

2005

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Recommended Citation

Beimborn, Daniel; Franke, Jochen; and Weitzel, Tim, "Drivers and Inhibitors for Outsourcing Financial Processes - A Comparative Survey of Economies of Scale, Scope, and Skill" (2005). *AMCIS 2005 Proceedings*. 421.

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Drivers and Inhibitors for Outsourcing Financial Processes – A Comparative Survey of Economies of Scale, Scope, and Skill

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ABSTRACT

Economies of scale, scope, and skill are known to be major drivers or inhibitors for outsourcing business processes but they may play different roles for outsourcing primary or secondary processes. In this paper, based on two empirical surveys with Fortune 1,000 non-banks and Fortune 500 banks in Germany, a comparative analysis reveals different appreciation of (the impact of) economies of scale, scope, and skill by managers responsible for outsourcing financial processes in non-banks and banks. Consistent with the theory, economies of scale and skill are identified as drivers for outsourcing business processes while economies of scope represent an inhibitor. Overall, Chief Credit Officers estimate scale and skill effects due to outsourcing to be higher than non-bank Chief Financial Officers do. Furthermore, economies of scope, which inhibit selective sourcing, are evaluated as being less problematic. As a result, Chief Credit Officers are more likely to outsource (parts of) their - primary - financial processes. The surveys also suggest that quite in contrast to common perception German banks are on the verge of industrialization and modularization.

Keywords

Business Process Outsourcing drivers and inhibitors, economies of scale, scope, and skill, financial processes.

INTRODUCTION

Global competition requires a continuous quest for efficiency improvements. Outsourcing IT and/or business processes promises efficiency improvements by rearranging the value chain. Outsourcing of non-core parts of the business is frequently proposed to focus on core-competencies. In general, cost savings from outsourcing are driven by the trade-off between economies of scale, scope, and skill. Based on two empirical surveys in Germany with banks and non-banks, the differences in the process owners' perception of economies of scale, scope, and skill between primary and secondary financial processes are disclosed.

Primary processes, also known as *core* or *customer processes*, are defined as value creating and customer oriented activities constituting a firm's core business. In contrast, *secondary processes* are firm-internal, supporting processes providing technical, financial, and human resources while not constituting elements of the main value chain (Griese et al. 2001; Porter et al. 1985). As there is no generally valid differentiation between primary and secondary processes, the delineation depends on a firm's actual business (Becker et al. 2002). For example, the process of funding is usually a secondary process in an industrial company while it is one of the core processes of a bank.

In this paper, by comparing the business process outsourcing potential for primary and secondary financial processes it is shown that

- managers in charge of a primary process tend to estimate economies of scale and economies of skill achievable by outsourcing to be higher than managers of secondary processes,
- economies of scope are considered less problematic for primary than for secondary processes,
- in accordance with the outsourcing literature economies of scale and skill foster the perceived outsourcing value potential (“drivers”) while economies of scope reduce it (“inhibitor”).

This paper is structured as follows: first, *related research* dealing with economies of scale, scope, and skill in outsourcing relationships is discussed. In the *methodology* section, the underlying data, units of analysis in both studies and data collection methods are described. After discussing the general *perceived outsourcing potential* of the respondents and introducing our research model, an *analysis of economies of scale, scope, and skill* based on our data is presented and then discussed in the *conclusion* section.

RELATED RESEARCH

The most recent trend in outsourcing, *Business Process Outsourcing (BPO)* extends the concept of IT Outsourcing (ITO) by handing over the responsibility for an entire business process, including the supporting IT, to a service provider (Rouse et al. 2004; Weerakkody et al. 2003). BPO currently represents the fastest growing segment in the outsourcing market (Rouse et al. 2004). In Europe alone, this segment is estimated to grow from 43 billion EUR in 2002 to 72 billion EUR in 2005 (Willcocks et al. 2004).

In this paper, we define BPO as outsourcing one or more specific (parts of) business processes together with the IT that supports them (Halvey et al. 2000). The term BPO potential denotes all potential (net) cost savings and other benefits of a BPO decision. The “outsourcer” is the firm that actually outsources a business process whereas the “insourcer” is the service provider.

