCE to analyze the outsourcing decision by exploring the existence and magnitude of transaction costs [Lacity and Hirschheim 1993; Ang and Straub 1998; Lammers 2004]. If transaction costs do not outweigh the production cost advantages of the service provider, the bank is likely to outsource. However, the question arises as to how this balance might change during the outsourcing venture. If actual transaction costs overrun planned transaction costs, the bank faces financial losses.

From the BFI manager's perspective, risk mainly arises from unexpected transition costs and hidden costs during service delivery. Unexpected transition costs include unforeseeable set-up costs, redeployment costs, relocation costs or parallel-running costs [Earl 1996]. These costs are particularly caused by the additional human resources needed to transfer the processes [Cross 1995; Earl 1996]. Hidden costs emerge if the manager assumes that certain activities are included within the outsourcing contract and they eventually turn out not to be, resulting in costly contract amendments [Lacity and Hirschheim 1993; Lacity and Willcocks 1995]. Additionally, they refer to the threat of opportunistic behavior by the service provider as stated by TCE. Underestimated costs are caused by inexperience or the inability of the bank to calculate the business case correctly [Earl 1996].

Severe unexpected switching costs emerge during the exit phase (when the contract ends and the process can be back-sourced or transferred to another provider) if this issue was not included upfront in the outsourcing contract, and the service provider requires fees which are beyond what is economically feasible for his support in transferring the process. Aubert et al. [1998] used TCE to show that switching costs are particularly high if there is (1) high asset specificity, (2) a small number of service providers, and/or (3) great inexperience with contractual exit agreements.

Hypothesis 3: *The higher the perceived financial risk of BPO, the higher the overall perceived risk.*

4.2.5 Performance Risk

Performance risk (the risk that the service provided by the outsourcing vendor will not be delivered as expected by the bank) can be analyzed using TCE and Agency Theory (AT). AT treats the difficulties that arise under conditions of incomplete and asymmetric information when a principal (the bank) hires an agent (the service provider) [Eisenhardt 1989]. From the principal's perspective, these conditions entail continuous coordination and motivation issues. The general assumptions of agency theory are (1) the principal's inability to observe the agent's behavior and (2) opportunism of both the principal and the agent. Opportunism can be explained using two concepts: moral hazard and adverse selection. Moral hazard emerges if the agent acts to the disadvantage of the principal. Adverse selection is driven by the agent's allegation of superior capabilities and produces the problem of choosing the "wrong" agent. As outlined by Aubert et al. [1998], adverse selection emerges when the service provider does not have sufficient outsourcing experience, and is thus unskilled in collaborating with the bank. Moral hazard induces the risk of service debasement [Aubert et al. 1998; Bahli and Rivard 2005]. The service provider might reduce his effort in collaborating with the bank and fail to improve the process if he can use his superior resources in other client engagements instead.

Additionally, there is also the risk of process complexity. As outlined by Aubert et al. [1998], this risk can be traced back to the concept of asset specificity as inherent in TCE. If the asset (process) is very specific and requires a deep understanding of process requirements, it is difficult for the service provider to sustain constantly high quality in process execution. Thus, the risk of declining process quality due to process complexities arises.

The misinterpretation of a bank's wants and needs raises the issue of communication mismatches [Earl 1996; Aubert et al. 1998; Gartner 1999; Willcocks et al. 1999; Aubert, Patry, Rivard and Smith 2001]. What initially seems to be clear and unquestionable to one side might result in disputes and litigation due to contrary interpretation by the other partner. This problem becomes particularly evident if the bank requires services that have not been included in the original contract.

A special issue in BPO is the risk of data privacy [Gewald and Franke 2005], as the service provider needs unrestricted access to the client's sensitive data to be able to process it [Khalfan 2004]. Contemporary incidents like the theft of 40 million sensitive data files from a service provider of Mastercard [Dash and Zeller 2005] illustrate the importance of this topic. As BFI institutions very much rely on their reputation for keeping client data confidential [Harris 2002; Nugent and Raisinghani 2002], the risk of security breaches is assumed to be of high importance for the overall performance risk.

Hypothesis 4: *The higher the perceived performance risk of BPO, the higher the overall perceived risk.*

4.2.6 Strategic Risk

Strategic risks in BPO arise if the bank loses its ability to react flexibly and unconstrained to changing market conditions. Strategic risk replaces safety risk in the original PRT framework [Cunningham 1967] as in our research context there is no threat to the life and health of the manager involved, but rather its equivalent for the organizational unit the manager is responsible for.

Managers considering outsourcing need to analyze its effects on strategic flexibility, which is particularly at risk if there is a dependency on the service provider. Resource Dependency Theory (RDT) [Thompson 1967; Aldrich 1976; Pfeffer and Salancik 1978] was used to explore strategic risk. RDT expresses dependency as a result of the organizational necessity of adapting to environmental uncertainty, coping with problematic interdependence, and actively managing resource flows [Pfeffer and Salancik 1978]. In order to determine the dependency of a company on another company, three factors have to be analyzed: the importance of the resource, the company's discretion of resource utilization and the availability of alternative resources.

Applying RDT to the concept of BPO, the degree of dependency is determined by (1) the importance of the outsourced resources, (2) the number of vendors able to provide the outsourced service alternatively, and (3) the anticipated costs of switching service providers [Cheon, Grover and Teng 1995].

The analyzed business processes are without doubt critical banking processes which are specifically regulated by the German banking authority [Bundesbank 2001]. Therefore, banks depend on the proper execution of these services regardless of whether they are produced internally or externally. However, as the data gathered in this study shows, 60% of the participants state that no specialized know-how is required to execute the processes. This complements the statement by more than 85% of the responses that Germany has a mature BPO market with a wide range of alternative service providers. Therefore, the concern of dependency concentrates on the expected switching costs. The issues surrounding costs for back-sourcing a service have been intensively discussed by [Cheon et al. 1995; Earl 1996; Aubert et al. 1998]. Switching costs prevent one from changing service providers or back-sourcing and have been operationalized as the risk of lock-in.

As outlined above, AT predicts opportunistic behavior by both the bank and the service provider which is caused by contrary objectives. Contrary objectives may prevent the vendor from utilizing its best resources or capabilities in service delivery. This issue has been operationalized as the strategic risk of contrary business objectives.

Outsourcers might be reluctant to retain in-house capabilities [Aubert, Patry and Rivard 2003]. If the bank does not preserve internal process know-how, it can hardly identify new business opportunities in this area and might find it increasingly difficult to react to market changes. This may lead to a long-term loss of innovation capabilities. As outlined by Willcocks et al. [2004, p.10], the bank will spend "much time fire-fighting and experiences little value-added or technical/ business innovation."

