Tight-loose Coupling of Bundled Capabilities: The Imbalanced Utilization of Emerging Digital Technologies in Newspaper Businesses

Completed Research Paper

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Abstract

Consistent with insights on the joint deployment of capabilities to exploit digital technologies for strategic innovations, recent works re-conceptualize such “dynamic” capabilities as bundles of capabilities. By analyzing the empirical case of German daily quality newspaper organizations, which failed to fully exploit the strategic potential of emerging digital technologies and entered a severe crisis, we examine how capabilities must be coupled to facilitate the strategic use of emerging digital technologies for organizational change. We show that imbalanced couplings of bundled capabilities may lead to one-sided perceptions of digital opportunities that impede strategic reorientations and drive the use of emerging digital technologies into narrow trajectories. Therefore, we conclude that couplings of capabilities must be balanced to fully exploit the strategic potential of emerging digital technologies for conducting organizational change.

Keywords: digital technology, dynamic capabilities, coupling, organizational change, newspaper industry
Introduction

The discourse on organizational change has become ever more complex in recent decades (Sydow et al. 2009). Along with the increasing digitization of organizations, products, and services (Mithas et al. 2013; Yoo et al. 2012), organizational change has become strongly entangled with digital technologies (Barrett et al. 2006, 2012; Heracleous and Barrett 2001; Tallon and Pinsonneault 2011). Accordingly, the fields of research on information systems and organizational change have become increasingly interwoven (Barrett et al. 2006). Therefore, joint research efforts of these fields have large potentials for providing novel insights into organizational change and the strategic role of digital technologies in such processes (Bharadwaj et al. 2013; Fichman et al. 2014).

To promote these fruitful contributions, these fields seem to require common conceptual grounds (Yoo 2013). The concept of dynamic capabilities seems to be particularly promising with regard to the integration of research on information systems and organizational change (Bharadwaj 2000; Bharadwaj et al. 2013; Sambamurthy et al. 2003; Wade and Hulland 2004). The concept aims to explain on a strategic level how organizations adapt to, or even shape, changes in the environment (Eisenhardt and Martin 2000; Teece et al. 1997). Although the concept of dynamic capabilities originates from organization and management research and has gained a dominant position in this field (Di Stefano et al. 2014), information systems scholars have also used it extensively to contribute invaluable insights to their field (e.g., Pavlou and El Sawy 2006, 2010; Rai et al. 2006; Teoh and Cai 2009).

Recent contributions in information systems research have emphasized that organizations seem to leverage various capabilities jointly to release the strategic value of digital technologies, such as for promoting organizational change (Nevo and Wade 2011; Mithas et al. 2011; Rai and Tang 2010, 2014; Rai et al. 2012; Ravichandran and Lerwtongsatien 2005; Saraf et al. 2007; Tafti et al. 2013). Accordingly, scholars have highlighted the need for gaining deeper insights into such capability entanglements, as they would make the concept of dynamic capabilities more useful for information systems research (Wade and Hulland 2004) and substantially promote a better understanding of organizational change (Eggers and Kaplan 2013). However, much more work needs to be done to fully understand these capability entanglements (Wu et al. 2014).

Peteraf et al. (2013) embrace these insights on capability entanglements from the perspective of information systems research. In their attempt to reconcile the fragmented literature on dynamic capabilities, they propose to re-conceptualize the concept as dynamic bundles of capabilities. Although their work takes major steps toward integrating and reconciling the field, the core of the re-conceptualization, i.e., the question of how these capabilities are bundled and in which constellation they bring about organizational change, remains unaddressed (Di Stefano et al. 2014).

We propose to draw on the concept of “coupling” from organization theory (Orton and Weick 1990; Weick 1976, 2001) to conceptualize these bundles of capabilities as “coupled” capabilities. As we will show, the types of couplings of bundled capabilities, i.e., tight or loose (Orton and Weick 1990), are beneficial and detrimental to organizational change at the same time. This puzzling ambiguity of capability couplings directs attention to the question of how capabilities must be coupled to facilitate organizational change (Akgün et al. 2012). Thus, to obtain a better understanding of organizational change (Eggers and Kaplan 2013) and to make the concept of dynamic capabilities even more useful for information systems research (Wade and Hulland 2004), we suggest the following research question: How must capabilities be coupled to fully exploit the strategic potentials of emerging digital technologies and, with it, to facilitate organizational change?