Generally, three interdependent factors play a major role in determining whether an outsourcing arrangement is advantageous or not:

- *Economies of scale* are usually considered to be one of the main reasons for outsourcing. The service provider is expected to provide services at lower costs by bundling similar processes of many firms thereby reducing average costs per unit (Cachon et al. 2002; Gurbaxani et al. 1991). In contrast, it can also be argued that especially very large organizations cannot realize additional economies of scale as they have already exploited all available scale economies. (Earl 1996; Lacity et al. 1996). A necessary condition for economies of scale from BPO and at the same time a key driver for hidden transaction costs is the need for standardizing the business process or accepting a standardized reference process which is provided by the sourcing provider (Rouse et al. 2004).
- Another reason for beneficial outsourcing arrangements are *economies of skill* resulting from core competencies and experience of the provider (Langlois 1995; Prahalad et al. 1990). Economies of skill can be realized by the service provider because (from the provider’s perspective) the insourced business process represents a primary process (Dibbern et al. 2001). Firms also outsource particular business functions to overcome internal management and control deficits in these processes (Grant 1991). The service provider might thus be able to proceed on the learning curve and to provide a given service at lower costs (even when “producing” the same quantities).
- *Economies of scope* refer to the advantages resulting from the shared utilization of common resources (Panzar et al. 1981). In contrast to large parts of the literature, this term is used in a process rather than product perspective. Drawing on (Knolmeyer 1994) we thus define economies of scope as task interdependencies between different business functions that are connected within a business process. In contrast, product-based economies of scope describe cost advantages from re-using resources in different processes, creating different products or services. Examples of process-based economies of scope are different organizational units accessing to centralized client data and employee knowledge applied in different processes. These arguments can be inhibiting factors for BPO as economies of scope might get lost or result in severe coordination costs (Bruch 1998).

Overall, there is a trade-off between realizing economies of scale and skill due to outsourcing versus economies of scope that can be realized when processes are kept inhouse.

UNITS OF ANALYSIS

The findings in this paper are based on two empirical studies conducted by the E-Finance Lab in 2003 and 2004. The first study, labelled “Financial Chain Study” and conducted in 2003, focused on secondary financial processes in non-banks. The

second study in 2004 analyzed primary financial processes in banks (“Credit Process Study”). Both studies were adapted to their respective business domains. Since insights from the first study were used for the design of the second study, the latter offers a slightly broader set of indicators. Both business processes are characterized by their “digital character” with almost no need for physical transformation of goods. Therefore, there is a high automation potential rendering the adequate deployment of IS to be a core success factor (e.g. in the Financial Chain Study, 22% of the total annual IS budget of Germany’s 1,000 largest firms is dedicated to financial processes (Skiera et al. 2004)).

To systematically identify efficiency potentials in primary and secondary financial processes, we have developed a generic financial chain (Figure 1) for the secondary processes in non-banks and a generic credit process for the primary process in banks (Figure 2).

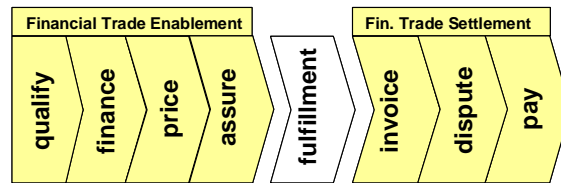


Figure 1: Generic Financial Chain (Pfaff et al. 2004)

The financial chain (Figure 1) begins with the business partner qualification by checking identity, credit worthiness and solvency (Arkhipov et al. 2001). Then, the financing modus (e.g. supplier credit, leasing) for the deal is determined, followed by pricing (price negotiation and determination), sales offer and risk assurance (currency risk, transportation risks, credit default risk). After this financial trade enablement phase and the actual fulfillment (e.g. shipment of goods), the processes of the financial settlement phase include invoice generation, invoice delivery and possibly dispute management (Lander 2001). The financial chain cycle terminates with the incoming payment. For a more detailed description of the financial chain see (Pfaff et al. 2004).

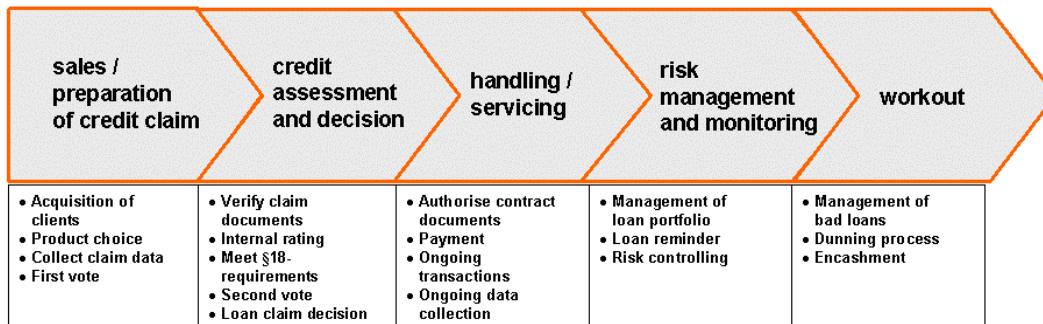


Figure 2: Generic Credit Process (König et al. 2005)

Analogously, the second study on primary financial processes (“Credit Process Study”) is based on the generic process in Figure 2 that was developed in several workshops with experts for credit processes in banks, for a detailed descriptions of the sub-processes see (König et al. 2005). This study focused on banks’ credit processes issuing loans for small and medium sized enterprises (SME).

