Business Process Management beyond Boundaries? –
A Multiple Case Study Exploration of Obstacles to Collaborative BPM

Bjoern Niehaves
European Research Center for Information Systems
bjoern.niehaves@ercis.uni-muenster.de

Jörn Henser
Siemens AG
joern.henser@siemens.com

Abstract
The success of Business Process Management (BPM) projects heavily depends on effective collaboration. Specifically, collaboration with actors from outside an organization (such as customers, suppliers, or distributors) is becoming increasingly important. Despite the significance of this phenomenon, little research has yet been done to systematically investigate into the potential obstacles that organizations might encounter when engaging in such types of BPM projects. Therefore, we apply a qualitative study of three in-depth case studies in order to explore obstacles to BPM collaboration with firm-external actors. As a result, we offer the following contributions: Theory-wise, we develop a theoretical framework for studying emergent collaboration phenomena and elaborate the nature of collaboration in BPM by introducing three “collaboration idealtypes” which specify the set of actors involved. Then, we present an empirically grounded overview of potential obstacles to collaborative BPM projects that involve firm-external actors. Finally, we lay out elements of a problem-oriented theory which contributes to addressing challenges and to harvesting the potential benefits of collaboration in BPM projects.

1. Introduction

Significant developments in management, economics, and organization have fueled the study of organizational boundaries [50]. Major drivers include, for instance, the increasing importance of global value chains [25] and production networks [26], of interconnected firms [40], collaboration dynamics [34], outsourcing [21], business process outsourcing [24], and the increasing potential of information systems [54]. While the boundary phenomenon has already been intensively studied on the level of the business processes [6], little research has yet systematically examined the implications of boundary-blurring business processes for Business Process Management (BPM). So far, research in BPM acknowledges that boundaries are blurring in BPM as managing collaboration, networks, and governance is becoming increasingly important and can be regarded a key challenge to BPM research and practice [57]. However, literature does not yet provide theory, models, vocabulary, and frameworks [20] to a sufficient extent to support organizations in their exploration of new pathways to systematically make use of know-how that lies outside of an organization’s boundaries through BPM collaboration.

Collaboration is a concept widely used in information systems [39]. However, very different problems inhere in BPM collaboration that a) solely involves actors inside of the realms of an organization and b) actors from outside of the organization. BPM maturity research [22] [57] indicates that BPM collaboration with actors from outside an organization’s boundaries will be a major challenge that still lies ahead for most firms. We reflect on these challenges this paper poses the research question:

What are potential obstacles that may restrain organizations from expanding their BPM from an endocollaborative to an omnicollaborative state?

Adopting an explorative qualitative approach, the paper is organized as follows. After reviewing the relevant literature on BPM and developing a theoretical foundation for investigating into obstacles to omnicollaborative BPM, we set out methods and data of a multiple case study analysis. The analysis spans three settings and is based on multiple sources of evidence, including 19 expert interviews. Following the discussion of results, we reflect on the implications for theory and seek to open up new vistas for BPM and collaboration research. The final section draws some conclusions and considers the research limitations.

2. Theoretical background

2.1. Business process management

BPM has its seeds in Business Process Reengineering (BPR) and Total Quality Management (TQM). On the one hand, the concept of BPR emerged within a Massachusetts Institute of Technology’s management research program that examined the role that IT would play in organizations in the 1990s [53]. Early publications [19] [31] emphasized that BPR
projects are radical, revolutionary, and a one-time undertaking [75]. While both BPR and TQM have in common the focus on improving organizational processes, TQM on the other hand is considered a rather incremental, evolutionary approach aiming at continuous improvement [75]. We view BPM as a management approach that applies concepts of both punctuated and incremental change. This perspective is supported, for instance, by ARMISTEAD & MACHIN who argue that BPM is “concerned with how to manage processes on an ongoing basis, and not just with the one-off radical changes associated with BPR” [5]. Accordingly, BPM can be considered a holistic approach to the way in which organizations are managed [5] [57]. Within this paper, we therefore understand BPM as a set of recurring projects that aim at the continuous change of organizational procedures (for focus on change aspects see [36] [61]). For that reason, BPM projects should be considered as being embedded in a relatively stable structural organizational setting and do not imply, for instance, business process re-definition in the move of company mergers. The focus of BPM projects can range from purely organizational to more technical perspectives [28] [33] [57] [64].