As capability research seems to benefit most from examining cases of failure (Williamson 1999), we draw on the case of the German newspaper industry to address this research question. Although the players in this industry—even more so in the segment of daily quality news—could draw on emerging digital technologies to drive strategic change, they have been unable to adapt their newspaper products to consumers’ digital lifestyle (Rothmann and Koch 2014). While there are several works in extant literature that provide insightful explanations for the strategic behavior of these news publishers, such as inertia (Gilbert 2005; Hill and Rothaermel 2003) and path dependence (Koch 2011; Rothmann and Koch 2014), we show that a focus on their coupling of bundled capabilities can shed further light on their demise (Christensen 2006): by reconstructing the capabilities of these organizations and how they were coupled, we find that imbalanced couplings of bundled capabilities—i.e., asymmetric constellations of tight and
loose couplings among capabilities that lead to a dominance of one capability within the organizational system—can lead to one-sided strategic orientations. In particular, we show that the news publishers mainly used emerging digital technologies in compliance with only one capability, i.e., selling advertisements, whereas their second capability, i.e. producing content, hardly drove the strategic innovation process. As a result, the news publishers transferred their traditional business model into the digital sphere without any strategic adjustments. Thus, we show that the imbalanced coupling of bundled capabilities prevented that the value of digital technologies as promoters of organizational change could unfold. Accordingly, we conclude that bundled capabilities require a careful balance of both tight and loose couplings to facilitate organizational change.

This paper offers several contributions. First, we complement recent works that have started to reconcile disparate views of dynamic capabilities (Di Stefano et al. 2014; Peteraf et al. 2013) by providing another building block toward an integrative theory for the concept (Pitelis and Teece 2010). In particular, we provide a conceptualization of linkages in bundles of capabilities by introducing the concept of coupling to this literature. Furthermore, we empirically investigate the constellation of couplings that brings about organizational change in bundles of capabilities. As bundles of capabilities constitute the core of Peteraf et al.'s (2013) re-conceptualization of dynamic capabilities, we shed more light on the nature of the concept. Specifically, we show that tight and loose couplings of capabilities must be balanced in order to facilitate organizational change and, thus, provide indicative evidence for the view of dynamic capabilities as organizations' ability to balance contradictory exigencies (Teece 2007, 2012).

Second, our theory-building efforts also contribute to information systems research in which the concept of dynamic capabilities is widely used (Peteraf et al. 2013). In particular, we aim to make the concept even more useful for the field by providing insights into the under-researched assembly of capabilities that facilitates organizational change (Wu et al. 2014), which is decisive for releasing the strategic value of digital technologies (Wade and Hulland 2004). Whereas we emphasize the balance of tight and loose couplings of bundled capabilities as an enabler of organizational change, we also show that imbalanced couplings of bundled capabilities are a major impediment to the successful deployment of innovative digital technologies. Thus, we present a barrier to the successful use of digital technologies that has not been fully explored (Nevo and Wade 2010). In particular, we show that imbalanced couplings of bundled capabilities lead to a dominance of one capability, which, in turn, constrains the perceived scope of opportunities that organizations can exploit by using emerging digital technologies.

Third, we also contribute to the well-established literature on coupling in organization research by confirming and extending prior works that promote a dialectical view of coupling (Orton and Weick 1990). In particular, we provide supportive empirical evidence for the co-existence of tight and loose couplings (here: of capabilities) (Benner and Tushman 2003; Danneels 2003; Rasche 2012) and we discover the origins of this co-existence on the same (organizational) level of analysis; i.e., the connection of different couplings to different purposes, such as budgetary resource allocation and a professional code in the case of the newspaper industry. Furthermore, by showing that couplings need to be balanced to facilitate organizational change, we provide further insights into the riddle of simultaneous functions and dysfunctions of both tight and loose couplings.

**Theoretical Background**

**Toward an Understanding of Dynamic Capabilities as Bundles of Capabilities**

The body of literature on dynamic capabilities has experienced strong and steady growth (Di Stefano et al. 2014). Nevertheless, there is no general consensus in the field on what dynamic capabilities are (Vogel and Güttel 2013). Peteraf et al. (2013) showed that the diverging views of dynamic capabilities have evolved around core understandings of the concept that two seminal articles promote: whereas Teece et al. (1997) regard dynamic capabilities as “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (p. 516), Eisenhardt and Martin (2000) define the concept as “the firm’s processes that use resources (...) to match or even create market change” (p. 1107). Both camps have provided insightful contributions to understanding organizational change. However, the fragmentation of the field has led to considerable disagreement on foundational issues of the concept, such as the question as to whether the use of dynamic capabilities leads achieving sustainable competitive advantage (Ambrosini and Bowman 2009; Peteraf et al. 2013). As this conceptual
diversity seems to hamper the theoretical progress of the field, research on dynamic capabilities desperately seeks an integrative framework that reconciles its insightful findings (Pitelis and Teece 2010).

However, recent contributions to the literature on dynamic capabilities seem to initiate a consolidation of the field (Giudici and Reimmöller 2012). Most notably, Peteraf and colleagues (Di Stefano et al. 2014; Peteraf et al. 2013) take first steps toward reconciling the literature. To integrate the diverging views, they re-conceptualize dynamic capabilities as “a dynamic bundle of resources and capabilities” (Peteraf et al. 2013, p. 1405, emphasis in original). By proposing a contingency approach, the authors suggest that competing logics may hold under different conditions within their revised formulation of the concept.

Although Peteraf et al. (2013) provide major contributions to integrating the fragmented literature on dynamic capabilities, they consider their efforts as a necessary but unfinished step toward an integrative framework. In a more recent work, they introduce the metaphor of a bicycle’s drivetrain to illustrate and extend an integrative understanding of dynamic capabilities (Di Stefano et al. 2014). Whereas most parts of this metaphor of a complex system of interlinked elements are readily translated into an organizational context, the chain of the drivetrain that links the different elements still remains underspecified. However, the linkage is what constitutes the core of the re-conceptualized idea of dynamic capabilities as bundles of capabilities (Peteraf et al. 2013).