METHODOLOGY

For the Financial Chain Study, a questionnaire incorporating 35 different, mainly closed questions on varying topics (e.g. process analysis, outsourcing) was developed and validated in several pre-tests to improve comprehensibility and to remove ambiguities. Before mailing the questionnaire, the addressees (Chief Financial Officers (CFOs)) of this study were identified and contacted to ensure high data quality. After an initial mailing, the questionnaire was mailed a second time three weeks later. Those firms that did not answer were then contacted by telephone and asked for participation again. The eventual relevant response rate were 10.3% (n=103) usable questionnaires (Skiera et al. 2004).

Financial Chain Study (Fortune 1,000) n=103		Credit Process Study (Fortune 500) n=129	
industry	48.5%	savings banks/federal banks	59.7%
ICT providers	13.6%	credit cooperative banks	30.2%
business services	11.7%	private banks	10.1%
retail	9.7%		
financial services	4.9%		
energy and water supply	4.9%		
construction	2.9%		
other	3.8%		

Table 1: Financial Chain and Credit Process Study (industries and bank types)

In the Credit Process Study, a questionnaire consisting of 33 open and closed questions was sent to the German Fortune 500 banks (according to total assets). The questions used as indicators and their scales can be found in the Appendix. For this study, special attention was spent on ensuring high structural similarity between the two questionnaires to enable a comparison of the results. This questionnaire was also refined in several pre-tests and interviews with experts. The managers responsible for the banks’ credit processes were contacted by phone before receiving the questionnaire, 519 questionnaires were sent in total. A follow-up by resending the questionnaire and a second contact by phone was conducted. 129 analyzable questionnaires were returned, resulting in a response rate of 24.9%. An overview of the responding firms’ types of both studies is given in Table 1.

Figure 3 depicts the basic research framework for analyzing the impact of economies of scale, scope, and skill on the BPO potential of both processes.

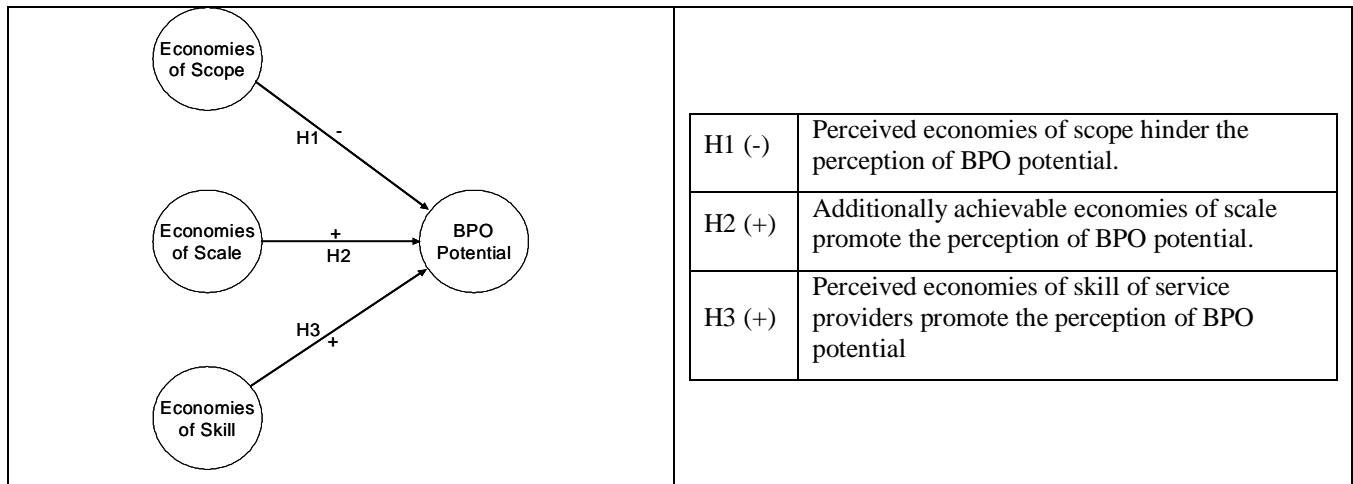


Figure 3: Research Model and Hypotheses

Corresponding to the literature, we expect a negative impact of scope economies and a positive impact of scale and skill economies on BPO potential. Nevertheless, the main focus of this paper is to reveal differences between the perceptions of CFOs and Chief Credit Officers regarding these arguments.