2.2. Boundary-blurring processes and process management

Organizational boundaries constitute a central phenomenon in management and organization research. Despite problems of their operational measurement, at their core, organizational boundaries describe “the walls of an organization”, most commonly described as the realms of a formal structure, the firm (for a comprehensive theory discussion see [60]). The concept has been studied for decades and is considered one of the most important concepts in organizational research [47]. Grand trends in management, economics, and organization have revitalized and fueled the study of organizational boundaries [50]. Drivers include the increasing concern of global value chains [25] and production networks [26], of interconnected firms [40], collaboration dynamics [35], outsourcing [21], business process outsourcing [24], and of developments in information systems [54]. Reflecting such developments, ASHKENAS ET AL. argue the model of the boundaryless organization [6]. Conceptually, an organization has external boundaries that separate it from actors outside of the organization, such as its suppliers and customers [63], and internal boundaries that present demarcation of departments. Here, we use the term organizational boundary synonymously to external boundary and, for the case of internal boundaries, would state explicitly otherwise. In a boundaryless organization the goal is to develop greater flexibility and responsiveness to change and to enable the free exchange of information and ideas [6]. The authors argue that a boundaryless organization behaves more like an organism promoting better integration and closer partnerships with suppliers and customers. Such view is animadverted however, for just strikingly ignoring the factual existence of the boundary phenomenon and critics [50] identify the need for a realistic and mature treatment of organizational boundaries. Building on these arguments, we acknowledge that businesses processes are highly crossorganizational, but we recognize the existence of organizational boundaries.

The emergent theme of collaboration in BPM reflects the trend of boundary-blurring business processes. We identify that a large body of research has focused and identified trends of boundary blurring on the level of business processes [24] [25] [35] [40]. Concurrently, research acknowledges that boundaries are also blurring on the level of BPM as managing BPM collaboration, networks, and governance seems to become increasingly important and can be regarded a key challenge to BPM research and practice. Early in the development of business process-oriented management, it was recognized that BPM projects can only be effective if BPM teams are made up of people from both inside and outside of the organization [32]. Internal and external orientation and learning have long been considered success factors for BPM projects [19]. Specifically, BPM literature discusses the importance of collaboration of organization-internal actors, such as top management [19], middle management [29], employees [12], and the importance of collaborating with external actors, such as lawmakers [1], customers [65], suppliers [72], distributors [57], software vendors [2], and BPM consultants [69]. While collaboration has extensively been promoted as crucial to the success of BPM projects, what future developments of collaboration in BPM are to be expected?

The task of managing collaboration in BPM becomes increasingly important. Managing “BPM networks” [57] is an integral part of the maturization of an organization in its BPM activities [22] [56] [57]. Often, business processes are too narrowly defined [30]: They are “ending” at the organizational boundaries and relevant stakeholders [23] are not included in BPM projects [57]. According to research on BPM maturity, the effective collaboration with the (external) stakeholders of an organization (such as customers, suppliers, or distributors) in its BPM projects is an integral characteristic of organizations with high BPM maturity, of “intelligent operating networks” [22]. The stimulation, the management, and the exploitation of BPM networks and collaboration
can be regarded as a key challenge to the practice of organizational BPM.

2.3. Obstacles to omnicollaborative business process management

Collaboration [Latin: com=together, laborare=to labor, to work] is a concept widely used in information systems (for instance, interorganizational systems [39]; offshore collaboration [41]; distributed system development [38]; virtual teams and group support systems [14]; digital consumer networks [4]. Drawing from prior literature on collaboration, specifically on actors in BPM networks, we introduce different degrees of BPM collaboration with regards to the location of the actors involved. According to BPM maturity research, a large share of organizations has already addressed issues of BPM collaboration inside of the organization, for instance, involving organization internal stakeholders such as middle management and employees. Moreover, research indicates that collaborating in BPM with actors outside of organizational boundaries will be a major challenge that still lies ahead for many organizations. Here, we argue that in order to get a better hold of the phenomenon we need a conceptual differentiation between different types of collaboration and hence we introduce three theoretical idealtypes [67] of BPM distinct in the degrees of collaboration: 1) Non-collaborative BPM associates with one or more single individuals that conduct non-coordinated efforts to document, reflect on and to alter business processes. These might be staff members who reflect on their individual work procedures. 2) Endocollaborative BPM [New Latin/Greek: endo=inside, within] describes collaborative BPM that involves actors only from within a defined entity. For example, it could be that members of a particular organization collaborate with other members of that company. However, it could also be applied to the department level or other types of defined entities. As endocollaborativity can have different extensions, in this paper, we define the entity of analysis being the formal legal organization (the firm). Accordingly, the idealtype of endocollaborative BPM describes the collaboration of firm-internal actors. 3) Omnicollaborative BPM [Latin: omni=all, every] is in this context to be understood as BPM that involves firm-internal as well as firm-external actors. As a result, the notion of non-collaboration, endocollaboration, and omnicollaboration specify prior theoretical perspectives on the phenomenon: collaboration addresses questions of working together while the three concepts elucidate the set and the relationship of actors involved.

