

2006

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Recommended Citation

Franke, Jochen and Wüllenweber, Kim, "The impact of potential flexibility gains and losses on the intention to outsource business processes" (2006). *ECIS 2006 Proceedings*. 34.
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THE IMPACT OF POTENTIAL FLEXIBILITY GAINS AND LOSSES ON THE INTENTION TO OUTSOURCE BUSINESS PROCESSES

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Abstract

In an ever accelerating world demanding fast adjustment to changing business environments, organizational flexibility becomes increasingly important. By outsourcing business processes (BPO), there are both potential flexibility losses (e.g. loss of control) and potential flexibility gains (e.g. the transformation of fixed to variable costs). Firms have to balance this trade-off to retain sufficient flexibility or even enlarge their strategic and operational flexibility. Based on an empirical study with Germany's Top 200 Banks it is shown that the perception of both flexibility gains and losses have a profound impact on the outsourcers' attitude towards BPO. In particular, potential flexibility losses have a higher impact on outsourcers' attitude than potential flexibility gains. Subsequently, in accordance with the theory of reasoned action it turns out that attitude is an antecedent of the intention towards outsourcing. Therefore we argue that flexibility-related issues should be explicitly considered in outsourcing evaluations and service providers should emphasize on contractual means to demonstrate that organizational flexibility will not be negatively affected.

Keywords: Outsourcing, Flexibility, BPO

1 INTRODUCTION

Increasing global competition requires a continuous quest for efficiency improvements. Outsourcing IT (ITO) and/or business processes (BPO) promises to yield efficiency improvements by rearranging the value chain. Nevertheless only about one half of the outsourcing contracts deliver the promised 20-30% savings, the majority of them is renegotiated and one of eight is terminated as expensive failure before expiration (Lacity & Willcocks 2001) or labelled as a failure (Barthelemy 2001). What are the reasons for this disappointment and failures?

Besides many others, Kern and Willcocks state that one of the reasons for failure in IS outsourcing ventures is the lack of analysis of the organizational environment and its dynamics (Kern & Willcocks 1996). Thus, the role of organizational flexibility becomes prudent for firms. In particular, “outsourcing as a means to gain flexibility” was identified as the third most important outsourcing motive, just after operational cost savings and focusing on core competencies (Quelin & Duhamel 2003). Besides efficiency and effectiveness improvements, flexibility is argued to be a source of value on its own in outsourcing deals (Lancelotti, Schein, Span & Stadler 2003).

But is the organizational flexibility indeed affected positively when it comes to outsourcing? The issue of flexibility in outsourcing agreements has been stressed controversially by a number of authors and practitioners. Several authors find flexibility to be an important characteristic of successful outsourcing relationships (Clark, Zmud & McCray 1998; Goolsby 2002) or explicitly stress the importance of (sourcing) flexibility and control (Lacity, Willcocks & Feeny 1995). In two recent studies among banks, losing flexibility and control over services has been stated as a major risk (ECB 2004; Gewald & Franke 2005).

Accordingly, the decision to outsource should explicitly incorporate the consideration of potential flexibility gains and losses. Despite existing research on the identification of potential gains and losses, the actual trade-off between outsourcing and flexibility gains and losses has rarely been analysed. This research gap and the controversial discussion about the actual impact of outsourcing on the organisational flexibility of a firm lead to the research question addressed in this paper:

What is the impact of perceived flexibility gains and losses on the intention to outsource business processes?

To analyze the trade-off between potential gains and losses in organizational flexibility, a research model incorporating both facets has been developed and tested subsequently in an empirical study conducted on BPO in the German banking industry.

The structure of the paper is as follows: In section 2, related research on outsourcing and flexibility as well as the theoretical building blocks of our model are presented. Subsequently, in section 3 the research model comprising outsourcing and flexibility is introduced. Section 4 provides information on data collection and sample characteristics. The results of our analysis are outlined in section 5. This paper closes with a summary and discussion of our results, limitations of the research approach, and provides some implications for further research in section 6.

2 RELATED RESEARCH

In this section, related research on the building blocks of our research model is discussed. This includes literature related to flexibility and outsourcing, the resource-based view (RBV) and the theory of reasoned action. Initially, related research on the research domain BPO is introduced.

2.1 BPO

From a broad perspective, outsourcing can be regarded as the divestment of all or parts of specific IT-enabled corporate functions and the re-purchasing of those services from one or more external vendors

(this definition is based on the arguments of De Looff (1995), an overview of alternative definitions is given in Dibbern, Goles, Hirschheim & Jayatilaka, (2004)).