The final risk assumed to form the strategic risk facet is the risk of loss of control. This risk arises from the contractual ties of the bank with the service provider and hinders the bank from acting as unrestricted as it could with internal production of the process [Cullen and Willcocks 2003].

Hypothesis 5: *The higher the perceived strategic risk of BPO, the higher the overall perceived risk.*

4.2.7 Psychosocial Risk

We define psychosocial risk as the risk that the decision to outsource a business process has a negative effect on the responsible manager's peace of mind or self-perception (i.e., loss of status in one's social group). This risk facet is generally seen as the most difficult facet of PRT to measure, due to its multiple sources of influence on the individual's level [Mitchell 1999].

The social risk within this facet is operationalized by a question relating to the consequences for the personal reputation of the manager amongst his internal (colleagues) and external (business partners) peers in the context of the outsourcing decision. The items relating to psychological risk aspects focus on issues which are assumed to create the greatest pressure for the peace of mind of the manager in conjunction with the outsourcing decision. These are a possible lock-in situation with the vendor and the indisputable responsibility of the bank (towards its customers) for errors produced by the service provider.

The issue relating to the risk of lock-in arises from the virtual irreversibility of the decision. This increases the pressure on the manager due to the difficulty of correcting or readjusting the decision once it is made. The other

main pressure arises from the responsibility for the errors of the service provider although the manager can only exert indirect control on the vendor's processes. As the bank remains fully and indisputably responsible for its operations (whether outsourced or not) towards the end client [Bundesbank 2001], all mistakes in the execution of the outsourced process can potentially damage the reputation of the bank. This direct responsibility of the manager for actions he can only control indirectly is assumed to put psychological pressure on him during the outsourcing decision process.

Hypothesis 6: *The higher the perceived psychosocial risk of BPO, the higher the overall perceived risk.*

5 Methodology and Data Collection

5.1 Development of Questionnaire

To test the causal model depicted in Figure 1, it had to be converted into a questionnaire. Each construct is represented by a set of indicators which form the questions in the survey. All questions were measured on a positive-to-negative 7-point Likert scale. Questions regarding the perceived risk state a risk and ask how the manager rates the risk on the following scale: "Very high - high - rather high - neutral - rather low - low - very low." Questions on the benefits of attitude and intention give a statement and ask for the level of agreement on the following scale: "Strongly agree - predominantly agree - rather agree - neutral - rather disagree - predominantly disagree - strongly disagree." The questionnaire was discussed intensively within our research institute and pre-tested independently with three managers from banks which were not included in the sample. Based on the acquired insights the questionnaire was modified and finalized.

In 2003, 2,226 banks were registered for conducting business in Germany, comprising 261 private banks, 504 savings banks, 1,395 cooperative banks and 66 other banks (specialized credit institutions, state owned banks, etc.). For this research the 200 largest banks in Germany were chosen, based on their total assets as reported in the balance sheet of the year 2003 (latest available figures at the time of preparing the survey). The cumulated balance sheets of the 200 largest banks account for more than 90 per cent of the cumulated balance sheet of the whole German banking market (estimation based on [Bundesbank 2004] and [Karsch 2004]).

To assess the risk perceptions of the managers in charge of business processes, four banking processes were selected which are generally not regarded as areas of core competence for banks [Lamberti and Pöhler 2004]: back office/settlement processes for transactions in securities, consumer credits, domestic payments and foreign exchange/money market. All 200 top banks were contacted by phone to personally identify the managers responsible for the business processes mentioned above. Some banks do not offer all four products to their clients, therefore only 593 questionnaires were sent out.

The time period for sending back the questionnaires was six weeks, from May 15 to June 30, 2005. Managers who had not returned the questionnaire by June 1 received a phone call asking if they needed assistance. This action resulted in an increased quota of responses. Overall, 218 usable questionnaires from 126 banks were returned out of a total sample of 593 managers in Germany's 200 largest banks. This equals a response rate of 36.8% amongst managers and 63% of the banks approached. The results of the survey and further sample information are presented in the next section.

5.2 Descriptive Data Analysis

The cumulated assets of the responses accounted for more than 90% of the total cumulated German banking balance sheet. This is only a rough estimate, as the questionnaire asked for the sum of assets on an interval scale to ensure anonymity. The response rate amongst large banks (assets > EUR 20bn) was exceptionally high (79.6%). The distribution of responses amongst the banking groups (private banks, savings banks, cooperative banks, other banks) matches the distribution in the sample, as does the size of the banks. The number of responses per process is shown in Table 2. The current state of BPO adoption within each bank was captured by asking the respondents to choose one of the six options in Table 3.

Table 2: Responses per Process

Process	Number of Responses	Relative Response Rate
Securities	62	42.2%
Consumer Credits	52	33.3%
Domestic Payments	74	52.5%
Foreign Exchange/Money Market	30	25.6%

Table 3: Current Status of BPO in Respondents' Banks

Option	Item	Number of Responses	Relative Response Rate
1	The bank has already outsourced the process.	56	25.7%
2	An outsourcing project is currently in progress.	9	4.1%
3	The outsourcing option is currently under investigation.	22	10.1%
4	The bank has not yet considered outsourcing the process.	58	26.6%
5	The bank decided against outsourcing the process.	69	31.7%
6	The bank decided to reintegrate the formerly outsourced process.	4	1.8%

The respondents' statistical characteristics show a mean of 8.75 years of experience in the current position and an average of 71.3 employees managed. 85.9% of the respondents have a hierarchical position at the 2nd or 3rd level of the corporation.

6 Model Validation

6.1 Control Variables

In order to control for the influence of distinctive characteristics of the individual banks, certain factors were analyzed to see whether they have a systematic influence: type of process, type of bank (the vast majority of German banks belong to one of three institutionalized groups: private banks, savings banks or cooperative banks [Hackethal 2004]) and outsourcing adoption status. Multi-Group Analysis (as suggested by [Chin 2000]) was conducted and no statistically significant influence of the tested variables on the structural model was detected.

Additionally the effect of firm size was measured through a one-indicator-construct (only firm size) loading on the intention to increase the level of BPO as suggested by Dibbern and Chin [2005]. The result shows weak loading (path coefficient 0.045) and is not significant (t-value 1.08), implying that in our sample firm size has no impact on the overall intention to increase the level of BPO.

6.2 Partial Least Squares Model Validation

This section presents the results of the model validation. This includes the test of the measurement model and the structural model. The measurement model consists of both reflective and formative measured indicators. The fundamental difference between these concepts is that formative indicators form or constitute the latent construct, while reflectively modeled constructs, in contrast, form their indicators [Chin 1998b]. Formative indicators require no specific correlation while reflective indicators are expected to correlate highly with each other [Gefen and Straub 2005]. Two points are crucial about indicators in formative and reflective measurement models: (1) similar indicators may be used for different constructs in formative measurement models while this is not permitted for reflectively measured constructs [Rossiter 2002], and (2) in contrast to reflective indicators, leaving out a formative indicator means omitting a part of the construct, i.e., changing the overall model.