**Conceptualizing Bundles of Capabilities**

To better understand and analyze the linkages in bundles of capabilities, we rely on the well-established concept of coupling from organization theory (Orton and Weick 1990; Weick 1976, 2001). Coupling specifies the degree to which one element in a system is determined by another element to which it is linked (Weick 1976). Thus, in a loosely coupled system, one linked element only weakly determines the other, as they preserve their separateness and identity; in a tightly coupled system, strong links facilitate that one element predetermines the other (Orton and Weick 1990).

Whereas scholars have broadly applied the concept of coupling to diverse organizational phenomena, such as to formal structures within (Beekun and Glick 2001) and to relations between organizations (Luke et al. 1989), the concept has hardly been considered in research on capabilities in particular (Akgün et al. 2007; see O’Connor 2008 and Saraf et al. 2007 for notable exceptions). Although bundles of capabilities might also be conceptualized as an intra-organizational network in which capabilities constitute ‘nodes’ (e.g., Granovetter 1978; Reagans and Zuckerman 2001), we argue that the concept of coupling provides an even more powerful conceptualization of bundles of capabilities for several reasons. First, as Reagans and McEvily (2003) denote, although the study of network structures provides insightful contributions to understanding relational phenomena within and across organizational boundaries, it runs risks of oversimplifying complex organizational phenomena, such as bundles of capabilities (Peteraf et al. 2013). In contrast, the concept of coupling is particularly well-suited for the conceptualization of such complex organizational phenomena (Orton and Weick 1990). Second, coupling has been identified as a major—if not the most important—structural dimension of firms’ adaptive capacity (Staber and Sydow 2002). Therefore, the integration of this concept into the dynamic capabilities framework seems to be particularly promising for obtaining a better understanding of the nature of dynamic capabilities (Gavetti et al. 2007). Third, considering organizations as systems of coupled capabilities (see also Nevo and Wade 2010; Rai and Tang 2010; Tanriverdi et al. 2010) is auspicious for explaining how organizations adapt to environmental changes (Orton and Weick 1990). This coincides with the main research aim of dynamic capabilities scholars (Vogel and Güttel 2013). Thus, enriching Peteraf et al.’s (2013) re-conceptualization of dynamic capabilities as dynamic bundles of capabilities with the concept of coupling seems particularly promising for generating fruitful insights into how organizations change.

The complexity that the concept of coupling can capture becomes evident when couplings are considered in the context of bundled capabilities. On the one hand, loosely coupled capabilities provide organizational systems with high sensitivity to environmental changes (see also Eisenhardt and Martin 2000; Teece 2007). Because organizations interpret their environment from the background of their own capabilities (Porac and Thomas 1989), their perceived image of the environment gains profundness the looser these components are assembled because the environment can be contemplated from diverse angles (Weick 1976). Furthermore, organizations with loosely coupled capabilities have large creative potentials for developing strategic options that enable them to respond appropriately to changed environmental conditions (see also Teece 2007). As these organizations can leverage their capabilities...
(rather) independently, they tend to produce innovative solutions that result from novel capability combinations (Weick 1976).

Whereas these characteristics of loosely coupled capabilities promote organizational flexibility, these systems may also stifle organizational change. This opposing outcome particularly results from the maintenance of distinctive elements (Orton and Weick 1990): along with the reproduction of distinctive and, therefore, stable capabilities, certain combinations cannot be leveraged because they would threaten the identity of each element (Tripsas and Gavetti 2000). Thus, potential incompatibilities of capability combinations may contract the scope of viable strategic options. Furthermore, by conceding organizational slack through loose linkages, loosely coupled systems are rather designed for reducing responsiveness in order to maintain organizational stability instead of using these linkages for driving change (Weick 1976).

Organizations with tightly coupled capabilities, on the other hand, seem to be highly responsive. As such organizations do not seem to maintain their capabilities’ distinctiveness, any change in one part of the bundle swiftly spills over to the other (Orton and Weick 1990). Such interactions seem to be most likely in cases of high capability complementarity, i.e., the joint deployment of capabilities that yields larger returns than their individual usage (Nevo and Wade 2011; Rai and Tang 2010, 2014; Ravichandran and Lertwongsatien 2005). Furthermore, tight couplings also provide managerial scope for imposing changes in bundles of capabilities due to a high degree of controllability (Orton and Weick 1990).

However, the responsiveness of tightly coupled capabilities entails organizational change even in response to small environmental changes (Weick 1976). As the deployment of dynamic capabilities is costly, such a high degree of organizational flexibility may not only be redundant but also highly inefficient (Winter 2003). Furthermore, tightly coupled capabilities seem to reduce the creative potential for developing innovative strategic options. Besides a constrained recognition of market changes that comes along with a strong overlap of market perceptions (Orton and Weick 1990; Porac and Thomas 1989), the developed solutions tend to lack innovativeness because swift adjustments within tightly coupled bundles leave no time lags for reflection (Perrow 1984). Moreover, superior returns obtained from leveraging capabilities as a bundle increasingly render the individual usage of capabilities unattractive over time, such that the constellation of coupled capabilities may become irreversibly rigid (Sydow et al. 2009).