The concept of outsourcing has been applied to different scopes, from hardware and software to business processes. Following Earl's view, ITO is defined as outsourcing hardware-orientated IT activities such as data centre 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 & Ekanayake 2003). For the scope of this paper, BPO is defined as *outsourcing one or more specific business processes together with the IT that supports them* (Halvey & Melby 2000), while a business process is defined as a *set of logically related tasks performed to achieve a defined business outcome* (Davenport & Short 1990, p. 12).

2.2 RBV

The RBV focuses on the firm, as opposed to the industry, and explains differences in a firm's competitive position with resource heterogeneity among firms, thus explaining sustained competitive advantage (SCA) through the resources controlled by a firm. One root of the RBV is the work of Edith Penrose, who viewed the firm as a collection of productive resources guided by an administrative function (Penrose 1959). Rumelt (1984) specifies that a firm's competitive position results from bundles of *unique* resources and relationships protected by *isolating mechanisms* (our emphases). The term describes mechanisms protecting uniqueness; examples are causal ambiguity, patents, and reputation, limiting the mobility, and imitability and substitutability of resources. According to Barney (1991), a resource has to be valuable, rare, non-imitable, and non-substitutable to provide for a sustainable competitive advantage. By the means of outsourcing, firms now try to gain access to such specialized resources, owned by other firms to optimize their internal resource portfolio.

2.3 Flexibility

While traditional RBV is engaged with the selection and analysis of valuable resources, the development and adaptation of resources to changing environments requires flexibility to adapt resource configurations rapidly (see, for example, Byrd and Turner (2001)). In uncertain and changing business environments, where it is necessary to reconfigure and adjust rapidly, flexibility is a crucial aspect of success (Ybarra-Young & Wiersema 1999). Accordingly the resource portfolio has to be adjusted permanently in modern business environments to retain or gain a competitive advantage.

Evans (1991) treats flexibility as a polymorphous concept and provides deep insight into the different notions of flexibility. He introduces a 2x2 matrix of strategic flexibility concepts with temporal and intentional dimensions. The temporal dimension "ex ante/ex post" refers to the triggering outside event that requires some reaction by the firm. The intentional dimension, "offence" and "defence", refer to the intention of the actions taken by the firm, with offensive reflecting "creating and seizing an initiative" and defensive reflecting "guarding against predatory moves or correcting past mistakes".

2.4 Theory of Reasoned Action

The theory of reasoned action suggests that a person's behaviour is determined by his/her intention to perform the behaviour and that this intention is, in turn, a function of his/her attitude toward the behaviour and his/her subjective norm (Ajzen & Fishbein 1980). The best predictor of actual behaviour is intention. Intention is the cognitive representation of a person's readiness to perform a given behaviour, and it is considered to be the immediate antecedent of behaviour.

The individual's attitude towards outsourcing plays a major role in analyzing the outsourcing decision. Even if the attitude does not directly implicate the outcome, it has great impact on the behaviour of the individual during the decision process (Ajzen 1996). Therefore a close look on the antecedents of attitude should be taken to understand its drivers. Only if the antecedents of attitude are analysed in

greater detail, further research on the decision process from a behavioural perspective is feasible to understand the final decision for/against outsourcing. This approach is supported by two recent studies on IS outsourcing that included attitude as a dependent variable which enhances the understanding of the IS sourcing decision (Benamati & Rajkumar 2003; Dibbern 2003).

3 OUTSOURCING AND FLEXIBILITY

To assess the interplay of outsourcing and flexibility and to tackle the research question outlined above, a research model relating potential flexibility gains and losses, attitude and intention to outsource is developed. Literature explicitly relating outsourcing to flexibility is relatively rare: Singh and Walden (2003) propose a model relating cost and flexibility in bilateral outsourcing contracts. Their mathematical approach analyses the effects of incomplete contracts and changes in the outsourcing relationship between one outsourcer and one service provider in a two-period model. The interplay of flexibility and control in managing the outsourcing relationship is discussed in (Quinn & Hilmer 1994; Lacity, Willcocks & Feeny 1995). On a more aggregate level, various authors have stressed the issue of flexibility, either arguing that outsourcing may increase (e.g. (Quinn, Doorley & Paquette 1990; Clark, Zmud & McCray 1998; Lancelotti, Schein, Span & Stadler 2003; Rouse & Corbitt 2003)) or decrease organizational flexibility (e.g. (Earl 1996; Clark, Zmud & McCray 1998; Rouse & Corbitt 2003)). Our model empirically analyzes the perception of potential flexibility gains and losses and their impact on the sourcing decision.