6.2.1 Measurement Model of Formative Indicators

To evaluate the quality of the measurement model, the design of constructs [Diamantopoulos and Winklhofer 2001] and the relevance of indicators [Chin 1998a] need to be analyzed. According to Diamantopoulos/Winklhofer and Chin, there are five critical issues determining the quality of the measurement model: (1) content specification, (2) indicator specification, (3) indicator reliability, (4) indicator collinearity, and (5) external validity.

Content specification consists of defining the scope of the latent constructs to be measured. In particular, "the breadth of definition is extremely important to causal indicators" [Nunnally and Bernstein 1994, p.484]. The research model presented in this research paper includes four latent constructs measured with formative indicators: financial risk, performance risk, strategic risk and psychosocial risk. These constructs were precisely defined and their domain intensively discussed (see section 4.2), ensuring the proper specification of the applicable content of all the constructs deployed. **Indicator specification** comprises the identification and definition of indicators which constitute the latent constructs. The aggregation of all formative indicators forms the specification of the formatively measured construct. Therefore, indicator specification is particularly important for models using formative indicators. The indicators used in this model were identified by intensive literature review and have been validated through several pre-tests with senior bank managers who were knowledgeable about the topic of this research. The indicators were presented in section 4.2; all items were measured on a seven-point Likert scale. **Indicator reliability** analyzes the importance of each individual indicator that forms the relevant construct. Two quantitative arguments have to be accounted for: (1) the sign of the indicator needs to be correct as hypothesized, and (2) the weighting of the indicator should be at least 0.2 as proposed by Chin [1998b]. The model tested shows correct signs for all indicators used and all (except two) have a weight of at least 0.2 and are (with three exceptions) at least significant at the 0.05 level (the full figures are given in Appendix D). Because formative measurement models are based on linear equation systems,

substantial **indicator collinearity** would affect the stability of indicator coefficients. Neither the analysis of correlations of indicators nor the calculation of variance inflation factors (all indicators fall far below the threshold of 10 as suggested by [Cohen 2003]) necessitated the rejection of any indicators used. Therefore, all indicators could be retained as no redundancy was identified. **External validity** aims at ensuring that all indicators which form a construct are actually included in the model. Following Diamantopoulos and Winklhofer [2001], external validity can be analyzed by creating a phantom construct which is measured using reflective indicators. If the formatively measured construct strongly and significantly correlates with the reflective measured construct, external validity is given. The correlations of constructs within the tested model were all strong and significant at the 0.001 level. Thus, it is shown that the formative indicators used in this study actually form their respective constructs.

6.2.2 Measurement Model of Reflective Indicators

The quality of the measurement model is determined by (1) convergent validity, (2) construct reliability, and (3) discriminant validity [Bagozzi 1979; Churchill 1979; Peter 1981]. **Convergent validity** [Bagozzi and Phillips 1982] is analyzed by indicator reliability and construct reliability [Peter 1981]. Indicator reliability can be examined by looking at the construct loadings. In the model tested, all loadings are significant at the 0.001 level and above the recommended 0.7 parameter value (significance tests were conducted using the bootstrap routine with 500 resamples [Chin 1998b]). **Construct reliability** is tested using composite reliability (CR). The estimated indices were all above the threshold of 0.6 [Bagozzi and Yi 1988] as depicted in Table 4 in the appendix. **Discriminant validity** of the utilized indicators can be analyzed by looking at the average variance extracted (AVE). The calculated figures are all above the recommended threshold of 0.5 [Chin 1998b] (see Table 4 in the appendix). Discriminant validity can also be assessed by checking the cross-loadings. These are obtained by correlating the component score of each latent variable with both its respective block of indicators and all other items that are included in the model [Chin 1998b]. As depicted in Table 5 in the appendix, the loading of each indicator is higher for its respective construct than for any other construct. In addition, it is confirmed that each construct loads highest with its own indicators. Therefore, the indicators of different constructs are not related to each other and discriminant validity is shown.

6.2.3 Structural Model

The adequacy of indicators in the measurement model enables one to evaluate the explanatory power of the entire model as well as the predictive power of the independent variables. The explanatory power is examined by looking at the squared multiple correlations (R^2) of the dependent variables. As can be inferred from Figure 2, 46% ($R^2=0.46$) of the variation in perceived risk is explained by performance, financial, strategic and psychosocial risk. Moreover, 37% of the variation in the attitude towards outsourcing is explained by perceived risk. The R^2 value for the intention to increase the level of BPO ($R^2=0.56$) is also encouragingly high.

Predictive power is tested by examining the magnitude of the standardized parameter estimates between constructs together with the corresponding t-values that indicate the level of significance. All path coefficients exceed the 0.2 level except for psychosocial risk. In particular, bootstrapping revealed strong significance (at the 0.005 level) of the dependent variables except for psychosocial risk (at the 0.1 level). Analysis of the overall effect size (f^2) of the antecedents of perceived risk reveals that all risk facets have moderate effect except for psychosocial risk (low effect). However, small f^2 scores do not necessarily imply an unimportant effect [Cohen 1988]. Thus, all hypotheses have been proven to be correct, including that regarding the effect of psychosocial risk on perceived risk. Figure 2 depicts the findings graphically.

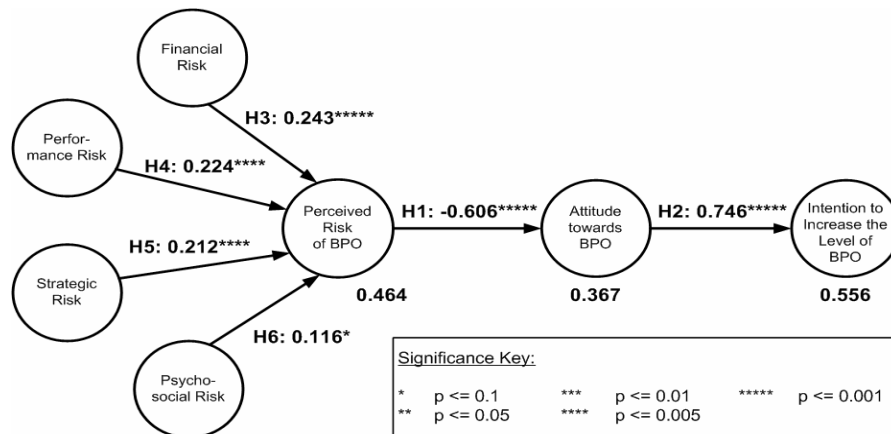


Figure 2: Structural Model Findings

7 Analysis of Results

7.1 Key Findings

7.1.1 Overall Model

This study is the first quantitative analysis of the perceived risks of BPO in the German BFI. The results are very encouraging, and the high response rate indicates the importance of the topic and the interest of practitioners in the results of this research.