While literature already provides us with a rich body of knowledge that promotes, explains, or reports implementations of BPM collaboration [20] [56], many organizations have, however, not taken this path (yet). While we argue, as does mainstream literature, that BPM collaboration can be immensely valuable to organizations, still, organizations in practice seem to face major obstacles that restrict them from implementing and exploiting the benefits of omnicollaborative BPM. Despite the importance of understanding these obstacles, little research has yet been undertaken from a problem-oriented perspective. In the tradition of failure-explaining studies [42] [44] we seek to provide explanation for why actors inside a firm do not work together (and communicate about BPM) with actors outside of that firm. We thus focus on theorizing the obstacles that arise for organizations when attempting to take the step from endocollaborative to omnicollaborative BPM. This analytical perspective comes with the assumption that there do exist cases of endocollaborative BPM, however, we do not neglect good present examples of omnicollaborative BPM. Also, in practice we expect to find the existence of external collaboration with particular actors, e.g. consultants, and no external BPM-related collaboration with other actors, e.g. with customers, in the same setting at the same time.

3. Research methodology

3.1. Case Study and case settings

Investigating potential obstacles to omnicollaborative BPM, we chose to conduct three in-depth qualitative case studies. Case studies have a rich tradition in qualitative IS research [46]. They represent a research strategy well-suited for exploratory research because of providing a comparatively high flexibility in regard to the research model, the phase of data collection and data analysis [73]. We target to identify and structure obstacles of omnicollaborative BPM and we do not (yet) intend to statistically test specific hypotheses. The three selected cases had to fit our given research purpose and should have the potential to allow for a future meaningful cross-case analysis [73]. Against this background, criteria for case selection included the firm size, here, minimum annual turnover of 100 Million € and number of employees greater than 500. Moreover, literature discusses the impact of ISO 9001 certification for BPM (for details of ISO 9001 and BPM see [9]). Therefore, we selected three large organizations that have and have not pursued and achieved an ISO 9001 certification (see Table 1). The three case companies operate in different private sector industry branches providing an industry-independent analysis of potential obstacles. For reasons of access convenience, all TELCO, BANKING, and
CHEMICAL, are European companies and thus have to be viewed in relation to this context.

TELCO finds itself among the five biggest telecommunication companies in Germany. Here, the objectives of BPM circle around the documentation and optimization of organizational procedures. Here, the more formal definition of workflows – as the basis for a workflow management system – is of greater relevance as well. After reorganization efforts in 2007/2008, BPM is now divided into three departments either focusing on customer residential services, business services, or network services. All BPM activities are coordinated by the BPM department which operates as a centre of excellence. Such structural setting seeks establish strategic alignment of all BPM activities and, specifically, to develop and to synchronize companywide BPM methods and guidelines. At TELCO, all core processes are documented in the notation of event-driven process chains (EPC) while using ARIS Business Architect as major BPM tool. Company-wide, all employees have access to the processes documented. Concerning process improvements, TELCO uses a model of process owners, process managers, process experts and process coaches. Process owners take the responsibility for the execution of processes while process managers administer the continuous improvement of processes. Process experts represent employees from operating departments who have deep process knowledge and participate in process improvement workshops. Process coaches support the introduction of major process changes by giving trainings to employees. TELCO explicitly states its customer as an important process stakeholder and, therefore, proposals and complaints occurring in customer service processes are reported directly to process managers.

BANKING’s business model circles around savings and loans for private customers. Main objectives of BPM are process optimization, benchmarking with affiliated companies, and internal audits of process execution. Responsibility for BPM lies with the organization department. Processes are documented in textual form and categorized in process catalogs. Due to a relatively stable market environment, business processes are not subject to frequent changes. At BANKING, process-based performance indicators are the basis of process controlling and are used as a starting point for regular process improvement activities. Once a year, process indicators are compared between different units of the firm and between those of affiliated companies. Significant variations are analyzed and if necessary, process variations are discussed with employees of associated companies. Another source for process improvements are department-internal audits which report on process execution performance. Every three to four years, the firm carries out a comprehensive survey in order to assess customer satisfaction with service delivery.

CHEMICAL is part of a worldwide operating group and focuses on chemical products for key accounts. BPM activities at CHEMICAL focus on process documentation and obtaining the ISO 9001 certification (since 1997). The company has no department which is fully responsible for all BPM activities. Instead, as the company is ISO 9001 certified, mainly quality management administers the necessary documents and BPM-related tasks. Once a year, an external audit company examines ISO certification-relevant process documentations. In many BPM projects, the IT department plays a moderating role. Regarding BPM notations and tools at CHEMICAL, the IT and the quality management departments do apply different standards. Accordingly, there is little exchange of process knowledge even between these two internal actors and the firm has to deal with largely dissimilar business process descriptions. Habitually, BPM project teams consist of internal actors only.