Potential gains in organizational flexibility due to outsourcing may result from the access to specialized resources. In particular, “outsourcing as a means to gain flexibility” was identified as the third most important outsourcing motive, just after operational cost savings and focusing on core competencies (Quelin & Duhamel 2003). A potential gain in organizational flexibility due to outsourcing may be a result of the superior performance of the sourcing provider. From his point of view, the insourced business process relates to his core competencies, therefore, superior experts and systems might be in place (Clark, Zmud & McCray 1998). In particular, economies of skill may result from core competencies and learning effects of the provider (Prahalad & Hamel 1990). Economies of skill can be realized by the service provider because (from the provider’s point of view) the insourced business process represents a primary process. The risk for demand side variations typically also lie with the service provider, providing for some additional flexibility of the outsourcer (Clark, Zmud & McCray 1998). Those potential gains in organizational flexibility lead to our first hypothesis:

H1: Perceived flexibility gains have a positive impact on the general attitude towards outsourcing.

On the other hand, when outsourcing, the firm may also encounter a loss in organizational flexibility. The reason for those risks of losing business flexibility and innovation capacity for firms outsourcing parts of their business and/or IT is argued to be that an external provider might not be as flexible and easily controllable as an internal business unit (Lacity, Willcocks & Feeny 1995; Earl 1996; Young & Hood 2003). A lack of flexibility incorporated in the outsourcing contract may lead to mediocre relationships (Alborz, Seddon & Scheepers 2004). Clark, Zmud & McCray (1998) identify three distinct categories of flexibility concerns related to outsourcing, namely flexibility, adaptability and evolvability issues. Flexibility refers to the ability of a firm to quickly react to ongoing business challenges. Adaptability is the ability of a firm to change its business strategies to cope with competitive forces, and finally evolvability refers to the “ability of the firm to transform technological infrastructure to incorporate new generations of technology” (Clark, Zmud & McCray 1998). These potential losses in organizational flexibility are hypothesized to have a negative impact on the attitude towards outsourcing, yielding the following hypothesis:

H2: Perceived flexibility losses have a negative impact on the general attitude towards outsourcing.

According to the theory of reasoned action (Ajzen 1985), the attitude towards BPO is an important contributor to the actual decision to outsource, that is the intention of the manager in charge of the process. By using this approach we differ from common practice in IS outsourcing research which typically focuses on variations in the degree of outsourcing (see e.g. Dibbern, Goles, Hirschheim & Jayatilaka (2004). Our approach is in line with two recent studies on IS outsourcing that included attitude as a dependent variable which enhances the understanding of the IS sourcing decision (Benamati & Rajkumar 2003; Dibbern 2003). Thus, we add the following hypothesis:

H3: A more positive general attitude towards outsourcing has a positive impact on the intention to outsource.

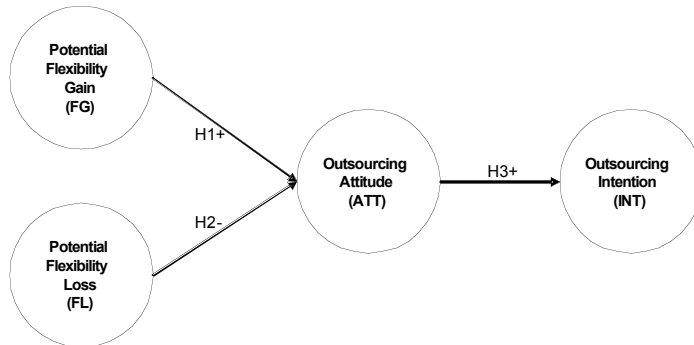


Figure 1. Research Model

In the following, the hypotheses of this model are empirically explored by applying a Partial Least Squares analysis on the data gathered in an empirical survey in the German banking industry.