FINDINGS

An Analysis of Economies of Scale, Scope, and Skill and Their Joint Impact on the Perceived BPO Potential

We first present a descriptive comparison of the constructs in both surveys. Then, the model above is tested, applying it to both data sets. Finally, the descriptive and analytical results are discussed.

Descriptive Analysis of the Constructs

Business Process Outsourcing Potential

The financial chain is usually a secondary process to support a firm’s core business (Porter 1985). Therefore, it is commonly not designed and optimized to provide a competitive advantage on its own. Therefore, BPO of (parts of) the financial chain to specialized service providers represents a suitable strategy to improve business efficiency.

51.5% of the CFOs consider outsourcing parts of the financial chain possible, 32.3% answer that selective sourcing is not an option. But only 17.4% of the CFOs consider selective sourcing not only possible but also (potentially) efficient (cp. Figure 5). Those firms that have already identified areas of improvement in their financial chain are more likely to consider selective sourcing an interesting option¹. Less than half of all firms (49.4%) have evaluated possible outsourcing benefits in the financial chain, only 15% have already outsourced parts of their financial chain.

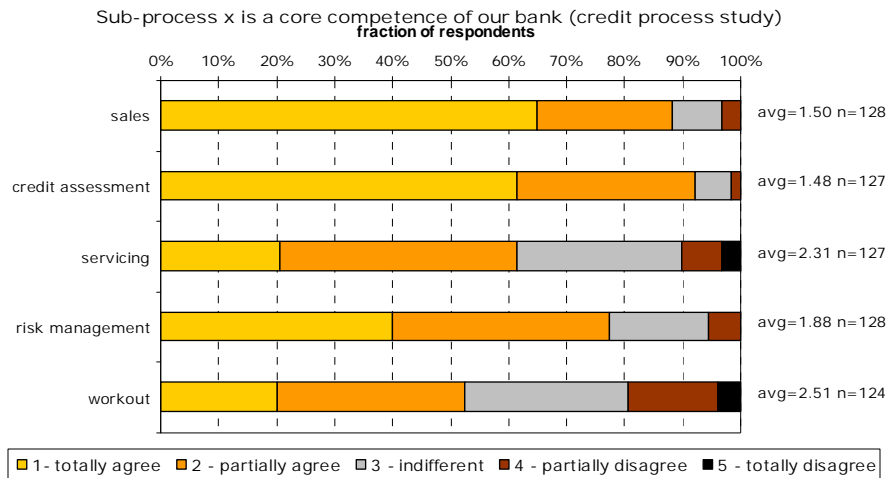


Figure 4: Sub-process x is a Core Competence of our Bank

In contrast, the credit process in banks represents a value-generating primary financial process and therefore a core competence (Lammers et al. 2004). The outsourcing literature suggests keeping core competencies inhouse (Lacity et al. 1996; Zhang 2004). While sub-processes sales, credit assessment and risk management are considered to be core competencies in nearly all banks (cp. Figure 4), this perception changes for servicing and workout. For those sub-processes, selective BPO is considered possible. Similarly, an industry wide standardization which represents a prerequisite for outsourcing of the sub-processes servicing and workout is deemed possible (servicing: 71.2% agree, workout: 49.6% agree). 39.5% of the Chief Credit Officers consider outsourcing of parts of the credit process possible, 33.3% don’t see selective BPO as a valid option. Only 27.5% of all responding banks have already evaluated possible outsourcing benefits in their credit process and 18.6% have already outsourced parts of their credit process.