3.2. Data collection and analysis

The period of intensive data collection lasted from 2008 to 2009, with a prior wave serving the purpose of selecting adequate cases studies with regard to the research question (January 2008 to September 2008). We employed multiple data collection methods in order to exploit the synergetic effects of combining them via triangulation [73]. Three sources of evidence are included in our analysis: focused individual interviews (primary method), direct observations, and documentary information.

1) Focused Individual Interviews. The primary sources of evidence are interviews with the key actors in a firm’s BPM efforts. Ranks of interview partners included, for instance, head BPM unit, head IT department, head organization department, head controlling, and head quality management. When contacting our case study organizations, we were directed to a contact person, habitually the one formally responsible for BPM in the firm. Being the first experts interviewed, they connected us with other significant actors in each setting. Regarding the interviewee selection, we thus followed a purpose-driven snowball sampling approach [58]. As a result, five to nine interviews were conducted per case (nine at TELCO, each five at BANKING and CHEMICAL) leading to a total of 19 interviews, 1,190 minutes of interview time, and about 77,000 words of transcript. An interview thus lasted more than 1 hour in average (see Table 2).

2) Documentary Information. Several materials
produced by or about the firms were incorporated as supplementary source of evidence. For instance, business process documentations, organization charts, business press articles, internet sources, research reports, project documentations, minutes of project meetings, or company reports helped us to reconstruct each case study setting in great detail and contributed to further understanding the obstacles to omnicollaborative BPM for each firm.

3) Direct Observations. We were able to directly observe the settings and relevant events throughout a total of 13 site visits. This included, for instance, observing the working procedures (e.g., call center operations and process handling at TELCO) and analyses of BPM tools applied. These direct observations yielded additional understanding of each case study setting.

The initial set of questions was derived from BPM maturity research (especially [22] [57]) and covered aspects of, for instance, BPM strategy alignment, process architecture, BPM controlling, BPM organization, BPM methods and tools, process lifecycle management, BPM training, BPM project management, and BPM recruiting. As for each of these aspects, a set of content-oriented questions was presented which was then followed by a comprehensive discussion of the role of external actors for the specific tasks. Here, reasons for not involving external actors were examined intensively.

A total of 20 hours of interviews, equating to about 77,000 words of transcript, were included in the analysis. As initial step, both authors (open) coded the data individually for any obstacles to omnicollaborative BPM, while all interview data was reviewed in the light of available documentary information and of direct case observations. Afterwards, the resulting codes and coded data were contrasted among the two authors’ perspectives. In case of unresolved differences, a third party was consulted. Then, the codes were interpreted and structured in the light of the theoretical background. Here again, if no consensus was achieved among the first and the second author, a third party was involved for conciliation. The interpretation of data and refinement of theory elements were highly recursive and formed a continuous interplay [48]. Such approach yielded the advantage that, both, the authors’ understanding of the case findings as well as the refinement of theory gradually improved. As a consequence, variables with impact on omnicollaborative BPM were derived. As prior theory knowledge was applied and refined in a continuous interplay with the data, we followed a procedure closely related to a “Straussian” approach to grounded analysis [18] which is most frequently applied in IS research [45]. This approach is increasingly common in the IS research literature because the method has proven “extremely useful in developing context-based descriptions and explanations […] of phenomena” [48]. As for this paper, the case-based descriptions of obstacles to omnicollaborative BPM are presented in the following section, possible explanations in the section thereafter.

4. Findings

The case companies exhibit different degrees of omnicollaboration. TELCO and BANKING show first approaches to omnicollaborative BPM while CHEMICAL still pursues endocollaborative BPM. One example for omnicollaboration at TELCO is a project executed together with an external consultancy with the goal of optimizing business processes and building up BPM methods and tools. In this project BPM responsibilities of TELCO and BANKING were redefined and documented. CHEMICAL, on the other hand, shows a more endocollaborative approach with a focus on BPM training and process documentation.

Table 1. Overview case settings

<table>
<thead>
<tr>
<th>Industry</th>
<th>TELCO</th>
<th>BANKING</th>
<th>CHEMICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Turnover</td>
<td>1,200 Million €</td>
<td>8,000 Million €</td>
<td>550 Million €</td>
</tr>
<tr>
<td>Number Employees</td>
<td>2,300</td>
<td>800</td>
<td>1,300</td>
</tr>
<tr>
<td>ISO 9001-2000 Cert.</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>BPM Organization</td>
<td>Independent BPM department managing strategic and operative BPM activities (24 employees)</td>
<td>BPM responsibilities lie with the organization department</td>
<td>Not clearly defined: BPM responsibilities both with Quality Management and IT department</td>
</tr>
<tr>
<td>BPM Coverage</td>
<td>Core processes documented, Change Management activities, introduction of first process indicators</td>
<td>Core processes documented, process indicators defined</td>
<td>Core processes documented</td>
</tr>
<tr>
<td>Process Change Frequency (Comparing the Four Cases)</td>
<td>High process change frequency</td>
<td>Low process change frequency</td>
<td>Medium process change frequency</td>
</tr>
</tbody>
</table>
and profited from knowledge and best-practice sharing. However, the majority of BPM projects were conducted in an endocollaborative manner with coding providing the following nine obstacles that hinder omnicollaborative BPM:

1) Resource Requirements. Collaboration with external actors requires companies to invest time and personnel resources. By explaining information, bargaining, and policing costs, transaction cost theory provide explanation for resource requirements that are necessary for transactions between actors. These costs are generally higher in omnicollaborative BPM transactions than in endocollaborative BPM transactions. The case findings permit a distinction between (a) resource requirements related to collaboration in general and (b) temporal resource requirements that cannot be satisfied due to a current lack of capacity. TELCO sees the time and efforts related to BPM collaboration as disadvantages. At TELCO the head BPM for Billing & Cancellation points out that the more actors are integrated in a BPM project, the more efforts have to be undertaken. Therefore, TELCO intends to limit the number of participants in process innovation workshops to allow for “efficient” working conditions. BANKING and CHEMICAL do not refer explicitly to general resource requirements as obstacle to BPM collaboration. Considering temporal resource requirements, the head BPM of TELCO states that personnel are utilized to capacity and several innovation approaches have to be rejected. Especially, the IT department is affected. Due to capacity reasons, only 25% of the requirements can be implemented. Thus, the head BPM emphasizes that currently they have to concentrate on already known innovation potentials and do not profit from new ideas generated by collaboration. At BANKING, resource requirements are not discussed when asked about potential obstacles. CHEMICAL is in a phase of reorganization. Here, interview partners report that, at current state there was no time for targeted collaboration with external actors due to reasons of prioritization.

2) Knowledge Safeguarding. Knowledge safeguarding describes the behavior of companies protecting their knowledge. Companies do not want to risk losing internal know-how to competitors and therefore avoid collaboration with actors beyond the boundaries of the firm. This can be explained by expectations of opportunistic behavior. Opportunism is a central element of behavioral economics and declared as one of the reasons why transaction costs occur. Fear of opportunistic behavior of other actors can be seen as an obstacle to omnicollaborative BPM. In all three companies knowledge safeguarding is identified as obstacle to omnicollaboration. TELCO emphasizes that other companies are focused only on their own success. Thus, not all processes can be passed to other parties in a collaborative project since some processes contain important details of the company and could be exploited by others. At BANKING, the head organization department states that it was important to analyze exactly the risk of collaborating with other partners. Otherwise, core competencies could be lost. Too, the head of quality management at CHEMICAL argues that his company was scared of losing knowledge through collaboration. CHEMICAL identifies itself as market leaders and, especially this fact, would imply that more knowledge was lost than gained through collaboration.

3) Benefit Expectations. Benefit expectations describe the estimated returns through collaboration. A difficulty of grasping such variable is the fact that it often depends on a company’s prior collaborative experiences and capabilities. If a firm does not have a clear vision of potential advantages through collaboration, they tend to not engage in omnicollaborative

### 2. Data Collection Fact Sheet

<table>
<thead>
<tr>
<th></th>
<th>TELCO</th>
<th>BANKING</th>
<th>CHEMICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Site Visits</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Number of Interviews</td>
<td>9</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Interview Partners</td>
<td>- Head BPM</td>
<td>- Head Organization Department</td>
<td>- Head Quality Assurance</td>
</tr>
<tr>
<td></td>
<td>- Head Strategic BPM</td>
<td>- Head Credit Management</td>
<td>- Head Controlling</td>
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<tr>
<td></td>
<td>- Staff BPM</td>
<td>- Head Controlling</td>
<td>- Head Market Research</td>
</tr>
<tr>
<td></td>
<td>- Head BPM for Sales &amp; Order</td>
<td>- Head Internal Audit</td>
<td>- Head Logistics</td>
</tr>
<tr>
<td></td>
<td>- Head BPM for Billing &amp; Cancellation</td>
<td>- Head IT Department</td>
<td>- Head IT Department</td>
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<tr>
<td></td>
<td>- Head Cost Management</td>
<td></td>
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<td></td>
<td>- Head Service Controlling</td>
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<tr>
<td></td>
<td>- Head IT Department</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Staff Quality Assurance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Minutes of Interviews Time</td>
<td>625 minutes</td>
<td>320 minutes</td>
<td>245 minutes</td>
</tr>
<tr>
<td>Total Number of Words Transcribed</td>
<td>54,402 words</td>
<td>13,104 words</td>
<td>9,185 words</td>
</tr>
</tbody>
</table>
BPM. Firms develop their internal BPM structures and processes before they are able to comprehend and to harvest the potential benefits resulting through collaboration. At TELCO and BANKING, benefits and limitations of BPM collaboration are comparably well understood. Both companies feature a sophisticated appreciation of possible results from omnicollaboration in BPM projects. At CHEMICAL, interview partners state that external actors are not capable of providing them with relevant information. For instance, they do not see benefits in working together with a consultancy in a process improvement project.