The data analysis reveals that all hypotheses hold as expected, showing significant loadings. The R^2 values of the dependent variables are satisfactorily high, indicating the high degree of explanatory power of its predecessors.

The influence of perceived risk on attitude (hypothesis 1) shows a very high loading of -0.606, indicating that perceived risk has a strong (negative) influence on the attitude towards BPO. This finding is further supported by the R^2 of the attitude construct (0.37). Hypothesis 2 was also fully supported. The high loading of 0.746 and an R^2 of the dependent variable of 0.56 demonstrate that the managerial attitude towards BPO has a high explanatory power in terms of the intention to increase the level of BPO.

Hypotheses 3-5 were also fully supported with loadings of 0.212 to 0.243. This indicates a satisfactory explanatory power and also shows that these three risk facets are valued almost equally by the respondents. Hypothesis 6 is an exception with a significant yet comparatively low loading, indicating that the psychosocial risk plays the least important role in the overall perceived risk. The (overall) perceived risk construct shows an R^2 of 0.46, demonstrating the explanatory power of the risk facets applied.

7.1.2 Risk Facets

Financial Risk

The perceived financial risk of BPO can reliably be predicted by unexpected transition costs, hidden service costs, and switching costs. These indicators had a significant effect on the financial risk facet. The high impact of hidden costs (0.537) and unexpected transition costs (0.411) indicates that the managers primarily blame the service provider for an overrun of planned costs. Switching costs are seen as a problem (0.302) but do not weigh as high as the other risks. Altogether, the chosen formative indicators give a good and reliable insight into the financial risk facet. Its loading towards the perceived risk facet (0.243) is the highest of all risk facets. This indicates the relative importance of financial risk perceptions for the overall perceived risk. This result is as expected, as managers are still mainly evaluated by quantitative figures. Therefore their main focus is naturally to avoid missing financial targets.

Financial risks have been investigated in several previous studies (e.g., [Alexander and Young 1996; Aubert et al. 2002; Jurison 2002; Adeleye et al. 2004]). The insight gained in this study is thus the ranking of the different individual risks instead of merely naming them.

Performance Risk

The performance risk facet comprises the individual risks of communication mismatch (0.355), security breaches (0.284), inexperienced service provider (0.246), process complexity (0.226), and service debasement (0.195). These indicators have significant weights in terms of the risk facet, although those of service debasement and process complexity are only at the 0.1 level. The risk of communication mismatch between the bank and the service provider contributes most to performance risk as previously described by [Alexander and Young 1996]. In addition, managers perceive possible security breaches as a severe risk (compare [Jurison 1998; Khalfan 2004]), which is understandable considering the current press coverage (see, e.g., [Dash and Zeller 2005]). The third most important performance risk is to select an inexperienced vendor (see [Willcocks et al. 1999; Bahli and Rivard 2003]). This is assumed to be due to the relatively young BPO market in Germany and indicates that banks do not assume that existing service providers offering new BPO services automatically execute these services at the same level as the other services in the portfolio. The findings indicating the relevance of the risk of service debasement and process complexity for an outsourcing venture are in line with previously conducted research by [Lacity and Willcocks 1995; Ang and Straub 1998; Aubert et al. 1998; Bahli and Rivard 2003] but rank lowest on the performance risk scale.

Strategic Risk

The strategic risk facet is formed by the individual risks of lock-in with the vendor (0.446), contrary objectives (0.338), loss of innovative capabilities (0.330), and loss of control (0.179). All of these individual risks had a significant impact on the risk facet, although loss of control only at the 0.1 level. The dependency of the bank on the service provider had the highest effect on strategic risk, which complements the analogous discussion of the psychosocial risk facet below and is in line with previous findings (e.g., [Barthelemy and Geyer 2001; Quelin and Duhamel 2003]). In addition, managers perceive great risk from divergent objectives between the partners of the BPO engagement and the possible loss of innovative ability. These risks have previously been identified by researchers [Earl 1996; Lacity 2002] and add to findings which focus on dependency and lock-in [Cheon et al. 1995; Aubert et

al. 1998; Bahli and Rivard 2005]. The loss of control loads comparatively low, which is surprising, as loss of control was formerly reported to be a major risk [Quinn and Hilmer 1994; Jurison 1998]. An explanation for the fact that the risk of losing control has declined in importance could be that the deployment of outsourcing governance mechanisms has become more widespread in recent years [Gewald and Helbig 2006]. By establishing effective governance structures the collaboration at all levels of the involved corporations increases, thus decreasing the bank's risk of losing control over vital decisions.

Psychosocial Risk

The psychosocial risk facet is constructed by one social and two psychological risks. As mentioned above it is very difficult to measure this facet, which has also turned out to be the case in this study, as the psychosocial risk facet has the lowest (yet still significant) loading of all risk facets in the perceived risk construct. Nevertheless, the three indicators tested offer interesting insights. As already shown in the strategic risk facet, the possible lock-in with the service provider causes a perception of high risk for the manager (0.502), due to the virtual irreversibility of the decision [Jurison 1998]. The loss of personal reputation amongst peers due to outsourcing the business process is also regarded as being a high risk (0.490). This is understandable, taking contemporary press coverage into account, which is overwhelmingly negative towards outsourcing due to the expected loss of jobs and wage cuts. The third most important psychosocial risk for the manager is the indirect responsibility for process execution (0.458). Even if the manager is no longer in charge of the operation, she (and the bank) will still get blamed for all errors that are made. This responsibility without direct control obviously causes a high risk perception.

7.2 Limitations of the Study

There are certain points to be kept in mind when interpreting the results of this research. This study has focused exclusively on the BFI in Germany. Therefore, the results may not be representative of other industries or across countries. This is of special importance if one takes the inherent reference framework of outsourcing and the associated risks and responsibilities into account, as required by tight national regulation. The national character may change in years to come, when the international supervisory body for the banking system (the Bank for International Settlements) finally releases its recommendations for outsourcing in financial services [BIS 2004b] to be incorporated into national regulations. Furthermore, the digital character of the banking and finance industry acts as a driver for outsourcing. Applying the findings of this study to other industries might introduce additional risks or change risk magnitudes due to increased staff operations. Thus, our findings are only directly applicable to the BFI in Germany.

7.3 Further Research

After analyzing the perceived risk of BPO in greater detail a comparable approach to the perceived benefits of BPO seems promising. A combination of the findings of both measures and their influence on managers' attitudes might add to the understanding of the outsourcing decision. Furthermore, the development of innovative risk-sharing approaches seems to be a relevant area for additional research, especially taking into account the advances of the Bank for International Settlement regarding the sanctions for operational risk in the banking system [BIS 2004a]. The transfer of risk in accordance with the transfer of the risk-carrying business processes from bank to service provider is a major field for further research with great potential for the academic and practitioner community.