¹ Pearson’s correlation = 0.292, p ≤ 0.01

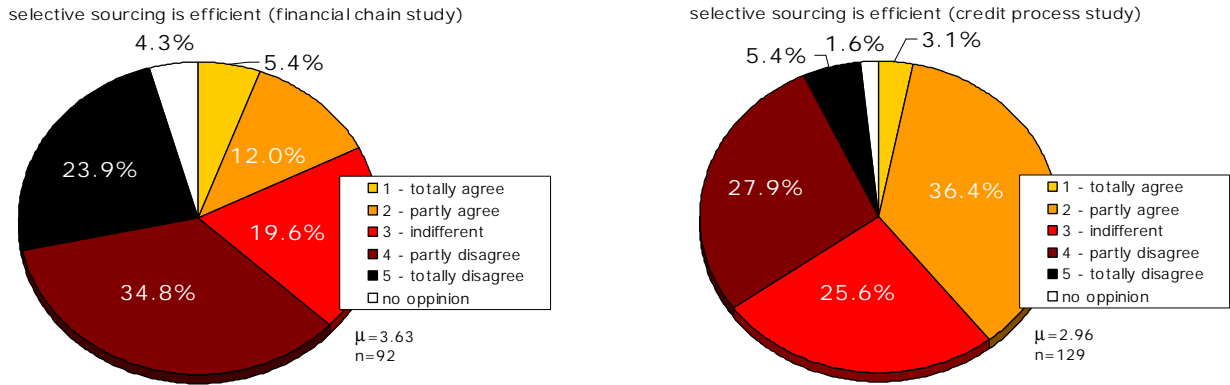


Figure 5: Perceived Selective Sourcing Potential (Left: Financial Chain Study, Right: Credit Process Study)

In essence, the outsourcing potential perceived by Chief Credit Officers is much higher than by CFOs. This contradicts the suggestion of the outsourcing literature to outsource secondary processes and keep primary processes inhouse.

Economies of Scale, Scope, and Skill

In the following, we provide a descriptive analysis of both studies according to the perceived economies of scale, scope, and skill highlighting the specific deviations between them. The results are summarized in Figure 6.

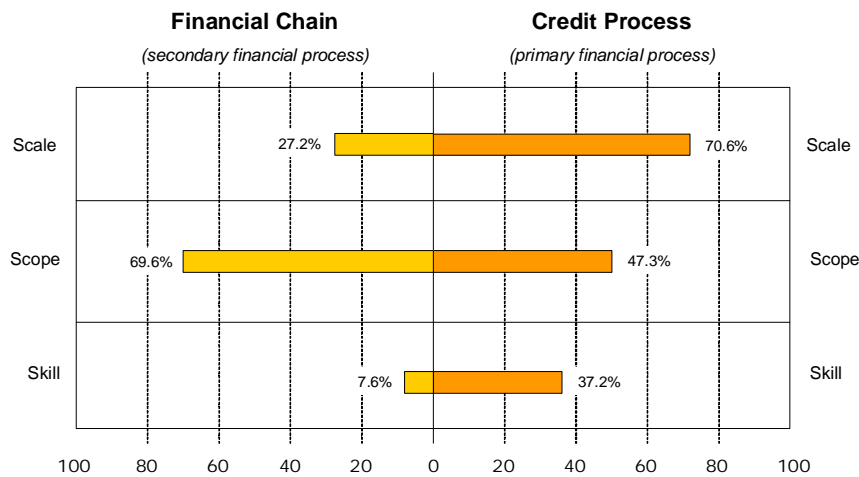


Figure 6: Economies of Scale, Scope, and Skill in Primary and Secondary Financial Processes

Economies of Scale

For secondary financial processes, only 27.2% of the CFOs assume to realize economies of scale if they outsource (parts of) their financial chain; only 17.6% see cost savings potentials from economies of scale. For primary processes, this question was subdivided into economies of scale realized by reducing headcount and as resulting from efficient IT utilization. In both dimensions results differ significantly from the Financial Chain Study. For headcount (“HR”) and IT, the overwhelming majority of the respondents expect the service provider to be able to realize economies of scale (HR: 72.7%, IT: 69.5%). 70.6% did not agree to the statement that a service provider could not achieve additional economies of scale.

Economies of Scope

More than two out of three (69.6%) claimed that there are such high task interdependencies within the Financial Chain that outsourcing of selected process parts cannot be efficient. In contrast, in the Credit Process Study less than half of the participating banks (47.3%) had the same opinion about economies of scope. Comparing these values indicates that the managers responsible for the credit business are increasingly thinking in terms of industrialization (i.e. modularization of

processes, business process outsourcing etc.), even though they are not much advanced yet in terms business process optimization strategies. Surprisingly and quite contrary to common expectations, the industrial managers responsible for the Financial Chain seem to be much less ‘industrialized’ in their perspective on business process design.