4) Knowledge about Processes. Another obstacle is the missing knowledge about own business processes. Incomplete process documentations or a lack of understanding about the overall context do not allow for effective BPM collaboration. In the light of absorptive capacity, a company with a deficit in knowledge about own processes cannot efficiently absorb external information. Thus, a lack of knowledge about processes hinders omnicollaborative BPM. TELCO sees missing processes knowledge as obstacle to omnicollaborative BPM. At TELCO, there are some processes which are not entirely documented. This hinders BPM collaboration with externals. Regarding BANKING and CHEMICAL, no statements were found.

5) Knowledge about Partners. The lack of knowledge about the existence and the capabilities of potential external partners hinders omnicollaborative BPM. Without having a clear understanding of what external actors could contribute, firms find it difficult to choose an adequate partner in BPM collaboration. This is reflected by thoughts of transactive memory which argues a continuance-effect that causes persistence in collaboration schema. As for the cases of TELCO and BANKING, no supporting quotes were found. TELCO and BANKING have already conducted BPM projects involving external actors. Only CHEMICAL stresses that they would have problems finding an adequate partner with whom they could collaborate in BPM projects.

6) External Impressions. External impressions influence BPM collaboration and imply two different aspects depending on the time-reference: The first aspect corresponds to expectations of future negative external impressions. They can result from perceived unprofessional behavior. If process documentations show bad quality or employees are very limited in their BPM knowledge, the company could induce negative external impressions in a BPM project with other parties. The second aspect focuses on current positive external impressions which can lead to the belief that processes do not have to be improved. In the light of impression management, firms that either expect future negative external impressions or perceive current positive external impressions do not alter their communicative efforts in order to not endanger their impression on others. Regarding the fear of future negative external impressions through omnicollaborative BPM (aspect 1), we find contradictory opinions. At TELCO, the different interviewees state on the one hand that incomplete process documentations are not seen as a problem regarding collaboration and on the other hand emphasize that they can be an obstacle. At BANKING, the head IT states that they are perceived as very professional in BPM projects with externals. Regarding current positive external impressions (aspect 2), BANKING as well as CHEMICAL obtained good results in customer satisfaction analyses and therefore see no reason to further optimize their processes by working together with customers.

7) Firm-Internal Acceptance. Firm-internal acceptance describes the attitude of employees towards the work of and with external actors. If employees have reservations against externals, a joint collaboration in BPM projects becomes difficult. BANKING and CHEMICAL mainly see acceptance problems in projects with companies operating in the same sector. At TELCO, the head of BPM for Sales & Order acknowledges acceptance issues as a general problem, but claims that TELCO specifically would not face such.

8) Decision Power Control. In collaborative BPM projects decision power is divided between the participating actors. That implicates a loss of decision power control for collaborating companies. If the company is not willing to reach their goals through negotiation with other parties, they will not start joint BPM projects with externals. TELCO, BANKING and CHEMICAL show similar results. TELCO emphasizes that it is sometimes not possible to find a “common denominator” between the partners. BANKING and CHEMICAL point out that collaboration implies many negotiations and many compromises have to be accepted.

9) Decision Promptness. Decision promptness describes the speed of decision making in BPM projects. Depending on the type of the participating actors, decision making can be slower in an omnicollaborative BPM project than in a project conducted internally. Only BANKING mentions the aspect of decision promptness as potential obstacle to collaboration. The head IT states that endocollaborative projects are significantly faster than omnicollaborative ones.
5. Discussion

5.1. Towards a problem-oriented theory of omnicollaborative BPM

On balance, nine obstacles were identified through a thorough analysis of three in-depth case studies: 1) high resource requirements, 2) knowledge safeguarding behavior, 3) little benefit expectations, 4) little knowledge about own business processes, 5) little knowledge about potential collaboration partners, 6) expected external impressions, 7) low firm-internal acceptance of omnicollaborative results, 8) fear of loss of decision power, and 9) lower decision promptness.

Building upon these obstacles and seeking for explanation of their occurrence we create an approach towards a problem-oriented theory of omnicollaborative BPM. We present theories already proven in the field of information systems research that allow for a meaningful analysis and explanation of the occurrence of these obstacles. In addition, we depict a series of factors that influence the occurrence and strength of the obstacles.