4 METHODOLOGY AND SAMPLE CHARACTERISTICS

The research model depicted in Figure 1 has been operationalized and transferred into a structural equation model (SEM) to be analyzed with the Partial Least Squares (PLS) approach (Wold 1985; Chin 1998). In contrast to covariance-based approaches as e.g. LISREL, AMOS or EQS, PLS has minimal demands on measurement scales, sample size, and residual distribution (Chin 1998). It is particularly suitable if a more explorative analysis close to the empirical data is preferred. To our knowledge, there is no strong theoretical foundation on the actual impact of perceived flexibility gains and losses on outsourcers' attitude, rendering an explorative approach most appropriate. Furthermore, one construct/latent variable (LV) has been operationalized in formative mode and PLS is the only algorithm that allows to both applying formative and reflective indicators (for the distinction of formative and reflective indicators cp. e.g. Jarvis, MacKenzie and Podsakoff (2003)).

Each LV in our research model is represented by a set of indicators, which were measured on a fully anchored 7-point Likert scale, ranging from "strongly agree" to "strongly disagree" for the LV flexibility gains (FG), attitude (ATT) and intention to outsource (INT). Perceived flexibility losses (FL) were measured using scales from "very high" (risks) to "very low" (risks). Whenever possible, existing measures from prior empirical studies were adopted. The questionnaire was pre-tested independently with managers from different banks which were not included in the final sample. Based on the insights acquired in these pre-tests, the questionnaire was modified and finalized.

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% of the cumulated balance sheet of the whole German banking market.

To assess the flexibility perceptions of the managers in charge of business processes, four banking processes were selected as units of analysis, which are generally not regarded as areas of core

competence for banks: 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. By personal identification and contact, we tried to increase the response rate and strived to ensure that the responsible managers would be the ones to fill out the questionnaire themselves. Some banks did not have all four business processes, therefore only 593 questionnaires (instead of the maximum number of 800) were sent out.

In total, 218 analyzable questionnaires from 126 banks were returned out of the total sample of 593 questionnaires. This equals a response rate of 36.8% amongst managers and 63% of the banks. Taking the bank responses, the cumulated assets of the responses accounted for more than 80% 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 the banking groups (private banks, savings banks, cooperative banks, other banks) is representative. The number of responses per process is shown in Table 1.

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 1. Responses per Process

5 EMPIRICAL RESULTS

This section comprises the results from the PLS analysis as well as the discussion of key findings. For analysis of the data, the software pls-graph, version 3.0, developed by Wynne Chin, has been used.

The following section presents the measurement of the research model and the results of the model test. This includes the test of the measurement model and the structural model. Since both formative and reflective indicators have been used in the model, the following analysis differentiates between these types of measurement.

5.1 Measurement model specification

All manifest variables used in the model have been derived from other studies and adapted to the specific research domain. The manifest variables for measuring the latent variables (LV) as specified in our research model are given in the table below. The LV FG has been operationalized in formative mode; all others are in reflective mode.

Indicator	LV	Mean	SD	Related Research
a28: The bank loses its ability to react flexibly to changes in the market.	FL	4.34	1.622	(Clark, Zmud & McCray 1998; Benamati & Rajkumar 2003)
a29: The bank loses its ability to improve its position in the market by means of internal optimization procedures?		4.15	1.615	
a30: The bank loses know-how that is required to remain competitive in future markets?		4.68	1.580	
a86: Outsourcing will convert the fixed costs of process execution into variable costs.	FG	5.06	1.247	(Lacity & Hirschheim 1993; Clark, Zmud & McCray 1998; Lacity & Willcocks 1998; Quelin & Duhamel 2003)
a88: The service provider can offer specialists whose know-how is interesting to the bank, but which the bank itself cannot adequately make use of.		4.37	1.631	
a90: By outsourcing, more efficient hardware than that available within the bank will be at our disposal.		4.25	1.688	
a50: Overall, my attitude towards outsourcing is positive.	ATT	4.64	1.456	(Benamati &

a51: The outsourcing of business processes is an attractive alternative to internal production.		4.78	1.391	Rajkumar 2002; Benamati & Rajkumar 2003)
a52: I believe that the benefits of business process outsourcing outweigh the associated risks.		4.29	1.413	
a53: Overall, the outsourcing of business processes provides our bank with added value.		4.17	1.569	
a54: If there is a superior offer, the process I am in charge for should be outsourced.		4.66	1.585	(Benamati & Rajkumar 2002; Benamati & Rajkumar 2003; Dibbern 2003)
a55: Our bank should increase the existing level of outsourcing	INT	3.69	1.362	
a56: I prefer outsourcing of more business processes.		4.05	1.469	

Table 2. Descriptive Statistics of Manifest Variables

5.2 Formative measurement model

In our model, perceived flexibility gains have been operationalized in formative mode since the indicators meet the criteria put forward in Jarvis, MacKenzie and Podsakoff (2003) for formative measurement models. According to the findings of both Diamantopoulos and Winklhofer (2001) and Chin (1998), there are five critical issues determining the quality of the formative 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 & Bernstein 1994, p.484). The LV potential FG was precisely defined and their domain intensively discussed (see section 5.1.1), ensuring the proper specification of the applicable content of the LV.