Due to regulatory issues, there are additional constraints in the financial industry that would outlaw complete outsourcing. Therefore the only valid option here is selective sourcing. In accordance with this constraints, we also asked if it would be possible (not necessarily efficient) to outsource at least parts of the credit process. This was only negated by 22.7%. Extending the analysis on economies of scope in the Credit Process Study, 64.8% of the respondents agreed to the statement that the common use of shared resources (IT and employees resp. their expertise and competence) enables competitive advantages.

Economies of Skill

Since outsourcing can be an important means of improving a firm’s value chain with regard to specialization and therefore to utilizing the partners’ expertise, the question of the extent of appreciation of that competence has become crucial for a firm’s readiness to redesign its value chain. Our empirical studies reveal some surprising differences between the respondents’ perception of the service providers’ competence in primary and secondary financial processes. For secondary financial processes, 60.9% of the CFOs consider the core competence concerning financial chain management to be inhouse and are therefore often reluctant to consider outsourcing. Only 7.6% believe the opposite: a sourcing provider is actually more competent in executing parts of the Financial Chain. In contrast, significantly more respondents for credit processing believe that a service provider has a higher competence (37.2% agree).

Relationship of the Constructs

For investigating the effects of economies of scale, scope, and skill on the perceived BPO potential, we used SEM analysis and applied the Partial Least Squares method (Chin 1998; Wold 1985) by using the software package SmartPLS, version 1.1 (Hansmann et al. 2004). Because of the few actual BPO activities in both investigated process domains (see section 4.1) we were not able to implement “BPO” itself as the affected construct. Instead, we used “BPO Potential”. As there are structural differences between the process domains we had to use slightly adapted (but consistently reflective) indicators as listed in the Appendix. The results are shown in Figure 7. The AVE, composite reliability and indicator loadings can be found in the Appendix. The composite reliability of the scope construct in the Credit Process Study is slightly below the recommended 0.7-threshold, the square roots of the AVE measures are all larger than the correlations with other constructs.

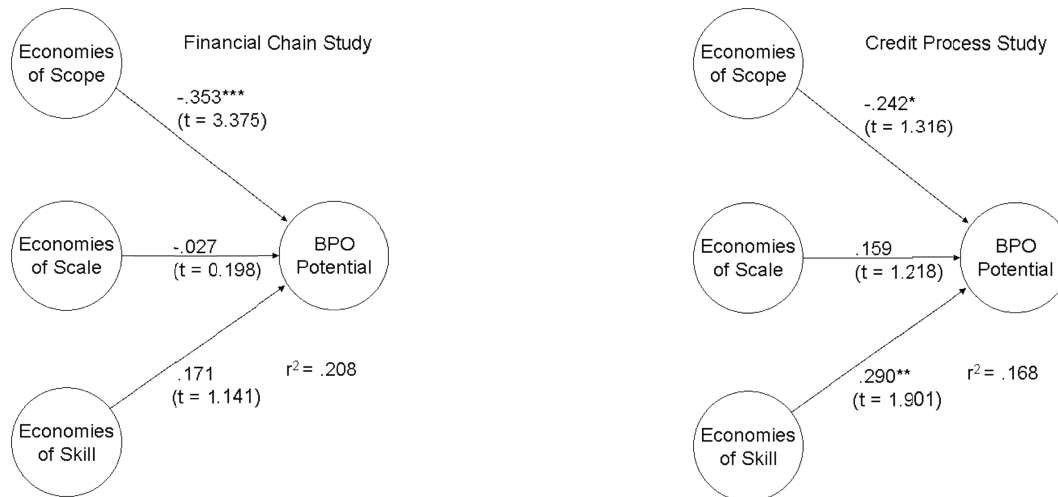


Figure 7: PLS Results (significance levels: *≤ 0.9, **≤ 0.95, ***≤ 0.99²)

In both studies the negative impact of scope effects between sub-processes on outsourcing potential can be identified. Furthermore, the impact of economies of skill can be shown (which is significant only in the Credit Process Study).

² Because the normal distribution requirement was not met by some of the indicators, t-values were generated by using the Bootstrapping algorithm.

Structural differences between both surveys only show when looking at the impact of scale effects. While in the credit business there is at least a weak positive relationship, in the Financial Chain Study this relationship is non-existent.

Discussion

The descriptive results show a clear difference in the perception of BPO potential between CFOs and Chief Credit Officers. In the financial chain, perceived scope effects play a significantly stronger role than economies of scale and skill. This is different in the Credit Process Study. Here, the impact of scope effects is regarded as being less important while the potential associated with scale effects is seen by many more respondents. Economies of skill play the smallest role in both studies. Nevertheless – compared to the CFOs – more Chief Credit Officers appreciate the sourcing provider's higher competencies.