8 Conclusion

In this paper, our main overall hypothesis that perceived risk negatively influences managers' attitude towards BPO and that attitude strongly influences the outsourcing intention could be empirically supported. This was done by conducting a quantitative empirical study within the German BFI by questioning 593 senior bank managers. The high response rate of 36.8% provided significant high loadings and high R^2 values on the applicable constructs.

The research differs from previously conducted studies on risk in outsourcing by emphasizing how BFI managers actually deal with risky choices. It was shown that a BFI manager's attitude changes according to the perception of risk magnitude. The ranking of the individual risks per risk facet provides valuable insights into the causes and drivers of risks. In particular, the formation of strategic risk with its individual risks adds to the scarce knowledge of the possible outcomes of outsourcing on a bank's flexibility and innovativeness. Thus, BFI managers may use our formatively measured strategic risks to assess the impact of outsourcing on their institutional agility. The theoretically deduced and empirically tested indicators are not only useful for scholars calibrating future surveys, but also for risk managers trying to identify the causes and drivers of overall outsourcing risks. Managers in the BFI may use these results to construct risk assessment tools – such as cause-effect-models – which guide risk analysis within the outsourcing decision process. The findings of this study also offer insights to readers in charge of service provider operations into the 'gut feelings' of their clients. This may lead to a better understanding of the clients' needs and the issues which make them reluctant to accept BPO offers. Contributing to improving the mutual understanding of goals - and of fears - of both outsourcers and service providers also follows the recommendations of the recent out-

sourcing literature and resembles the claim of Chua et al. for net-enabled organizations to consider a wider variety of stakeholders [Chua, Straub, Khoo, Kadiyala and Kuechler 2005]. We expect a better understanding of these issues to lead to a higher adoption rate of BPO in the German BFI.

Furthermore, this research contributes to theory as perceived risk theory has not yet been successfully applied to the outsourcing decision process. The insights into the structure of the perceived risk of BPO segregating it into four risk facets have proven to be an especially valuable approach to explaining BPO in the BFI, adding arguments to the discussion on antecedents of the outsourcing decision. To our knowledge this is also the first quantitative empirical study which uses a SEM with formative indicators to analyze the perceived risks of outsourcing in a BPO context. Other scholars may benefit from our work by analyzing the indicators we have used and applying them to their own research.

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REFERENCES

- Adams, D. A.; R. R. Nelson and P. A. Todd; "Perceived Usefulness, Ease of Use, and Usage of Information Technology: A Replication," *MIS Quarterly*, (16:2), 1992, pp. 227-247.
- Adeleye, B. C.; F. Annasingh and M. B. Nunes; "Risk management practices in IS outsourcing: An investigation into commercial banks in Nigeria," *International Journal of Information Management*, (24:2), 2004, pp. 167-180.
- Ajzen, I.; "The Theory of Planned Behavior," *Organizational Behavior and Human Decision Processes*, (50), 1991, pp. 179-211.
- Ajzen, I. and M. Fishbein; "Understanding Attitudes and Predicting Social Behavior," Prentice-Hall, Englewood Cliffs, NJ, USA, 1980.
- Aldrich, H.; "Resource Dependence and Interorganizational Relations: Relations between Local Employment Service Offices and Social Services Sector Organizations," *Administration and Society*, (7:4), 1976, pp. 419-455.
- Alexander, M. and D. Young; "Strategic Outsourcing," *Long Range Planning*, (29:1), 1996, pp. 116-119.
- Ang, S. and D. Straub; "Production and Transaction Economics and IS Outsourcing: A Study of the U.S. Banking Industry," *MIS Quarterly*, (4), 1998, pp. 535-552.
- Aubert, B. A.; S. Dussault; M. Patry and S. Rivard; "Managing the Risk of IT Outsourcing," 32nd Hawaii International Conference on System Sciences, 1999.
- Aubert, B. A.; M. Patry and S. Rivard; "Assessing the Risk of IT Outsourcing," 31st Hawaii International Conference on System Sciences, 1998.
- Aubert, B. A.; M. Patry and S. Rivard; "Managing IT Outsourcing Risk: Lessons Learned" in: Hirschheim, R., Heinzl, A. and Dibbern, J. (Eds.); *Information Systems Outsourcing - Enduring Themes, Emergent Patterns and Future Directions*, Springer, Berlin, 2002, pp. 155-176.
- Aubert, B. A.; M. Patry and S. Rivard; "A tale of two outsourcing contracts - An agency-theoretical perspective," *Wirtschaftsinformatik*, (45:2), 2003, pp. 181-190.
- Aubert, B. A.; M. Patry; S. Rivard and H. Smith; "IT Outsourcing Risk Management at British Petroleum," 34th Hawaii International Conference on System Sciences, 2001.
- Bagozzi, R. P.; "The Role of Measurement in Theory Construction and Hypothesis Testing: Towards a Holistic Model" in: Ferrell, O. C., Brown, S. W. and Lamb, C. W. (Eds.); *Conceptual and Theoretical Developments in Marketing*, Chicago, 1979, pp. 15-32.
- Bagozzi, R. P. and L. Phillips; "Representing and Testing Organizational Theories: A Holistic Construal," *Administrative Science Quarterly*, (27:September), 1982, pp. 459-489.
- Bagozzi, R. P. and Y. Yi; "On the Evaluation of Structural Equation Models," *Journal of the Academy of Marketing Science*, (16), 1988, pp. 74-94.
- Bahli, B. and S. Rivard; "The information technology outsourcing risk: A transaction cost and agency theory-based perspective," *Journal of Information Technology*, (18:September), 2003, pp. 211-221.
- Bahli, B. and S. Rivard; "Validating measures of information technology outsourcing risk factors," *Omega*, (33), 2005, pp. 175-187.
- Baird, I. S. and H. Thomas; "What is Risk Anyway? Using and Measuring Risk in Strategic Management" in: Baird, I. S. and Thomas, H. (Eds.); *Risk, Strategy, and Management*, JAI Press, Greenwich, 1990, pp. 21-52.
- Baldwin, L. P.; Z. Irani and P. E. D. Love; "Outsourcing information systems: Drawing lessons from a banking case study," *European Journal of Information Systems*, (10), 2001, pp. 15-24.