Indicator specification comprises the identification and definition of indicators which constitute the LV. 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 are depicted in Table 2.

Indicator reliability analyzes the importance of each individual indicator that forms the LV. 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 (1998). The model tested shows correct signs for all indicators used and all have at least a weight of 0.2 and are significant at the 0.001 level (the full tables are given in the appendix).

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 (Kleinbaum, Kupper & Muller 1988)) necessitated the rejection of any indicators used. Therefore, all indicators were 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 tested by using nomological aspects linking the formative LV with another LV to be expected as antecedent or consequence. As outlined in Ahmed, Hardacker and Carpenter (1996) additional flexibility can also lead to quality improvements. Thus, we reflectively modelled a “quality improvements” construct and found a substantial path coefficient (0.545) at a significance level of 0.001 between those constructs, supporting the formative operationalization of the LV FG.

5.3 Reflective measurement model

The quality of the reflective measurement model is determined by (1) convergent validity, (2) construct reliability and (3) discriminant validity (Bagozzi 1979).

Convergent validity is analyzed by indicator reliability and construct reliability. 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 samples (Chin 1998).

Construct reliability was tested using two indices: (1) the composite reliability (CR) and (2) the average variance extracted (AVE). Estimated indices were above the recommended thresholds (Bagozzi & Yi 1988) of 0.6 for CR and 0.5 for AVE (see appendix).

Discriminant validity of the construct items can be analyzed by looking at the cross-loadings. As depicted in the appendix, the loadings of each indicator are higher for their respective constructs than for any other construct. Furthermore, the square root of the AVE for each construct is higher than correlations between constructs. Therefore, the indicators of different constructs are not related to each other and discriminant validity of the latent variables is high.

5.4 Structural model

After reviewing the measurement model, the explanatory power of the structural model is evaluated. 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, 36.5% ($R^2=0.365$) of the variation in attitude towards BPO is explained by potential flexibility gains and losses. The R^2 value for the intention to increase the level of BPO ($R^2=0.556$) 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 recommended 0.2 level. Additionally, as bootstrapping reveals, all path coefficients are highly significant (at the 0.001 level). Analysis of the overall effect size (f^2) of the antecedents of BPO attitude reveals that both potential flexibility gain ($f^2=0.249$) and potential flexibility loss ($f^2=0.202$) have a moderate effect, according to the classification of Chin (1998). Thus, all hypotheses of our initial model are supported. The following figure depicts the results in the structural model.

5.5 Key findings

To our knowledge this study is the first quantitative empirical analysis on flexibility perception of BPO in the German banking industry. 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.

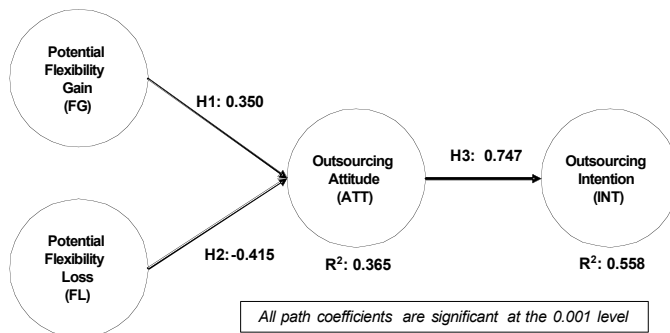


Figure 2: Structural Model Results

The data analysis reveals that all three hypotheses are supported, showing significant loadings. According to Chin (1998) the R^2 in our model can be classified as mediocre.

The impact of potential flexibility gain on attitude (hypothesis 1) shows a high significant path coefficient of 0.350 indicating that potential flexibility gains do have a substantial influence on the attitude towards BPO. In addition, the impact of potential flexibility losses on attitude (hypothesis 2) is high with a path loading of -0.415. The R^2 value of 0.365 demonstrates that potential flexibility gains

and losses have substantial explanatory power in terms of managerial attitude towards BPO. Hypothesis 3 was also fully supported. The high path loading of 0.747 and an R^2 of the dependent variable of 0.558 demonstrate that the managerial attitude towards BPO has a high impact on the intention to increase the level of BPO.

