UNDERSTANDING DYNAMIC IS CAPABILITIES FOR EFFECTIVE PROCESS CHANGE: A THEORETICAL FRAMEWORK AND AN EMPIRICAL APPLICATION

Research-in-Progress

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Abstract

Process change remains a hot topic for both business and IT departments in organizations worldwide. In this research-in-progress paper, informed by the Dynamic Capability Theory of the firm, we develop a theoretical framework that contributes to the understanding of IT-enabled business process change, and elements of the dynamic capabilities that contribute to change success. Specifically, our framework differentiates between baseline and ad-hoc capabilities, and structures these capabilities in the three phases of sensing, seizing, and transformation. An application of our framework in a case setting suggests that baseline capabilities are activated and new ad-hoc capabilities built based on project specific features. Indeed, our framework when applied to two contrasting embedded cases within the same organization reveals the nature of dynamic capabilities that potentially affect IS and process change success. Limitations, plans to complete this research, and directions for future research are discussed.

Keywords: Business Process Management, BPM, Dynamic Capabilities, Process Change
Introduction

In today’s turbulent market environments, process change is a critical topic for both business and IT departments. Recent industry studies univocally report that business process improvement is the single most important priority on CIO agendas worldwide (for instance, Gartner 2010, McKinsey 2008). In fact, scholars in the IS field have addressed this topic intensively, focusing on Business Process Reengineering (BPR), Total Quality Management (TQM), and more recently on Business Process Management (BPM). BPR emerged out of a Massachusetts Institute of Technology research program, and was introduced to the IS literature in the 1990s (Davenport and Short 1990; Hammer 1990). BPR was conceived as a radical, one-time undertaking to completely redesign an organization’s business processes from a clean slate, and IT was perceived as an important driver for such redesign (Grover, Jeong, Kettinger and Teng 1995; Larsen and Myers 1999; Sarker and Lee 1999). In contrast, TQM was seen as an approach to constantly optimize and change business processes (Powell 1995). It is a rather incremental, evolutionary approach aiming at continuous improvement (Hung 2006; Zairi and Sinclair 1995). In recent times, BPM, which views TQM and BPR as complementary and unifies concepts from both BPR and TQM traditions (Armistead and Machin 1997) has gained in popularity both among researchers and practitioners (Corbitt, Wright and Christopolus 2000; Davenport 1993; De Bruyn and Gelders 1997; Harrison and Pratt 1993). Overall, BPR, TQM, and BPM are well-established approaches that aim at changing – be it innovating or improving – an organization’s business processes using capabilities from both inside and outside the organization’s boundaries, with IT being a key enabler (e.g. Akkermans and van Helden 2002; Fiedler, Grover and Teng 1995; Gasson 2006; Larsen and Myers 1999; Niehaves and Plattfaut 2011; Newman and Zhao 2008; Sarker and Lee 1999; van Grembergen and van Belle 1999; Willcocks and Smith 1995; Tarafdar and Gordon 2007).

In this article, we seek to develop and apply a theoretical framework that contributes to understanding IT-enabled business process change. Trkman (2010) argues that business process change concepts such as BPR, TQM and BPM are widely applied in practice, but lack a theoretical foundation. While some theories have been used to study mechanisms of business process change (e.g., actor network theory; Sarker et al. 2006), we agree with Trkman’s assessment that the process change literature has largely remained atheoretical. Our aim is to offer a contribution to the theoretical foundations underlying the study of IT-enabled business process (ITeBP) change, thereby addressing the void identified by Trkman (2010).

In order to achieve this research objective, the paper is structured as follows: In the next section, we discuss related theory and develop our research framework. We then set out the methodology and the results of our multiple embedded case study. We note that our goal here is not to provide a comprehensive list of capabilities needed for successful ITeBP change but to demonstrate the suitability of our framework. The discussion of the study’s implications for research and practice is followed by a short summary of our arguments and an outlook on future research.