- Barki, H.; S. Rivard and J. Talbot; "Toward an Assessment of Software Development Risk," *Journal of Management Information Systems*, (10), 1993, pp. 203-225.
- Barthelemy, J. and D. Geyer; "IT Outsourcing: Evidence from France and Germany," *European Management Journal*, (19:2), 2001, pp. 195-202.
- Bauer, R.; "Consumer Behavior as Risk Taking" in: Cox, D. F. (Ed.); *Risk Taking and Information Handling in Consumer Behavior*, Harvard University Press, Cambridge, MA, USA, 1967, pp. 21-33.
- Bell, D. E.; "Disappointment in Decision Making Under Uncertainty," *Operations Research*, (33:1), 1985, pp. 1-27.
- Benamati, J. H. and T. M. Rajkumar; "An Empirical Study of the Applicability of the Technology Acceptance Model to Application Development Outsourcing Decisions," 9th Americas Conference on Information Systems, Tampa, FL, USA, 2003.
- Benaroch, M. and R. J. Kauffmann; "Justifying Electronic Banking Network Expansion using Real Options Analysis," *MIS Quarterly*, (24), 2000, pp. 197-225.
- BIS; "International Convergence of Capital Measures and Capital Standards," Bank for International Settlements, Basel Committee on Banking Supervision, 2004a.
- BIS; "Outsourcing in Financial Services," Bank for International Settlements, The Joint Forum, Basel Committee on Banking Supervision, 2004b.
- Boholm, A.; "Comparative Studies of Risk Perception: A Review of Twenty Years of Research," *Journal of Risk Research*, (1:2), 1998, pp. 135-163.
- Bryant, A. and B. Colledge; "Trust in Electronic Commerce Business Relationships," *Journal of Electronic Commerce Research*, (3:2), 2002, pp. 32-39.
- Bundesbank; "Circular 11/2001 - Outsourcing of operational areas to another enterprise pursuant to section 25a (2) of the Banking Act," Deutsche Bundesbank, Frankfurt am Main, 2001.
- Bundesbank; "Bankenstatistik Dezember 2004," Deutsche Bundesbank, 2004.
- Cheon, M. J.; V. Grover and J. T. C. Teng; "Theoretical perspectives on the outsourcing of information systems," *Journal of Information Technology*, (10), 1995, pp. 209-219.
- Chin, W. W.; "Issues and Opinion on Structural Equation Modeling," *MIS Quarterly*, (March), 1998a, pp. 7-16.
- Chin, W. W.; "The Partial Least Squares Approach to Structural Equation Modeling" in: Marcoluides, G. A. (Ed.); *Modern methods for business research*, Lawrence Erlbaum Associates, London, 1998b, pp. 295-336.
- Chin, W. W.; "Frequently Asked Questions – Partial Least Squares & PLS-Graph," <http://discnt.cba.uh.edu/chin/plsfaq.htm>, accessed 2005-10-25
- Chua, C. E. H.; D. W. Straub; H. M. Khoo; S. Kadiyala and D. Kuechler; "The Evolution of E-Commerce Research: A Stakeholder Perspective," *Journal of Electronic Commerce Research*, (6:4), 2005, pp. 262-280.
- Churchill, G.; "A Paradigm for Developing Better Measures of Marketing Constructs," *Journal of Marketing*, (16:February), 1979, pp. 64-73.
- Coase, R. H.; "The Nature of the Firm," *Economica (New Series)*, (4:16), 1937, pp. 386-405.
- Cohen, J.; "Statistical Power Analysis for the Behavioral Sciences," 2nd Lawrence Erlbaum, New Jersey, 1988.
- Cohen, J.; "Applied multiple regression/correlation analysis for the behavioral sciences," 3rd Lawrence Erlbaum Associates, London, 2003.
- Commons, J. R.; "Institutional Economics," University of Wisconsin Press, Madison, 1934.
- Cox, D. F.; "Risk Handling in Consumer Behavior" in: Cox, D. F. (Ed.); *Risk Taking and Information Handling in Consumer Behavior*, Harvard University Press, Boston, MA, USA, 1967, pp. 34-81.
- Cross, J.; "IT Outsourcing: British Petroleum's Competitive Approach," *Harvard Business Review*, (73:3), 1995, pp. 94-102.
- Cullen, S. and L. Willcocks; "Intelligent IT Outsourcing: Eight Building Blocks to Success," Butterworth, Oxford, 2003.
- Cunningham, S. M.; "The Major Dimensions of Perceived Risk" in: Cox, D. F. (Ed.); *Risk Taking and Information Handling in Consumer Behavior*, Harvard University Press, Boston, MA, USA, 1967, pp. 82-108.
- Currie, W. L.; B. Desai; N. Khan; X. Wang and V. Weerakkody; "Vendor Strategies for Business Process and Applications Outsourcing: Recent Findings from Field Research," 36th Hawaii International Conference on System Sciences, Hawaii, 2003.
- Dash, E. and T. Zeller; "Mastercard says 40 million files are put at risk," *New York Times*, June 18, 2005, 2005, p. 1
- Davenport, T. H. and J. E. Short; "The New Industrial Engineering: Information Technology and Business Process Redesign," *Sloan Management Review*, (31:4), 1990, pp. 11-27.
- Davis, F. D.; R. P. Bagozzi and P. R. Warshaw; "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," *Management Science*, (35:8), 1989, pp. 982-1003.