Summarizing the descriptive part of our results, credit processes (primary financial processes) show a higher potential of industrialization in terms of modularizing single activities and outsourcing them to cost-efficient service providers than processes of the financial chain (secondary financial processes). The two main explanations are these: First, as German banks are currently facing high competitive pressure, the demand for process optimization within the core business is a key topic. In other industries, the optimization of financial processes such as the financial chain is still at in a rather early stage. Second, bank managers have much less experience with BPO, compared to other industries. Therefore, they might have a much more visionary and open-minded view on the effects of outsourcing parts of their business. In the last few years so-called *credit factories* have been established in Germany which are able to insource almost every sub-process of the (retail) credit business. Their first – rather frustrating – experiences on cost reduction show that process standardization and economies of scale are not as easy to realize as it might seem.

The missing relationship between economies of scale and BPO potential in the Financial Chain Study can partly be explained by the low fraction of respondents which see further economies of scale realizable by outsourcing and the rather weak operationalization in the PLS model. Because the financial chain of the Fortune 1,000 companies is either a very repetitive process (due to the company size; mass selling and services, e.g. TelCo providers) or consists of rather complex and branch-specific sub-processes (due to a complex product structure; e.g. plant construction), outsourcing could generate almost no further scale effects because (in the first case) it has already reached a sufficiently large process volume or (in the second case) the need for process standardization cannot be met. In contrast, the volume of SME credit processing within the German Top-500 banks is significantly lower and further scale effects are deemed possible. A further argument for divergent results may be the less granular analysis object of the Financial Chain Study which covers more than one specific business process (like in the Credit Process Study). Holzhäuser et al. (Holzhäuser et al. 2004) argue that surveys which analyze scale economies on a firm level within the financial services industry often identify no or only marginal scale effects (e.g. (Berger et al. 1999)) while analyses on a process level got positive results (such as (Adams et al. 2002; Schmiedel et al. 2002)).

The causal model we propose in this paper does not try to explain all causal effects which imply the BPO potential of particular business processes (as e.g. is done in (Dibbern et al. 2001)), therefore the low r^2 is rather unproblematic. Objective of this analysis was to determine the trade-offs between economies of scale, scope, and skill regarding the potential of BPO. We expect complexity and the specificity of the particular business function (increasing transaction costs) (Lacity et al. 1995; Williamson 1985), the function's strategic value (increasing business risks) (Dierickx et al. 1989), the firm's overall business strategy (focussing on core competencies) (Prahalad et al. 1990), and sourcing activities of the competitive environment ("bandwagon effect" (Lacity et al. 1993)) to be further important drivers resp. inhibitors on the (perceived) BPO potential

CONCLUSION

This paper gives an inter-process comparison of economies of scale, scope, and skill associated with BPO of financial processes.

The estimated *scale economies* resulting from BPO differ substantially in the two studies. Chief Credit Officers in banks see substantial scale economies for specialized providers, quite in contrast to CFOs in non-banks. Both processes tend to be repetitive in their back-office parts. They require the same resources (HR and IT) and should therefore have a similar production cost structure.

Most participants of the Financial Chain Study have been industrial companies which should usually have a much higher expertise regarding process modularization and selective outsourcing. Anyhow, these firms evaluate existing task interdependencies (*economies of scope*) as much stronger impediments to selective outsourcing than banks in the Credit Process Study. Therefore, a first cultural obstacle towards modularization and restructuring the banking value chain seems to have been overcome.

The most surprising differences were found between the evaluations of internal vs. external competence (*economies of skill*). While managers of the secondary process consistently evaluated their own competence higher than the sourcing providers', the picture completely changes when looking at the Credit Process Study. In contrast to the proposition of the core competence view, the studies reveal that bank managers are much less reluctant to accept the potential benefits of outsourcing in terms of economies of scale and skill. Additionally, the Chief Credit Officers consider economies of scope less important inhibiting factors for outsourcing than CFOs. As the credit process represents a primary process and the financial chain merely a secondary process, one could have expected the opposite.

These results are indicators for a beginning industrialization in banking credit processes in Germany. Actually, only few financial institutes in our Credit Process Study have outsourced parts of their processes yet. However, the responding managers see selective outsourcing as a feasible way to rearrange the banking value chain.