Thus, the complexity of coupled capabilities results from the challenge that both tightly and loosely coupled capabilities are beneficial and detrimental (Danneels 2003) to organizational change at the same time (see Table 1). Accordingly, extant literature presents cases of both tightly and loosely coupled organizations that failed (Perrow 1984; Weick 2010) or survived (Weick and Roberts 1993; Weick and Sutcliffe 2007) in changing environments. However, the concept of coupling becomes even more complex in light of a dialectical view. This view abandons simplified notions of a uni-dimensional scale from loose to tight linkages but instead acknowledges that elements can be both responsive and distinctive at the same time (Orton and Weick 1990); i.e., both loose and tight couplings may co-exist (Benner and Tushman 2003; Danneels 2003; Rasche 2012). Overall, this puzzling phenomenon raises the question how bundled capabilities must be coupled in order to facilitate organizational change (Akgün et al. 2012).

<table>
<thead>
<tr>
<th>Function</th>
<th>Dysfunction</th>
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<tbody>
<tr>
<td>Loose coupling</td>
<td>Sensitivity to changes in the environment, Creativity in the process of developing innovative strategic options</td>
</tr>
<tr>
<td>Tight coupling</td>
<td>High responsiveness due to swift spreads of change efforts, Possibilities for exerting influence to manage organizational change</td>
</tr>
</tbody>
</table>

**Table 1. Tight and Loose Couplings of Capabilities and Organizational Change**
Method

Research Design and Case Selection

To explore how bundled capabilities must be coupled to facilitate organizational change, we conducted a qualitative case study (Benbasat et al. 1987; Cavaye 1996; Yin 2014). This method is particularly well-suited for addressing our research question because the social complexity of both couplings and capabilities and their processual nature (Easterby-Smith et al. 2009; Orton and Weick 1990; Peteraf et al. 2013) require thick descriptions in order to draw insightful inferences (Benbasat et al. 1987). Accordingly, the selection of the case study method follows recommendations on the empirical examination of both couplings and capabilities (Orton and Weick 1990; Teece 2012).

Furthermore, to understand the mechanisms that facilitate organizational change, we need to unravel the dynamics of organizational stability that organizations must overcome (Schreyögg and Sydow 2010). Accordingly, capability research seems to benefit most from examining few cases of failed organizational change instead of many cases of success (Williamson 1999). Therefore, similar to other insightful capability-based works that study single cases of (failed) organizational change in response to technological changes in the environment (e.g., Burgelman 1991; Danneels 2011; Lucas and Goh 2009), we conducted a process study of the critical case (Benbasat et al. 1987) of digital news development in the newspaper industry from 1995 to date. In this period, many news publishers all over the world were struck by a severe crisis because they failed to drive organizational adjustments to exploit the opportunities and mitigate threats of emerging digital technologies (Gilbert 2005). Recent works could demonstrate that this crisis can be traced back to inertia (Gilbert 2005; Hill and Rothaermel 2003) or strategic path dependence (Sydow et al. 2009) that is deeply inscribed into the organizational structure of the publishing houses and, therefore, impeded strategic change in these organizations (Rothmann and Koch 2014; Rothmann et al. 2014; Koch 2011). As couplings are reflected by the formal and informal arrangements within organizations (Orton and Weick 1990), the newspaper industry is a particularly well-suited case for analyzing couplings and their impact on the strategic utilization of digital technologies and on organizational change from a capability perspective.

The German newspaper market is a paradigmatic setting (Yin 2014) in light of our research question: whereas it used to be one of the world's most vital markets (BDZV 2005), the German publishing houses had to cope with tremendous declines in revenues that threatened their existence (BDZV 2011; IVW 2011; see also the following section for a more detailed description). Within this endangered industry, we particularly focused our analysis on the segment of nationwide published daily quality news. This segment consists of five major publishing houses that were struck particularly hard by these descending developments. Because these organizations have higher production costs than the overall industry (BDZV 2002), they had even stronger needs for strategic change (Winter 2003). Therefore, the failure of these “lighthouses” of the newspaper industry (Blum et al. 2011) to readjust their business model under these threatening conditions constitutes an extreme case that is well-suited for theory-building efforts in light of the research question (Benbasat et al. 1987; Siggelkow 2007).

Because the capability structure and the business model of the analyzed publishing houses were similar (Rothmann and Koch 2014; Eisenhardt and Martin 2000) and all focal organizations took similar strategic actions that did not lead to strategic change (Rothmann and Koch 2014; Parmigiani and Howard-Grenville 2011), we did not expect sufficient variations among the news publishers for cross-case comparisons. Therefore, like most process studies that rather focus on variations within single cases (Langley 1999), we studied the organizations' failed strategic change of their business model in light of the coupling of the news publishers’ capabilities as a holistic single case (Yin 2014). After an introduction to the case and, in particular, to the problematic strategic pattern of capability deployment that emerged during the development of digital news, we will analyze how and why the news publishers’ capability configuration dramatically framed the utilization of emerging digital technologies for strategic change.