- De Looft, L. A.; "Information systems outsourcing decision making: A framework, organizational theories and case studies," *Journal of Information Technology*, (10), 1995, pp. 281-297.
- Diamantopoulos, A. and H. M. Winklhofer; "Index Construction with Formative Indicators: An Alternative to Scale Development," *Journal of Marketing Research*, (38:May), 2001, pp. 269-77.
- Dibbern, J.; "The Sourcing of Application Software Development and Maintenance," Springer, Berlin, 2003.
- Dibbern, J. and W. W. Chin; "Multi-Group Comparison: Testing a PLS Model on the Sourcing of Application Software Services across Germany and the U.S.A. Using A Permutation Based Algorithm" in: Bliemel, F., Eggert, A., Fassott, G. and Henseler, J. (Eds.); *Handbuch PLS-Pfadmodellierung - Methode, Anwendung, Praxisbeispiele*, Schäffer-Poeschel, Stuttgart, 2005, pp. 135-159.
- Dibbern, J.; T. Goles; R. Hirschheim and B. Jayatilaka; "Information Systems Outsourcing: A Survey and Analysis of the Literature," *The DATA BASE for Advances in Information Systems*, (35:4), 2004, pp. 6-102.
- Earl, M. J.; "The Risks of Outsourcing IT," *Sloan Management Review*, (Spring), 1996, pp. 26-32.
- Eisenhardt, K. M.; "Agency Theory: An Assessment and Review," *Academy of Management Review*, (14:1), 1989, pp. 57-74.
- Featherman, M. S. and P. A. Pavlou; "Predicting e-Services Adoption: A Perceived Risk Facets Perspective," *International Journal of Human-Computer Studies*, (59), 2003, pp. 451-474.
- Gartner; "Managing Outsourcing Deals," *Strategic Analysis Report*, 1999.
- Gefen, D. and P. A. Pavlou; "The Moderation Role of Conflict on Feedback Mechanisms, Trust, and Risk in Electronic Marketplaces," *Research Note*, 2004.
- Gefen, D. and D. Straub; "A Practical Guide to Factorial Validity Using PLS-Graph: Tutorial and Annotated Example," *Communications of the Association for Information Systems*, (16), 2005, pp. 91-109.
- Gewald, H. and J. Franke; "A Comparison of the Risks in Information Technology Outsourcing and Business Process Outsourcing," *11th Americas Conference on Information Systems*, Omaha, NE, USA, 2005.
- Gewald, H. and K. Helbig; "A Governance Model for Managing Outsourcing Partnerships - A View from Practice," *39th Hawaiian Conference on System Sciences*, Kauai, HI, USA, 2006.
- Gewald, H. and D. Hinz; "A Framework for Classifying the Operational Risks of Outsourcing," *8th Pacific Asia Conference on Information Systems*, Shanghai, PR China, 2004.
- Gilley, K. M. and A. Rasheed; "Making More by Doing Less: An Analysis of Outsourcing and Its Effects on Firm Performance," *Journal of Management*, (26:4), 2000, pp. 763-790.
- Grill, W.; H. Perczynski and H. Grill; "Wirtschaftslehre des Kreditwesens," *Gehlen*, Wiesbaden, 2005.
- Hackethal, A.; "German Banks and Banking Structure" in: Krahn, J. P. and Schmidt, R. C. (Eds.); *The German Financial System*, Oxford University Press, Oxford, 2004, pp. 71-105.
- Halvey, J. K. and B. M. Melby; "Business Process Outsourcing - Process, Strategies and Contracts," *John Wiley & Sons*, New York, 2000.
- Harris, L.; "The Ethics of eBanking," *Journal of Electronic Commerce Research*, (3:2), 2002, pp. 59-66.
- Homann, U.; M. Rill and A. Wimmer; "Flexible value structures in banking," *Communications of the ACM*, (47:5), 2004, pp. 34-36.
- Jurison, J.; "The role of risk and return in information technology outsourcing decisions," *Journal of Information Technology*, (10), 1995, pp. 239-247.
- Jurison, J.; "A Risk-Return Model for Information Technology Outsourcing Decisions" in: Willcocks, L. P. and Lacity, M. C. (Eds.); *Strategic Sourcing of Information Systems*, John Wiley & Sons Ltd., Chichester, 1998, pp. 187-204.
- Jurison, J.; "Applying Traditional Risk-Return Analysis to Strategic IT Outsourcing Decisions" in: Hirschheim, R., Heinzl, A. and Dibbern, J. (Eds.); *Information Systems Outsourcing*, Springer, Heidelberg, 2002, pp. 177-186.
- Kakabadse, A. and N. Kakabadse; "Trends in Outsourcing: Contrasting USA and Europe," *European Management Journal*, (20:2), 2002, pp. 189-198.
- Kaplan, S. and B. J. Garrick; "On the Quantitative Definition of Risk," *Risk Analysis*, (1:1), 1981, pp. 11-27.
- Karsch, W.; "Die 100 größten deutschen Kreditinstitute," *Die Bank*, (8), 2004, pp. 30-31.
- Khalfan, A. M.; "Information security considerations in IS/IT outsourcing projects: A descriptive case study of two sectors," *International Journal of Information Management*, (24), 2004, pp. 29-42.
- Knight, F. H.; "Risk, Uncertainty and Profit," *Hart, Schaffner and Marx Publ.*, New York, 1921.
- Kumar, K. and J. v. Hilleberg; "New Architectures for Financial Services," *Communications of the ACM*, (47:5), 2004, pp. 27-30.
- Lacity, M. C.; "Lessons in Global Information Technology Sourcing," *Computer*, (August), 2002, pp. 26-33.
- Lacity, M. C. and R. Hirschheim; "The Information Systems Outsourcing Bandwagon," *Sloan Management Review*, (Fall), 1993, pp. 73-86.

- Lacity, M. C. and L. P. Willcocks; "Interpreting Information Technology Outsourcing Decisions from a transaction cost perspective: Findings and Critique," *Accounting, Management & Information Technology*, (5:3/4), 1995, pp. 203 - 244.
- Lacity, M. C. and L. P. Willcocks; "Global Information Technology Outsourcing: In Search of Business Advantage," Wiley, Chichester, 2001.
- Lamberti, H.-J. and A. Pöhler; "Die Industrialisierung des Backoffices am Beispiel der etb" in: Lamberti, H.-J., Marliere, A. and Pöhler, A. (Eds.); *Management von Transaktionsbanken*, Springer, Berlin, 2004, pp. 3-38.
- Lammers, M.; "Make, Buy or Share - Combining Resource Based View, Transaction Cost Economics and Production Economies," *Wirtschaftsinformatik*, (46:3), 2004, pp. 204-212.
- Lammers, M.; N. Löhndorf and T. Weitzel; "Strategic Sourcing in Banking - A Framework," *European Conference in Information Systems*, Turku, Finland, 2004.
- Lancellotti, R.; O. Schein; S. Spang and V. Stadler; "ICT and Operations Outsourcing in Banking," *Wirtschaftsinformatik*, (45:2), 2003, pp. 131-141.
- Lee, J.-N.; M. Q. Huynh; R. C.-W. Kwok and S.-M. Pi; "IT Outsourcing Evolution - Past, Present, and Future," *Communications of the ACM*, (44:5), 2003, pp. 84-85.
- Lyytinen, K.; L. Mathiassen and J. Ropponen; "Attention Shaping and Software Risk - A Categorical Analysis of Four Classical Risk Management Approaches," *Information Systems Research*, (9:3), 1998, pp. 233-255.
- March, J. G. and Z. Shapira; "Managerial Perspectives on Risk and Risk Taking," *Management Science*, (33:11), 1987, pp. 1404-1418.
- McLellan, K.; B. L. Marcolin and P. W. Beamish; "Financial and strategic motivations behind IS outsourcing," *Journal of Information Technology*, (10:4), 1995, pp. 299-321.
- Mitchell, V.-W.; "Understanding Consumer's Behaviour: Can Perceived Risk Theory Help?," *Management Decision*, (30:3), 1992, pp. 26-31.
- Mitchell, V.-W.; "Consumer perceived risk: Conceptualisations and models," *European Journal of Marketing*, (33:1/2), 1999, pp. 163-196.
- Nugent, J. H. and M. S. Raisinghani; "The Information Technology and Telecommunications Security Imperative: Important Issues and Drivers," *Journal of Electronic Commerce Research*, (3:1), 2002, pp. 1-14.
- Nunnally, J. C. and I. H. Bernstein; "Psychometric Theory," 3rd McGraw-Hill, New York, 1994.
- Pavlou, P. A.; "Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model," *International Journal of Electronic Commerce*, (7:3), 2003, pp. 69-103.
- Peter, J.; "Reliability: A Review of Psychometric Basics and Recent Marketing Practices," *Journal of Marketing Research*, (16:February), 1981, pp. 6-17.
- Pfeffer, J.; "Power in Organizations," Pitman, Boston, 1981.
- Pfeffer, J. and G. R. Salancik; "The External Control of Organizations: A Resource Dependence Perspective," Harper & Row, New York, 1978.
- Quelin, B. and F. Duhamel; "Bringing Together Strategic Outsourcing and Corporate Strategy: Outsourcing Motives and Risks," *European Management Journal*, (21:5), 2003, pp. 647-661.
- Quinn, J. B. and F. G. Hilmer; "Strategic Outsourcing," *Sloan Management Review*, (35:4), 1994, pp. 43-55.
- Rossiter, J. R.; "The C-OAR-SE procedure for scale development in marketing," *International Journal of Research in Marketing*, (19:4), 2002, pp. 305-335.
- Rouse, A. C. and B. Corbitt; "IT-supported business process outsourcing (BPO): The good, the bad and the ugly," 8th Pacific Asia Conference on Information Systems, Shanghai, China, 2004.
- Tas, J. and S. Sunder; "Financial services business process outsourcing," *Communications of the ACM*, (47:5), 2004, pp. 50-52.
- Taylor, S. and P. A. Todd; "Understanding information technology usage: A test of competing models," *Information Systems Research*, (6:2), 1995, pp. 144-176.
- Thompson, J. D.; "Organizations in Action," McGraw-Hill, New York, 1967.
- Wahrenburg, M.; W. König; D. Beimborn; J. Franke; T. Gellrich; A. Hackethal; M. Holzhäuser; F. Schwarze and T. Weitzel; "Kreditprozess-Management," Norderstedt, Frankfurt, 2005.
- Weerakkody, V.; W. L. Currie and Y. Ekanayake; "Re-engineering business processes through application service providers," *Business Process Management Journal*, (9:6), 2003, pp. 776-794.
- Willcocks, L.; J. Hindle; D. Feeny and M. Lacity; "IT and business process outsourcing: The knowledge potential," *Information Systems Management*, (Summer), 2004, pp. 7-15.
- Willcocks, L. and H. Margetts; "Risk Assessment and Information Systems," *European Journal of Information Systems*, (3:2), 1994, pp. 127-138.