The following four theories provide insights into explaining the occurrence of obstacles towards omnicollaborative BPM:

A) Transaction Cost Economics (TCE). TCE is concerned with the costs incurred in making an economic exchange [16] [70] and has been heavily applied in IS research, especially for explaining the impact of information technology on a firm’s performance in different organizational configurations [3] [7] [15] [34] [47]. A firm’s omnicollaborative efforts, for instance the collaboration with a firm’s customers, might lead to more efficient and effective processes. However, extensive communication in an omnicollaborative BPM setting may cause transaction costs that could outweigh the potential benefits of process improvements. Hence, an increase of transaction costs could refrain a firm from implementing omnicollaborative BPM. TCE could be employed in order to explain which BPM projects should be realized in omnicollaboration and which should not against the criterion of economic advantageousness. Further studies could draw from the distinction between market, hierarchy, and hybrid governance forms, while omnicollaborative BPM can be regarded as hybrid governance [70]. The parameters specificity, uncertainty, and frequency allow the selection of the cost-optimal governance form [71]. We assume that the levels of these parameters can explain the magnitude of the obstacles resource requirements and knowledge safeguarding behavior. Hence, BPM activities could be analyzed regarding their specificity, uncertainty and frequency to make a decision about the optimal form of collaboration. For example, BPM activities that serve to build up BPM infrastructure, such as the introduction of a process modeling tool, would probably have a lower specificity compared to the optimization of a highly firm-specific process.

B) Absorptive Capacity Theory (ACT). Absorptive capacity describes the set of organizational routines and processes by which organizations acquire, assimilate, transform, and exploit knowledge [11] [17] [59] and has already been applied in the field of IS (for instance, [55] [66]). Firms derive competitive advantage through knowledge resources that are embedded in social relationships with other firms [37]. However, a necessary requirement for leveraging these external resources is the firm’s ability to absorb this information [17]. Therefore, a firm has to develop an adequate absorptive capacity in order to benefit from omnicollaborative BPM. In the light of ACT, the obstacles little benefit expectations, little knowledge about own business processes, and little knowledge about potential collaboration partners arise as a result of low absorptive capacity. We think that the transfer of ACT into BPM would be a fruitful approach to foster the understanding of obstacles to omnicollaboration and to further develop the concept of absorptive capacity (for a call to transfer ACT to ‘new contexts’ see [74]). For instance, the occurrence of incentive systems for process innovation proposals could be one determinant for measuring the acquisition dimension of absorptive capacity in BPM.

C) Transactive Memory Theory (TMT). TMT [8] [68] has already proven valuable to IS research (for instance, [49] [62]) explaining organizational memory-related phenomena. TMT indicates that prior collaborative experiences (transactions) with certain actors have a continuance effect on follow-up activities. Positive prior experiences fortify existing collaboration schema while collaboration involving new actors is exacerbated as no such confirmative feedback exists. We propose that, due to the TMT-effect, endocollaborative efforts are reinforced and that the corresponding communicative system is persistent. In order to exploit the full potential of collaborative BPM, firms need to make efforts to overcome endocollaborative structures by integrating external actors [22]. In doing so, employees develop initial understanding of an external actor’s expertise [13]. However, the integration of external actors only leads to a continuance effect, if employees (insiders) see the collaboration experience as positive [10]. Therefore, theory needs to explore factors that determine employee perception of BPM collaboration. Actor-specific views could provide additional value, e.g., what BPM means impact on transactive memory regarding collaboration with consultants, customers, or associated companies.
D) Impression Management Theory (IMT). IMT [27] [43 [51] states that persons try to communicate and manage a desired social identity among its stakeholders. Until now, IMT research focused mainly on person-to-person relationships [52], but our study provides evidence that impression management is significant too in relationships between companies and external actors (organizational level). IMT helps to understand why organizations collaborate or do not collaborate with external actors in BPM. For instance, literature (for instance, [22]) suggests that BPM collaboration with customers, by making use of their knowledge, could improve the quality of services and, in general, bears the potential to strengthen customer relationships. However, poorly documented processes and low BPM proficiency may turn BPM collaboration into a negative impression. Hence, organizations that perceive its own BPM achievements as deficient are afraid of leaving a negative impression with external actors and therefore avoid omnicollaborative BPM. Our study provides evidence that impression management effects differ considerably according to the specific actor and thus, a detailed analysis of the different types of actors against the background of impression management is necessary.