Parts of our further research will be more detailed investigations on financial process characteristics (in terms of economies of scale, scope, and skill) by conducting case studies in the credit business and the financial chain. We will try to develop modularity measures for financial business functions for deriving more rigorous indicators for the construct of scope economies. Another part of our research is working on the formal derivation and the empirical validation of financial production functions (esp. the role of IT and of IT alignment). These building blocks will be the foundation of a comprehensive investigation on the industrialization potential of particular financial processes to provide substantiated sourcing decision support on granular business functions and their underlying IT resources.

ACKNOWLEDGMENTS

This work was developed as part of the sourcing framework of the E-Finance Lab. We are indebted to the participating universities and industry partners.

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APPENDIX

The following tables give the detailed results of our analytical findings, complementing the results presented in Figure 7.

Construct	Indicator	Description	Scale	Loadings	Descriptive results
Financial Chain Study					
Economies of Scale	SCALE	There are no further scale effects realizable by BPO	1 – Totally agree 5 – Totally disagree	1.000	avg = 2.81 sd = 1.068
Economies of Skill	SKILL	A sourcing provider is more competent in operating the process parts than our own firm.	1 – Totally disagree 5 – Totally agree	1.000	avg = 2.10 sd = 1.001
Economies of Scope	SCOPE1	Selective sourcing would be efficient	1 – Totally agree 5 – Totally disagree	0.867	avg = 3.61 sd = 1.093
	SCOPE2	Caused to very tight process integration selective sourcing would not be efficient	1 – Totally disagree 5 – Totally agree	0.779	avg = 3.67 sd = 1.065
	SCOPE3	Integration provides more optimization potential than the selective optimization of singular process parts	1 – Totally disagree 5 – Totally agree	0.603	avg = 4.01 sd = 0.972
BPO Potential	BPOPO1	Processes of the Financial Chain are outsourceable	1 – Totally disagree 5 – Totally agree	0.779	avg = 3.27 sd = 1.345
	BPOPO2	The process of qualification can be operated externally	0 – not possible 1 – possible 2 – planned 3 – realized	0.654	avg = 0.48 sd = 0.728
	BPOPO6	The process of dispute management can be operated externally	0 – not possible 1 – possible 2 – planned 3 – realized	0.643	avg = 0.45 sd = 0.841
Credit Process Study					
Economies of Scale	SCALE1	BPO would imply scale effects from employee reductions	1 – Totally disagree 5 – Totally agree	0.742	avg = 3.79 sd = 0.894
	SCALE2	There are no further scale effects realizable by BPO	1 – Totally agree 5 – Totally disagree	0.896	avg = 3.84 sd = 0.924
Economies of Skill	SKILL1	Credit handling / servicing is our core competence	1 – Totally agree 5 – Totally disagree	0.759	avg = 2.31 sd = 0.999
	SKILL2	Risk monitoring is our core competence	1 – Totally agree 5 – Totally disagree	0.845	avg = 1.88 sd = 0.891
	SKILL3	Workout is our core competence	1 – Totally agree 5 – Totally disagree	0.711	avg = 2.51 sd = 1.108
Economies of Scope	SCOPE1	Competitive advantages from shared resources	1 – Totally disagree 5 – Totally agree	0.945	avg = 3.72 sd = 0.768
	SCOPE2	Integration provides more optimization potential than the selective optimization of singular process parts	1 – Totally disagree 5 – Totally agree	0.424	avg = 3.20 sd = 1.063
BPO Potential	BPOPO1	Optimal sourcing strategy of credit handling/servicing	1 – make 3 – partially make/buy 5 – buy	0.807	avg = 2.02 sd = 1.543
	BPOPO2	Optimal sourcing strategy of risk monitoring	1 – make 3 – partially make/buy 5 – buy	0.697	avg = 1.25 sd = 0.866
	BPOPO3	Optimal sourcing strategy of workout	1 – make 3 – partially make/buy 5 – buy	0.773	avg = 2.18 sd = 1.613

Table A1: Description of indicators and loadings

AVE / Correlations	Financial Chain Study				Credit Process Study			
	SCALE	SCOPE	SKILL	BPOPO	SCALE	SCOPE	SKILL	BPOPO
SCALE	1.000				0.676			
SCOPE	-0.315	0.574			0.002	0.537		
SKILL	0.185	-0.511	1.000		0.061	0.041	0.598	
BPOPO	0.116	-0.432	0.346	0.483	0.176	-0.232	0.290	0.578

Table A2: Average Variance Extracted (AVE) and Correlations

	Composite Reliability	
	Financial Chain Study	Credit Process Study
SCALE	1.000	0.805
SCOPE	0.798	0.669
SKILL	1.000	0.816
BPOPO	0.735	0.804

Table A3: Composite Reliability