- Willcocks, L. P.; M. C. Lacity and T. Kern; "Risk Mitigation in IT outsourcing strategy revisited: Longitudinal case research at LISA," *Journal of Strategic Information Systems*, (8:3), 1999, pp. 285-314.
- Williamson, O. E.; "The Economic Institutions of Capitalism," Free Press, New York, 1985.
- Williamson, O. E.; "Comparative Economic Organization: The Analysis of Discrete Structural Alternatives," *Administrative Science Quarterly*, (36:2), 1991, pp. 269-296.
- Wixom, B. H. and P. A. Todd; "A Theoretical Integration of User Satisfaction and Technology Acceptance," *Information Systems Research*, (16:1), 2005, pp. 85-102.
- Yates, J. F. (Ed.); "Risk-taking behavior," Wiley, Chichester, UK, 1992.

APPENDIX I - Indicators and Measurements

Table 4: Loadings, Weights and Significance Level of Deployed Indicators

Construct	Indicator	Item	Load. / Weight	Sign. Level	CR	AVE
Perceived risks	Outsourcing of business processes is associated with a high level of risk.	a31	0.9090	0.001	0.934	0.825
	There is a high level of risk that the expected benefits of outsourcing will not materialize.	a32	0.8967	0.001		
	Overall, I consider the outsourcing of business processes to be risky.	a33	0.9183	0.001		
Attitude towards BPO	Overall, my attitude towards outsourcing of business processes is positive.	a50	0.8944	0.001	0.943	0.805
	The outsourcing of business processes is an attractive alternative to internal production.	a51	0.9252	0.001		
	I believe that the benefits of business process outsourcing outweigh the associated risks.	a52	0.8986	0.001		
	Overall, the outsourcing of business processes provides our bank with added value.	a53	0.8698	0.001		
Intention to increase level of BPO	If there is a superior offer, the process I am in charge of should be outsourced.	a54	0.8417	0.001	0.919	0.792
	Our bank should increase the existing level of outsourcing.	a55	0.8925	0.001		
	I support further outsourcing of business processes.	a56	0.9326	0.001		
Performance risk	The service provider does not have sufficient outsourcing experience.	a62	0.2456	0.05		
	Throughout the period of validity of the contract the quality of service steadily declines.	a63	0.1953	0.1		
	The process is too complex to be properly executed by the service provider.	a65	0.2263	0.1		
	Employees of the bank and the service provider do not properly collaborate.	a67	0.3547	0.001		
	The service provider will not be able to provide a level of security for confidential data that meets the standards of the bank.	a26	0.2840	0.005		
Financial risk	The transition costs and duration exceed the calculated budget and time frame.	a78	0.4111	0.001		
	The service provider tries to increase his profit through hidden or non-transparent costs.	a69	0.5370	0.001		
	The cost of switching service providers is so high that the bank faces a lock-in situation with the vendor.	a71	0.3017	0.005		

Construct	Indicator	Item	Load. / Weight	Sign. Level	CR	AVE
Strategic risk	By outsourcing business processes the bank becomes dependent on the service provider.	a58	0.4457	0.001		
	The service provider and the bank pursue contrary objectives.	a81	0.3376	0.005		
	The bank loses its capability of long-term operational innovativeness.	a82	0.3299	0.005		
	By outsourcing business processes the bank loses control over decision making processes.	a59	0.1785	0.1		
Psychosocial risk	Outsourcing the business process for which you are responsible will damage your standing among colleagues and business partners?	a22	0.4901	0.001		
	Outsourcing of the business process is de facto irreversible.	a83	0.5023	0.001		
	Errors of the service provider damage the reputation of our bank.	a73	0.4583	0.001		

APPENDIX II - Cross-loadings

Table 5: Cross-loadings of Reflectively Measured Constructs

Item	Construct		
	PercRisk	Attitude	Intention
a31	0.9090	-0.4854	-0.3362
a32	0.8967	-0.5559	-0.3703
a33	0.9183	-0.6057	-0.4585
a50	-0.4660	0.8944	0.7144
a51	-0.4767	0.9252	0.7175
a52	-0.6094	0.8698	0.5795
a53	-0.6198	0.8986	0.6639
a54	-0.3077	0.6474	0.8417
a55	-0.3976	0.6361	0.8925
a56	-0.4361	0.7045	0.9326

N.B.: All items highlighted are significant at the 0.001 level

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