The Case of Quality Daily News in Germany: From its Crisis to Unfulfilled Hopes of a Digital Resurrection

The business model of German news publishers in the daily quality segment traditionally consisted of producing content, printing it on paper in large quantities, and selling the printed product both to readers...
and advertisers. However, in 2001, these news publishers came under high pressure (Rothmann and Koch 2014): the readership increasingly lost interest in daily printed products, cancelled their subscriptions, and began to read digital news on the Internet. Furthermore, the advertising market experienced an unprecedented slump due to the rupture of the so-called “dot-com bubble” and emerging competition with new ad-focused Internet businesses. Accordingly, the German news publishers, which had an aggregated paid circulation of 1.3 million pieces in 2000, lost 20 percent of their readership in the last decade; in the same period, they also lost half of their advertising revenues (BDZV 2011).

In response to this crisis, the industry was anything but inactive (Rothmann and Koch 2014): after a short shock phase of stability, the publishing houses intensively used emerging digital technologies—i.e., web-based technologies for distributing digital news—to transform their print businesses. In particular, they (1) massively expanded free-to-use online news portals, (2) developed online classified markets, and (3) introduced cross media offerings for advertisers. With the aim of revitalizing the dramatically declined print ad business with new digital ad offerings, news publishers hoped to benefit from the emergence of digital ad markets. The market grew strongly but started from a very low level (BDZV 2001, 2004, 2011) and was mainly driven by search engines and social networks—businesses which do not need to produce content but use the content produced by others. Accordingly, the news publishers had to realize that they could hardly profit from this growth. Accordingly, their revenues declined dramatically (BDZV 2011).

For many years, the news publishers neglected one potential strategic alternative that also emerged along with the rise of digital technologies in media businesses: digital paid content, defined here as any way of charging readers for their news consumption (Rothmann and Koch 2014). Replacing the traditional operational tasks of procuring paper, printing the news, and distributing the physical product with digital news distribution could have led to savings of up to 53 percent; producing content incurred only 23 percent of the news publishers’ costs (BDZV 2001). Thus, to save daily quality news in the long run, it could have been sufficient to transfer consumers’ willingness to pay for printed products—about 30 percent of news publishers’ revenues in 2000 (BDZV 2001)—to the digital sphere. However, opportunities of utilizing digital innovations for developing a willingness to pay for digital news remained unexploited (Rothmann and Koch 2014). We will now analyze how and why the news publishers did not transform their businesses in this direction by analyzing their capability structure.

**Data Collection and Analysis**

For triangulation purposes, we collected data from multiple sources (Yin 2014). First, because types of couplings can only be identified by having a rich understanding of the context (Weick 1976), we gathered articles from trade publications that extensively describe the industry’s development over the entire period of interest (Langley 1999). We searched for these articles in well-established databases (Wiso, LexisNexis). We read all found articles and stored the relevant ones for further analysis. Altogether, we collected 1,986 articles that mainly originated from six trade magazines (Der Kontakter, Medien Aktuell, Kress Report, W&V, Horizon, Handelsblatt). Second, to unpack the complexity of couplings of bundled capabilities (Orton and Weick 1990; Peteraf et al. 2013), we conducted interviews to obtain rich insights into the news publishers’ capability portfolio and its couplings (Danneels 2003; Teece 2012). In particular, we conducted 32 retrospective interviews with top managers of all publishing houses in the analyzed segment between 2010 and 2013 (6 CEOs, 3 C-Levels, 11 Senior Executives, 5 Middle Managers, and 2 Industry Experts) for about 75 min on average. The semi-structured interviews focused on the strategic and organizational development of the publishing houses, the overall development of the industry, and the opportunities and threats that came along with emerging digital technologies. All interviewees were knowledgeable about the strategic decision-making processes of the news publishers as well as the formal and informal structures in these organizations. Thus, the interviews were a valuable data source for the empirical examination of the research question (Gavetti et al. 2007).

To increase reliability (Yin 2014), we organized and analyzed all transcriptions of the audio-recorded interviews as well as the trade press articles in a case study database. We used CAQDAS Atlas.ti, v6, for this purpose. Then, we conducted a qualitative content analysis (Mayring 2011) for the development of a coding scheme. The analysis resulted in a complex coding structure of 135 first-order codes that are grouped in 18 second-order categories, each of which belong to one of six aggregate dimensions (available upon request). We used this coding scheme to code 6,640 instances, which amounted to 1,928 pages of
coded material. The analysis followed suggestions made in prior literature (Corbin and Strauss 1990; Koch 2011; Sydow et al. 2012) and proceeded in three stages.