In addition to the four presented theories a cross-case analysis revealed three major factors of the case setting that contribute to explaining variations in the occurrence of particular obstacles, which are: a) BPM objectives of a firm b) type of BPM organization established, and c) industry branch. For BPM objectives, the case companies targeted process documentation, workflow management, internal audits, benchmarking, and reorganization. The responsibilities for BPM were either not clearly defined and thus shared between different departments (IT and QM), integrated into an organization-related department or assumed by an independent BPM department. By comparing the case studies we could also identify potential collaboration partners to which obstacles in omnicollaborative BPM apply: customers, suppliers, management consultancies, software consultancies, companies of other sectors, companies of the same sector, affiliated companies, and research institutions.

In order to develop a problem-oriented theory for omnicollaborative BPM we propose the following four major fields for further research:

A. Obstacle analysis and validation: Further studies have to be conducted to complement and validate the presented obstacles. Also, the obstacles should be compared with obstacles in general IT projects and projects of other fields to identify communalities and differences.

B. Theory analysis and development: The theories TCE, ACT, TMT, and IMT provide explanations for the occurrence of one or several obstacles. Using the presented linking points these theories should be applied and tested in further studies with the goal of developing a problem-related theory of omnicollaborative BPM.

C. Factor Analysis: Future research should further analyze the influence of factors of the case settings on the obstacles towards omnicollaborative BPM. Also, the effect of the intended collaboration partner in relation to the perceived obstacles has to be investigated.

5.2. Implications for practice

Our study offers major implications for practice: First, the results of the case study provide companies with an overview about potential problems that they could face on their way from endocollaborative to omnicollaborative BPM. Building on that, Business Process Managers can start deeper analyses about the firm-specific occurrence of the obstacles. Second, the cross-case variation analysis provides evidence that three major factors have a significant impact on the occurrence of obstacles to omnicollaborative BPM. While industry context could be considered as not alterable, Business Process Managers can focus on defining BPM objectives and designing the BPM organization. Our study shows that well-defined BPM objectives and an effective BPM organization can increase benefit expectations, firm-internal acceptance and knowledge about processes and partners, as well as reduce knowledge safeguarding behavior. Third, according to TMT, initial omnicollaborative BPM efforts should be used to generate positive collaboration experience. Therefore, these projects should be seen as reference projects and hence, the degree of difficulty and complexity should be reduced to assist the success of the project. Considering TCE, in addition, a trilateral governance form can support the management of first omnicollaborative BPM projects [70]. In the case of collaborating with actors such as suppliers or other companies, a third actor, e.g., a consultancy, could act as a moderator and safeguard the collaboration. Fourth, our study shows that firms refrain from omnicollaborative BPM because of lacking benefit expectations and thus for reasons of a cost-benefit misbalance. At this point, companies can profit from past research in BPM method engineering and can make use of existing business process modeling languages that were developed for a specific business problem, e.g. for the involvement of non-proficient customers. Such targeted BPM methods could improve the effectiveness of collaborative BPM, and potentially reduce costs. In addition, companies can benefit from current developments in collaboration tools. Omnicollaborative BPM implies making use of process knowledge beyond organizational boundaries.
In this regard, the application of Web 2.0 technologies in terms of process innovation 2.0 might offer fruitful perspectives.

6. Conclusions and limitations

We set out to examine obstacles to omnicollaborative BPM and conducted a comparative analysis of three in-depth case studies in the private sector. Our qualitative analysis involved multiple sources of evidence, including the data of 19 expert interviews which equate to 20 hours of interview time and 77,000 words of transcript. Our study yielded the following key contributions: 1) We elaborated the nature of collaboration in BPM by introducing three idealtypes of different degrees of collaboration with regard to the set of actors involved: non-collaboration, endocollaboration, and omnicollaboration. We build the argument that such differentiation is valuable to investigate into different types (current and future) of collaboration challenges in BPM. 2) We provided an empirically based overview of potential obstacles to omnicollaborative BPM and applied a cross-case analysis in order to identify potential influencing factors. 3) Based on these findings, we lay out elements of a problem-oriented theory which may assist in overcoming challenges and in harvesting the potential benefits of collaborative BPM.

These findings are, however, beset with certain limitations. In our study, we examined three in-depth qualitative case studies in a European private sector context. The period of intensive data collection lasted from 2008 to 2009 and supported a point in time-analysis. Against this background, we see potentially fruitful avenues for future research with regard to the sample size and focus. Extending the number of case studies could improve the robustness of our findings while longitudinal studies in the same three settings could reveal potential changes over time. Too, we see value in further investigating into contextual factors, for instance, by more extensively studying the impact of industry branches, comparing private and public sector settings, or comparatively analyzing the impact of national contextual variables in non-European settings. Above all, our qualitative multiple case exploration of obstacles to omni-collaborative BPM is intended to build a foundation for subsequent quantitative research endeavors and for further efforts to theorize and to design collaborative BPM.

7. References


1995, pp. 279-301.