Theory Background

In order to explain ITeBP change success, we first attempt to develop a sound theoretical understanding of business process change itself. Here, we draw from one of the major firm-theoretical perspectives, the Resource-Based View (RBV) which has a rich and distinguished tradition in IS research (Wade & Hulland 2004; Nevo & Wade 2010). The RBV conceptualizes organizations as a collection of resources. A resource is “anything which could be thought of as a strength or weakness of a given firm.” (Wernerfelt, 1984, p172) Resources comprise a) capabilities and b) assets (Wade and Hulland 2004). The term capability refers to the ability of an organization to perform a coordinated set of tasks for the purpose of achieving a particular end result (Helfat & Peteraf 2003). Assets are defined as anything tangible or intangible the firm can use in these processes (Wade & Holland 2004). Capabilities can thus be viewed as repeatable patterns of actions (Wade & Hulland) or coordinated set of tasks (Helfat & Peteraf 2003) that utilize assets as input (Amit & Schoemaker 1993, Helfat & Peteraf 2003). Dynamic Capability Theory (DCT), a variation of RBV, differentiates between two distinct types of capabilities: (1) Operational Capabilities are those “that reflect an ability to perform the basic functional activities of the firm, such as plant layout, distribution logistics, and marketing campaigns, more efficiently than competitors.” (Collis 1994, p145) They are geared toward the operational functioning of the firm (Zollo & Winter 2002). (2) Dynamic
Capabilities, on the other hand, have originally been conceptualized by Teece et al. (1997) as “the firm’s ability to integrate, build, and reconfigure internal and external competences [operational capabilities] to address rapidly changing environments” (p. 516). Dynamic capabilities do not directly affect the output of the firm in which they reside, but indirectly contribute to the output of the firm through an impact on operational capabilities (Helfat and Peteraf 2003, p. 999). Literature discusses a plethora of concrete dynamic capabilities, such as product development (Eisenhardt & Martin 2000, p. 1106) or research & development (Zollo & Winter 2002, p. 340). Other dynamic capability examples closely relate to the issue of process change, for instance developing manufacturing processes (Eisenhardt & Martin 2000, p. 1110), restructuring (Zollo & Winter 2002, p. 340), re-engineering (Zollo & Winter 2002, p. 347), quality improvement (Zollo & Winter 2002, p. 347), and the ability to adapt “operating processes through a stable activity dedicated to process improvements” (Zollo & Winter 2002, p. 340).

In this paper, we define the key constructs of our research framework based on DCT. We understand IT-enabled business processes (operational capabilities) as the performing of a coordinated set of tasks, utilizing information technology (IT) and other organizational assets, for the purpose of the operational functioning of the firm. On the other hand, we view the capabilities to change IT-enabled business processes as the ability of an organization to integrate, build, and reconfigure an organization’s IT-enabled business processes for the purpose of achieving a fit with the market environment. The capabilities to change IT-enabled business processes will be referred to as Dynamic IS Capabilities (DISCs, see Table 1).

### Table 1. Key Constructs

<table>
<thead>
<tr>
<th>Key Construct</th>
<th>Definition</th>
<th>Original Construct (Authors)</th>
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<tbody>
<tr>
<td>IT-enabled business processes (ITeBP)</td>
<td>The performing of a coordinated set of tasks, utilizing information technology (IT) and other organizational assets, for the purpose of the operational functioning of the firm.</td>
<td>Operational capabilities (a construct used in DCT): those capabilities geared towards the operational functioning of the firm (e.g., Collis 1994, Zollo &amp; Winter 2002) Socio-technical systems (e.g., Bostrom &amp; Heinen 1977, Mumford 1985, Pasmor 1988, Mumford 2003)</td>
</tr>
<tr>
<td>Dependent Variable: Change success</td>
<td>The degree to which the goals associated with altering an organization’s IT-enabled business processes are achieved.</td>
<td>Based on IT-enabled business processes (see above)</td>
</tr>
<tr>
<td>Independent Variable: Dynamic IS Capabilities (DISCs)</td>
<td>DISCs refer to the capabilities to change IT-enabled business processes: the ability to integrate, build, and reconfigure an organization’s IT-enabled business processes for the purpose of achieving a fit with the market environment.</td>
<td>Dynamic capabilities (used in DCT): those capabilities that do not directly affect output for the firm in which they reside, but indirectly contribute to the output of the firm through an impact on operational capabilities (Teece et al. 1997, Helfat and Peteraf 2003).</td>
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</table>