First, we identified the elements that were coupled, i.e., the news publishers’ portfolio of capabilities. The nature of coupled elements depends on the perception of the system itself (Orton and Weick 1990) and capabilities seem to be a perceptual construct (Nevo and Wade 2010). Therefore, we followed most empirical capability research (Danneels 2008) by coding instances in our interview data that described the news publishers’ perception of their capabilities (Porac and Thomas 1989). To avoid ex-post attributions of capabilities that may result from the retrospective research design (Ambrosini and Bowman 2009) and to reduce perceptual biases of potentially overestimated self-descriptions of capabilities (Danneels 2008), we also coded articles in the trade press to triangulate the interviewees’ reflections (Yin 2014). Then, we used the coded instances to compose a detailed case story that describes the capabilities and their functions and positions within the publishing houses (Langley 1999). This narrative report not only consolidated our understanding of the news publishers’ capabilities but also became particularly useful in later stages of analysis.

Second, we analyzed how the news publishers’ capabilities were coupled. For this purpose, we particularly searched for instances in our data that described specific activities of the news publishers that were associated with the deployment of the identified capabilities (Koch 2011). Then, we determined in our interview data whether these activities were “tied together either weakly or infrequently or slowly or with minimal interdependence” (Weick 1976, p. 5). If at least one (none) of these criteria was fulfilled, we assigned a loose (tight) coupling to the contemplated bundle of capabilities. When we found mixed evidence in the data for the same pair of capabilities, we compared and contrasted these instances in a tabular format to determine the mechanism that led to this variation (Langley 1999). When we identified the connection of different purposes to different couplings as the decisive mechanism, we could assign these instances to distinct coupling categories (i.e., tight or loose) in the table.

Third, we analyzed the impact of the identified constellation of coupled capabilities on the news publishers’ ability to conduct organizational change, i.e., the strategic adjustment of the organizations’ business model (Parmigiani and Howard-Grenville 2011) by utilizing digital technologies. In line with a systems-theoretical perspective (Luhmann 1995), we reconstructed (1) which strategic alternatives the organizations perceived and did not perceive, and (2) the logic that guided the perception and selection of strategic alternatives (Koch 2011). Thus, we coded instances in our interview data that depicted strategic alternatives that the news publishers perceived. Additionally, to identify blind spots of the organizations and, again, to triangulate these instances with the retrospective accounts of the interviewees (Yin 2014), we searched for instances in the trade press that described potential strategic alternatives that the news publishers had available. To understand the logic of perceived strategic potentials and strategic choice, we coded the news publishers’ perceived strengths, weaknesses, opportunities, and threats (Albert and Whetten 1985; Porac and Thomas 1989) and gathered these insights in another table (Langley 1999).

Findings

Capability Structure in the News Publishers’ Traditional Business Model

The German publishing houses in the daily quality segment described themselves as creators of two product components: journalistic content and advertisements. From a capability perspective, both of them are linked to different capabilities: the journalistic capability to create content that reaches a specific readership and the publishing capability to market this content on additional markets (see Table 2 for a brief description).

Most notably, both capabilities of the publishing houses are formally organized as two disparate subsystems. The capability to produce journalistic content is leveraged in the editorial offices, whereas the capability to market the content (i.e., to serve the ad market) is located in the publishing department. From the outset, both capability subsystems are highly dependent on each other. The publishing domain, on the one hand, needs content to attract advertisers and to create a bundled product of content and ads. The editorial domain, on the other hand, needs the revenues (from both readership and ad) to create content.
Tight-loose Coupling of Bundled Capabilities

<table>
<thead>
<tr>
<th>Capability</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Journalistic capability</td>
<td>The news publishers leverage the journalistic capability to create journalistic content and to serve a distinct readership. The capability comprises investigative work as well as writing and bundling written articles to complex news products for different media channels.</td>
</tr>
<tr>
<td>Publishing capability</td>
<td>The news publishers leverage the publishing capability to build and market coverage in order to generate revenues from different sources. The publishing capability comprises the optimization of readership prices, advertising prices, and coverage as well as the exploitation of journalistic brands.</td>
</tr>
</tbody>
</table>

Table 2. Description of the News Publishers’ Capability Portfolio

Simultaneously, the capabilities are organizationally independent from each other to a certain degree. Whereas the editorial office is under the chief editor’s control, the publishing subsystem is controlled by a CEO. Neither the CEO can influence the contents produced in the editorial office nor can the chief editor influence the publishing domain. However, these power and dependence symmetries exist only seemingly: although the CEO cannot give directions regarding the content and cannot influence operational procedures in editorial offices, the CEO has financial control and, not least, assigns a budget to the editorial offices for their work. Thus, the publishing domain couples the editorial subsystem tightly to the own capability because it can control all editorial resources and internally “buys” specific content. The following quotes are paradigmatic for this control.