Potential flexibility gains has been operationalized to be formed by the individual benefits of transformation of fixed cost to variable cost (0.562), access to powerful hardware (0.427) and the access to specialized resources (0.399). Since the importance of cost transparency and access to specialized resources has been acknowledged in previous studies (e.g. (Lacity & Hirschheim 1993; Lacity & Willcocks 1998)), the role of technical capacity is surprising, since the object in question is a business process.

These findings show that the impact of outsourcing business processes on potential flexibility changes is an important aspect for the consideration of outsourcing. As hypothesized, potential flexibility gains have a profound positive impact on the overall attitude towards outsourcing, and potential flexibility losses account for a negative impact on the attitude towards BPO. It turned out that when regarding the respective path coefficients the impact of flexibility losses on the attitude towards outsourcing is higher than flexibility gains. Eventually, this could be attributed to an overall fear of losing organizational flexibility due to BPO. Therefore, a service provider should more focus on concrete means (e.g. within contractual clauses) to protect from losing organizational flexibility instead of showing the upside potential of increased flexibility since the lever on the attitude towards BPO is higher with the downsides.

6 SUMMARY

The role of change in organizational flexibility due to outsourcing has been analyzed in this paper. We contribute to IS research by explicitly considering the role of flexibility in outsourcing decisions. This refers to a dynamic view on the outsourcing venture by modelling the trade-off between flexibility gains and losses when considering outsourcing.

In accordance with related research, we have shown that both potential gains and losses in organizational flexibility have a profound impact on the attitude towards BPO of German bank managers. As expected, potential gains in organizational flexibility have a positive impact; potential losses have a negative impact on the manager's attitude towards outsourcing. This attitude in turn has been shown to be positively associated with the intention to outsource. Likewise, the perceived change in organizational flexibility was found to have a profound impact on the intention to outsource.

Furthermore we found that potential flexibility losses have a higher impact on the overall attitude towards outsourcing than potential flexibility gains have. Therefore, we conclude that service providers should tend to demonstrate that organizational flexibility will not decrease due to outsourcing instead of heralding the merits of increased organizational flexibility.

The survey has been conducted with German bank managers who we kindly asked for participation by phone (non-respondents primarily did not participate due to lack of time or interest; hence we expect to have no systematic non-response bias). It is to be investigated how our findings change over time and whether our findings also hold in other industries. Furthermore, we didn't measure actual changes in organizational flexibility but perceived changes. The development of measures to investigate actual changes in organizational flexibility is subject to further research to overcome the limitation of individual perceptions of future changes. Given the explorative character of this research, the findings presented here will lead the path to a more robust measurement of the impact of outsourcing on organizational flexibility. In further research other important drivers of flexibility changes due to outsourcing should be investigated. This particularly includes the flexibility of the contract as the primary mean for managing outsourcing relationships.

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Appendix

The following tables give the detailed results of our empirical findings, complementing the PLS analysis presented before.

LV	CR	AVE	Indicator	Loading
FL	0.931	0.818	a28	0.927
			a29	0.928
			a30	0.826
ATT	0.934	0.779	a50	0.896
			a51	0.927
			a52	0.865
			a53	0.900
INT	0.915	0.783	a54	0.842
			a55	0.893
			a56	0.933

N.B.: all indicators are significant at the 0.001 level

Table 3: Indicator and Construct Reliability of Reflective Indicators

Item	LV			
	FL	FG	ATT	INT
a28	0.927	-0.202	-0.465	-0.216
a29	0.928	-0.222	-0.495	-0.272
a30	0.826	-0.226	-0.368	-0.207
a50	-0.359	0.372	0.896	0.714
a51	-0.406	0.407	0.927	0.717
a52	-0.485	0.340	0.865	0.579
a53	-0.540	0.484	0.900	0.664
a54	-0.190	0.284	0.648	0.842
a55	-0.233	0.373	0.638	0.893
a56	-0.269	0.345	0.706	0.933

N.B.: all highlighted loadings are significant at the 0.001 level

Table 4: Cross-loadings of Reflective Indicators

LV	Indicator	Item	Weight
FG	Transformation of fixed cost to variable cost	a86	0.562
	Access to specialized resources	a88	0.399
	Access to powerful hardware	a90	0.427

N.B.: all weights are significant at the 0.001 level

Table 5: Weights of Formative Indicators