As a result of reviewing business process change in the light of this theoretical perspective, we are able to build upon and embrace the vocabulary, rich theory, and comprehensive findings of the DCT for studying ITeBP change phenomena. This includes the differentiation of Dynamic IS Capabilities based on two dimensions:

a) The degree of institutionalization of DISCs: Based on DCT, in our framework, we differentiate between baseline capabilities and ad hoc capabilities. On the one hand, baseline DISCs typically involve long-term commitments to specialized resources (Winter 2003). They represent learned and stable patterns which the organization systematically generates (Zollo and Winter 2002). These baseline capabilities are structured and persistent. They exist independent of a concrete change event (Barreto 2010). However, they must not be used in every change event. When they are used they become ‘activated.’ On the other hand, ad hoc DISCs [ad hoc; Latin: ‘to this’] emerge in a particular situation/change event. They are not highly patterned and not repetitious (Winter 2003, Helfat and Peteraf 2003). Organizations may make use of both types of DISCs to succeed in changing their ITeBP.

b) The phase in the DISC deployment process: Based on DCT, especially referring to Teece (2007), we differentiate between three sub-capabilities which could be considered phases of the DISC deployment
process, each having a distinct objective. Sensing refers to identifying the need to change an organization’s ITeBP, seizing refers to exploring and selecting opportunities to change ITeBP, and transformation is concerned with sociotechnically implementing changed ITeBP in the organization. As a consequence of these sub-DISCs each being concerned with a distinct objective, we are able to differentiate between different levels of change success (dependent variable): Is the organization successful in (problem) sensing, in (opportunity) seizing, and/or in transformation? (See table 2 for a detailed construct definition).

<table>
<thead>
<tr>
<th>Phase</th>
<th>Differentiation of sub-capabilities (independent variable)</th>
<th>Differentiation of change success stages (dependent variable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensing</td>
<td>Sensing (baseline or ad hoc) capabilities are DISCs that help the organization identify the need to change its IT-enabled business processes, e.g. to monitor the IT market for new solutions.</td>
<td>Sensing is successful, if an organization identifies the needs to change its IT-enabled business processes.</td>
</tr>
<tr>
<td>Seizing</td>
<td>Seizing (baseline or ad hoc) capabilities are DISCs that help the organization decide how IT-enabled business processes is to be changed, e.g. to analyze potential IT solutions.</td>
<td>Seizing is successful, if an organization produces a concrete suggestion how an IT-enabled business process should be designed in the future.</td>
</tr>
<tr>
<td>Transformation</td>
<td>Transformation (baseline or ad hoc) capabilities are DISCs that help the organization implement an agreed upon solution for changing its IT-enabled business processes in the actual setting, e.g. to roll-out new ITeBP.</td>
<td>Transformation is successful, if an organization implements the re-designed IT-enabled business process in the actual (organizational and technical) setting.</td>
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</table>

Thus, based on our dynamic capability framework, we are able to differentiate between six distinct sets of DISCs and three level of ITeBP change success. Our concrete research objective for this research-in-progress paper is to investigate into the explanatory power of Dynamic IS Capabilities for change success. First, we seek to answer the question of how well the concept of DISCs is able to empirically capture business process change initiatives in practice. Second, we seek to answer whether DISC is an effective construct to explain the success of organizations to change their IT-enabled business processes (see Figure 1).
Methodology

Method and Case Selection. In order to address our research question using our theoretical scaffolding, we chose to conduct an in-depth case study and tie in with the rich tradition of qualitative IS research (for instance, Kern and Willcocks 2002; Mingers 2003; Remenyi and Williams 1996; Silverman 1998) and conducted a multiple embedded case study (Yin 2003). Such approach yields the advantage to be able to express the evolution of the phenomenon of dynamic IS capabilities in relation to its rich context. Rather than testing specific hypotheses, our qualitative approach opens up for exploring new theoretical aspects and constructs taking into account the similarities and differences between the two embedded cases.

Case Description. The case organization OFFICE (pseudonym) is a family-owned medium-sized company, operating for over 70 years in the paper, office supplies, and stationery industry. It is located in Western Europe and has a turnover of roughly 130 mil. USD. We interviewed more than 20 employees from all hierarchical levels and several different departments (including the CIO and COO). None of the authors is affiliated with the case study organization. The organization was chosen because, first, we see a good fit between our research objectives and theoretical lens, and the situation the organization was facing, and, second, we had exclusive access to relevant data and key stakeholders in the organization.

Data Collection. The phase of intensive data collection lasted for about 2 years (from October 2008 to December 2010). These efforts were complemented by a pre-study (August 2008; for informing our case selection). The comprehensive data was collected using multiple methods for exploiting triangulation and synergetic effects (Capaldo 2007; Jick 1979; Yin 2003). Hence, we include different sources of evidence in our analysis: 25 focused individual interviews (primary method), 12 informal meetings and 20 site visits, and documentary information (such as project reports, newspaper articles, press releases).