“We have an editorial office of (...) about 500 people, who need to be fed.” (Manager 16)
“Journalism has refinanced itself with advertising revenues ever since.” (Manager 9)
“This editor in chief didn’t like the idea of cutting jobs in the editorial office anymore, he wanted to make something more beautiful—so we needed to remove him.” (Manager 24)

On the contrary, with the aim of gaining independence from economic influences on contents, the journalists strived for building “Chinese walls” to unlink themselves from advertising revenues. The German Press Code (Deutscher Presserat—Pressekodex) highlights:

“It is the responsibility of the press toward the public that editorial publications are not influenced by private or commercial interests (…).” (Pressekodex)

Accordingly, by following this aim of becoming organizationally as independent as possible from the influence of advertisers, the editorial offices also seemed to loosen their coupling with strategic decision-making processes regarding all revenue streams in the publishing houses. Thus, all strategic decisions about how to react to their crisis, how to invest, how to innovate, and with this, also how to strategically utilize emerging digital technologies, are taken within the publishing subsystem and without major influence by journalists.

“They (the editors in chief) were classical journalists who said, ‘Give us money, we need it to pay our journalists (...),’ without being interested in where the money comes from. Having a business mindset was not a part of their job description.” (Manager 24)

Thus, as illustrated in Table 3 and Figure 1, the publishing domain tightly coupled the editorial capability to their own capability, whereas the editorial domain only loosely coupled the publishing capability to their own work on the contrary.

<table>
<thead>
<tr>
<th>Tied together weakly?</th>
<th>Editorial Perspective</th>
<th>Publishing Perspective</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>YES: “Chinese wall” between the publishing domain and editorial products, fixed in a press code.</td>
<td>NO: Control over all financial streams, especially budgets for editorial offices, ability to dismiss journalistic products. Heavy utilization of content for generating advertising revenues.</td>
</tr>
<tr>
<td>Tied together infrequently?</td>
<td>YES: Only for budget streams.</td>
<td>NO: The publishing domain heavily relies on content for generating revenues, in a (at least) daily frequency</td>
</tr>
</tbody>
</table>
Tied together slowly? | YES: Ideas resulting from the publishing domain are often discussed with caution and skepticism. | NO: Content is immediately utilized by the publishing capability. |
---|---|---|
Tied together with minimal interdependence? | YES: With regard to the capability of producing content, the editorial domain is only dependent on the financial resources but content production itself is independent from the publishing capability. | NO: High interdependence due to the brand created by the journalistic capability and the content exploited by the publishing capability. |
Type of coupling | Loose coupling | Tight coupling |

Table 3. Summary of the Analysis of Coupling Intensity

This imbalanced coupling of the news publishers’ two capabilities is not least the result of the organizational asymmetry between the publishing domain (which has control and is willing to use it) and the editorial domain (which barely has control). Consistently, this organizational asymmetry is also reflected in the news publishers’ perception of their strengths, weaknesses, opportunities, and threats and, consequently, their strategic alternatives for utilizing emerging digital technologies under changed environmental conditions.

Figure 1. The Coupling of Capabilities in Publishing Houses

Framing of Emerging Technological Opportunities: A Reconstruction of Perceived Strengths, Weaknesses, Opportunities, Threats, and Organizational Adjustments

When the news publishers were in a severe crisis at the beginning of the 21st century, they had three strategic alternatives in the face of emerging digital technologies: (1) ignoring these technologies and continuing with printed products only, (2) trying to utilize these technologies for revitalizing the declining ad market for newspapers, and (3) trying to utilize these technologies for reducing the high dependence of costly content from ad revenues (i.e., to develop digital paid content). Whereas the first alternative may have been an option in the middle of the 1990s, it became obvious in around 2001 that ignoring the fundamental social and technological changes would not solve but rather increase the problems of the publishers.

“My argument was: media use shifts to the web and we have to be present there. When I began to work for this publisher in 1997, I was the only one who thought so. At this time, I was the madman who dreamed about things that would never happen. After 2000, this assessment about me changed … and then, we started to build an online editorial office.” (Manager 23)
As it seemed unavoidable for the news publishers to adapt to the rapidly changing environmental conditions after 2001, they started to evaluate the opportunities and threats of emerging digital technologies more intensively. Table 4 provides an overview of the news publishers' self-perception of their own strengths and weaknesses with regard to digitizing their business model and the perceived opportunities and threats digital business model innovations offered to them.

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Description</th>
<th>Representative Supporting Data</th>
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<td></td>
<td>The news publishers perceived the main opportunity of emerging digital technologies in creating ad revenues that could compensate for losses in the market for printed newspapers. Offering ads in videos, framing ads as digital auctions, or offering interactive ads were quite new to news publishers; with these new technological opportunities, they hoped to participate in a strong shift of the ad market from print to online. Furthermore, the news publishers also hoped to charge higher prices for online ads over time because, not least, they could reach customers all day long and anytime.</td>
<td>“In online environments, you can mirror the people 24 hours a day and with different devices, you can transport the contents of your brand. This is a tremendous opportunity. And I believe it’s the future.” (Manager 3) “With the iPad, I have the opportunity to use videos instead of pictures for ads; I can exploit direct marketing and e-commerce budgets. That is, the iPad could become the most attractive advertising medium (for a newspaper).” (Manager 12)</td>
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| Threats | The main fear of the news publishers was to fall further behind, when the digitization of the ad markets forged ahead. Along with their own reduction of journalistic quality that made their content become less distinctive from low-quality suppliers, they felt threatened by potentially losing their clearly defined readership and, thus, the newspaper brand as demarcation for advertisers. Furthermore, the news publishers feared that they would cannibalize their print revenues with digital products because the prices for print ads were still much higher than the prices for online ads. Not least, the discussion on digital paid content itself was also regarded as a threat; i.e., of losing the strong coverage in the growing online market that they needed to sell ads. | “It was probably the most substantial mistake to reduce online investments in those days. (... A competitor from another market segment) continued (to invest in online news). Today, they are market leaders.” (Manager 5) “News publishers will be inhibited here very quickly because (digital products) would cannibalize our print products very strongly.” (Manager 12) |