Data Analysis. A total of more than 29 hours of interviews, equating to 139,981 words of transcript, were included in the analysis. The first two authors coded the data individually for any relation to the variables of our research framework, while all interview data was reviewed in the light of available documentary information and direct case observations. Afterwards, the resulting coded data were contrasted among the authors’ perspectives in discussions. Only few differences occurred which could be solved with the help of the third author. Then, the codes were interpreted and re-structured with the help of the theoretical framework. Hence, the authors’ understanding of the case findings as well as the coherence of the emerging theory gradually improved. Both embedded cases share the same environmental traits and, thus, are suitable for explaining differences in ITeBP change success (dependent variable) by differences in Dynamic IS Capabilities (independent variables).

Results

Baseline Dynamic IS Capabilities

The setting of OFFICE’s baseline capabilities for process innovation and change is strongly influenced by the ISO 900x certification. The market environment in the mid-1990s has been rather stable. Interviewees stated that the organization was economically strong and, thus, little need for change was perceived to exist. With the advent of process-oriented quality management in terms of ISO 900x major customers wanted OFFICE to become ISO-certified. “It was kind of trendy to get those certificates,” was the opinion of the head of IT department. Due to the strong customer orientation, OFFICE worked on getting the business processes certified. However, OFFICE missed the chance to further develop and improve business processes and, instead, chose to follow rather single-mindedly the “Document what you do, do what you have documented.”-rule (ISO 2009, cited in Benner 2009). All major business processes were documented using textual models. The quality management department was in charge of these models and, thus, seen as the one-stop shop for “everything that has to do with process management” by the functional departments. In an attempt to reduce work, quality management function ironically did not encourage business process innovations. Owing to the strong quality-management centered management of business processes, the baseline capabilities for process change at OFFICE were strongly influenced by the ISO 900x certification. Residing in this ISO setting, OFFICE has several baseline capabilities for ITeBP change in all three phases of sensing, seizing, and transformation (see Table 3). These baseline
DISCs are structured and persistent and exist at OFFICE independent of any change event. However, they may potentially be activated (= made use of) in the context of concrete ITeBP change initiatives.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Capability</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Sensing DISCs</td>
<td>MODANALY</td>
<td>Using existing textual models to identify gaps and weaknesses in the processes.</td>
</tr>
<tr>
<td></td>
<td>MONIPROC</td>
<td>Using existing textual models to identify divergence to processes in use (ISO).</td>
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<tr>
<td></td>
<td>MONICOMP</td>
<td>Monitoring of business processes and process change at competitors.</td>
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<tr>
<td></td>
<td>MONITOIT</td>
<td>Monitoring the existing IT solutions in the own organization.</td>
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<tr>
<td></td>
<td>MONITECH</td>
<td>Monitoring of the IT Market and its latest technological developments.</td>
</tr>
<tr>
<td>Seizing DISCs</td>
<td>PROCMODL</td>
<td>Textual modeling of business processes.</td>
</tr>
<tr>
<td></td>
<td>PROCTEAM</td>
<td>Development of suitable business processes in a project team consisting of personnel from different departments.</td>
</tr>
<tr>
<td></td>
<td>REQARTIC</td>
<td>Articulation of requirements for (customization of) new software.</td>
</tr>
<tr>
<td></td>
<td>ITANALYS</td>
<td>Analysis of suitable IT-solutions.</td>
</tr>
<tr>
<td></td>
<td>ITDECISI</td>
<td>Creation of recommendations for decision on new IT.</td>
</tr>
<tr>
<td></td>
<td>ITROADMA</td>
<td>Creation of a roadmap for IT introduction.</td>
</tr>
<tr>
<td>Transformatio n DISCs</td>
<td>PROCCOMM</td>
<td>Communication of new processes using intranet or notice-boards.</td>
</tr>
<tr>
<td></td>
<td>ITIMPLEM</td>
<td>Implementation of new applications with basic functionality.</td>
</tr>
<tr>
<td></td>
<td>ITROLLOU</td>
<td>Roll-out of IT solutions.</td>
</tr>
<tr>
<td></td>
<td>ITOPERAT</td>
<td>Learn how to operate new IT.</td>
</tr>
<tr>
<td></td>
<td>ITTEACH</td>
<td>Creation and realization of training sessions for new systems.</td>
</tr>
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</table>

**Activated Dynamic IS Capabilities: The ERP Case**

The implementation of a new Enterprise Resource Planning (ERP) system came along with project-specific assets. The introduction of a new ERP system was strongly supported by the top management team, who also sponsored several consultants for the whole implementation process. These project-specific assets made new capabilities possible that were activated for and used in the ERP implementation project.

Prior to the ERP implementation, OFFICE perceived its IT landscape as outdated and hard to be maintained. Developments of the market suggested introducing a new ERP system to overcome these shortcomings. Top Management was keen on the possibilities a new ERP system offered and decided quite early on the European quasi industry-standard SAP. In the seizing phase, consultants supported OFFICE’s staff. They were part of an inter-departmental project team that discussed the impact of a new ERP solution on the business processes. However, the team and top management were fond of a “pit-stop” strategy of fitting the new system to the old processes to a large degree. Hence, consultants used a graphical process modeling environment to visualize the existing processes and helped IT to articulate the requirements for the customization of the ERP solution. Next, a roadmap for IT introduction was created. Consultants customized the ERP solution to fit the business processes and helped to create and realize training sessions for the new system. With regard to our theoretical framework, we empirically discovered that OFFICE ad hoc modified existing baseline DISCs. For instance, they were already able to model business processes (baseline DISC PROCMODL) in a textual way. However, in the ERP project the project team of employees and consultants used a graphical notation and corresponding assets provided by the consultants (see Table 4, a “(+)” denotes that an existing baseline DISC is enhanced using new (ad hoc) assets).
The interplay of baseline and ad-hoc DISCs led to successful change of ITeBP. Although one main driver for the new ERP solution was the top management, OFFICE was successful in sensing the change possibility. With the help of consultants, a concrete suggestion of the customized ERP solution and the new ITeBPs was created (successful seizing). Detailed training sessions were created for both the system and the processes. With the introduction of the new system, business departments took part in these courses and adapted to the new IT solution and the corresponding process changes (this indicates “successful transformation”).

**Activated Dynamic IS Capabilities: The CRM Case**

In contrast to the ERP implementation initiative, the subsequent implementation of a Customer Relationship Management (CRM) system was not as much supported by project-specific assets: e.g. the organization did not rely on consultants and their capabilities. For CRM introduction, the marketing department observed that competitors employ CRM solutions successfully. As the IT department agreed and identified CRM software as “the next big thing,” a decision in favor of a CRM solution was made. However, there was no company-wide agreement on CRM and no top-management support as in the ERP case.

For the implementation of the CRM system the organization only relied on existing baseline capabilities. Monitoring both the business development of competitors and the latest technological developments led the decision pro CRM. OFFICE wanted to enable marketing and sales processes with CRM software to stay competitive and, subsequently, signal their innovativeness to the market. A project team consisting of IT, marketing, and Quality Management (QM) personnel developed suitable business processes. Here, QM argued that process change would result in several changes to the ISO 900x certified process models which was considered being undesirable. Meanwhile, the IT department (with strong ties to marketing) articulated requirements for new software, analyzed different alternatives and decided on the introduction of SAP-CRM. Consequently, a roadmap for the introduction of SAP-CRM was created. Following this roadmap the CRM solution was rolled out and the IT department gathered knowledge on both operation and maintenance of the system (see Table 5).
Although the prior SAP-ERP project was a success, the subsequent SAP-CRM project only led to technical change. The organization was successful in sensing the change opportunities related to CRM. However, in the seizing phase only technical issues were covered. Moreover, QM actively argued against process change (lack of process change capabilities in the organization). After the roll-out of the solution SAP-CRM was ready to use. However, due to missing DISCs targeted towards sociotechnical change, the business processes remained completely unaffected. As a result, OFFICE pays license fees for the new system and has implemented it technically. However, there is no effect on the underlying business processes (this indicates “unsuccessful transformation”).

Discussion

ISO formed the setting for the baseline DISCs at OFFICE. In the ERP implementation project, new ad-hoc capabilities emerged (partially by consultants) and these were used on their own or as enhancements of baseline DISCs. The combination of baseline and ad-hoc capabilities resulted in successful change of ITeBP. In contrast, the organization had to rely solely on baseline capabilities in the CRM case. Although the prior project was successful and the organization could sense the opportunities related to the introduction of a CRM solution, these baseline DISCs were not sufficient as we were able to observe ITeBP change failure in the seizing and transformation phase.

Implications for Theory

First, we developed a DCT-based framework for understanding ITeBP change success, and applied this in a multiple embedded case study. This framework enables scholars to explain the impact of baseline and ad-hoc DISCs on the success of ITeBP change by utilizing the rich theory and vocabulary of DCT and RBV. Based on this framework, we can understand business process change approaches (e.g. TQM, BPR, or BPM) as specific ideas of DISCs. As a consequence, we provide a unifying framework that allows for an integration of extant process change conceptualizations and of emergent process change efforts. In our case study, we are able to show that socio-technical innovations make use of (“activate”) all types of capabilities. The baseline capabilities, those extant and established in the organization, were not sufficient to ensure continuity in ITeBP change success. Instead, further ad hoc capabilities are created to succeed in change. Moreover, we could show that some of these ad hoc DISCs are in fact enhanced baseline capabilities. In addition, we found that some baseline capabilities may exist in the organization but may not be “activated” in the specific project. Furthermore, by differentiating between sensing, seizing, and transformation capabilities, we were able to add value to the understanding of success and failure of socio-technical change. We submit that the sensing, seizing, and transformation framework deepens the understanding of capabilities needed for change and enables us to identify shortcomings in organizations:

<table>
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</tr>
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</table>

Table 5. Activated Dynamic IS Capabilities (CRM Case)

<table>
<thead>
<tr>
<th>Baseline DISCs</th>
<th>Ad hoc DISCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>not evident</td>
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</tr>
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OFFICE, for example, appeared to have noticeable shortcomings in seizing and transformation during the CRM implementation initiative.

Second, we stressed the importance of capabilities for explaining IS change success. From our perception, many scholars understand IS change success as directly dependent on IT-related attributes. However, we could show that the effect of IS introduction on the socio-technical system is highly dependent on other Dynamic IS Capabilities. These capabilities were so far under-researched.

**Implications for Practice**

Our research allows organizations to specifically target their investments in DISCs. Organizations need such capabilities when facing turbulent market environments (Eisenhardt & Martin 2000). Investments in DISCs influence the baseline and, thus, allow for more success in future change projects. Here, the presented framework can yield more targeted investments. Organizations can evaluate their status-quo with regards to sensing, seizing, and transformation capabilities for ITeBP change. In our case, OFFICE understood that capabilities for IT change alone were already developed sufficiently. However, our analysis showed that such capabilities are a necessary but not a sufficient condition for ITeBP change. Hence, OFFICE is currently working on changing their BPM organization away from ISO-style towards a Center of Business Process Excellence. This center is planned to concentrate both seizing and transformation efforts. OFFICE plans to reconnect representatives of all functional departments and makes them ITeBP change experts. This should take formal responsibility from the quality management department and subsequently lower the hurdle for ITeBP change. Currently, sensing and transformation of process change are not possible due to both the change-opposed culture in the organization and the power of the QM department. Hence, investments specifically in these two areas will lever the change capabilities of OFFICE to a new level. Organizations in similar settings should analyze their DISCs and evaluate corresponding investments.

**Limitations and Future Research**

This article presents research-in-progress and is yet limited by certain factors. First, the generalizability of our study is improvable by further analyses of other cases. The presented results of two embedded cases in one organizational setting may be subject to other variables not covered by our study. Second, we relied on qualitative data and believe that developing a measurement model and a complementary quantitative approach to studying DISC is a potentially fruitful avenue for future research.

Our own research following this article will focus on the presented center for process excellence. We will revisit our case company once the center is established (planned to be achieved with the beginning of 2012). Moreover, we will deepen our understanding with a case study in an entirely different setting. Furthermore, other scholars could discuss capabilities as moderating or mediating variables. In our understanding, capabilities mediate the existing and project-inherent assets an organization possesses. However, other variables could influence the success of IS change, too, and the corresponding relations are not covered in this research-in-progress (Plattfaut et al. 2011). Moreover, scholars could strive to improve the framework, especially with regards to a more formal inclusion of assets, a clear differentiation between baseline, ad-hoc, and enhanced capabilities, or a differentiation between technical (IT) and socio-technical (ITeBP) change. Furthermore, subsequent research can use our framework to develop a list of capabilities in each phase. This work should complement previous work, e.g. on critical success factors (Grover et al. 1995).

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