| Strengths | The publishing houses perceived their major strength in their access to high-quality journalistic content, especially against competitors in ad markets that do not produce content themselves, such as social networks. Furthermore, they also perceived their access to an intelligent readership with high incomes as their strength because these customers are highly attractive for advertisers. | “Our unique sales proposition is definitely the quality of content.” (Manager 12) “Those (our readers) are the people demanded by the ad market: highly qualified users.” (Manager 5) |

| Weaknesses | The news publishers described the lacking adaptation to the current requirements of digital ad markets as their main weakness. Compared with innovative IT start-ups, employees of publishing houses were described as thinking in traditional structures and not being as creative and innovative as necessary. | “Those are ideas which need to come from somewhere. And when you only have learned to sell print ads and to calculate prices in columns*millimeters, you will not get such ideas.” (Manager 14) |

**Table 4. Perceived Strengths, Weaknesses, Opportunities, and Threats With Regard To the Use of Emerging Digital Technologies**
Especially the self-assessment of perceived opportunities and threats reveals that most of the news publishers’ thoughts about reinventing the newspaper business model focused on digital ads. Consequently, between 2003 and 2009, the publishing houses started to launch and extend free-to-use online news portals. They offered more and more possibilities for ad customers to place their ads and build complex multi-channel advertising products. In contrast, the news publishers hardly perceived digital paid content—the main alternative to ad-centered innovations—as an attractive market opportunity.

"Of course, you can earn money through the reader … but I think that this is not a very intelligent approach." (Manager 2)

The absence of attempts of utilizing emerging digital technologies for inventing digital paid content strategies became even more questionable when ad-focused innovation strategies missed their goals and failed to build a sustainable economic basis for a digital newspaper.

"The problem is that all the advertising products we offer online, those banners … what should their ad effect be? You fail to build an image with banners. No one clicks on banners. Advertisers fail to increase their sales with banners. So, what do you place ads for when they have no effect? And because it is so unattractive, the prices for online ads are so low that you can’t earn money with it. That is our problem." (Manager 12)

As a result, the news publishers had to radically downsize their editorial offices, regularly by half between 2000 and 2009. Although digital paid content could have saved the editorial offices, this potential solution of the newspaper crisis was hardly attractive for the publishing domain that is in charge for revenues, as their capabilities are mainly linked to the ad market. Accordingly, deciding to focus on digital paid content technologies could have threatened the coverage of their online news brands.

"Good luck to those CEOs who are trying paid content. As far as I know, the Times in England had a decline in coverage by 80 percent after introducing paid content. (...) And look at all the competitors, there are 2, 4, 6 (who would profit from our pay wall by leaving their content free). (...) Have fun.” (Manager 21)

Thus, digital paid content could have saved high quality journalism but, at the same time, would have exerted higher pressure on the ad-focused publishing domain because it could have threatened its advertising capability. Therefore, the digital innovation process of publishing houses was mainly driven by the ad market. In this process, the publishing domain used the content capability of the journalistic domain to improve their strategic position on the digital ad markets; however, by doing so, it simultaneously circumvented that the journalistic domain profited from digital innovations by developing digital paid content models and, thus, by becoming independent from decreasing ad revenues. However, due to renunciations of the editorial offices from economic impact and strategic decisions, there was hardly any organizational unit that questioned this one-sided innovation process.

**Discussion**

A coupling perspective (Orton and Weick 1990; Weick 1976, 2001) on bundles of capabilities reveals that both tight and loose couplings of capabilities are beneficial and detrimental to organizational change at the same time. This puzzling phenomenon directs attention to the question of how capabilities must be coupled to facilitate organizational change (Akgün et al. 2012). The case of the German daily quality news publishers substantiates the relevance of focusing on couplings in bundles of capabilities: although these organizations had a capability portfolio available that is well-suited for stimulating innovative reconfigurations (Danneels 2002), i.e., a product development capability (producing content) and a marketing capability (selling ads), the assembly of capabilities seems to have stifled organizational change and constrained the perceived scope of potential strategic options for using emerging digital technologies. In particular, our analysis of bundled capabilities in publishing houses reveals that organizational change may be impeded by imbalanced couplings that lead to a dominance of one capability within the bundle.

As the case of the German newspaper industry shows, even organizations with imbalanced couplings of bundled capabilities may be able to sense changes in the environment. Accordingly, the publishing houses became aware of the importance of using emerging digital technologies for the development of a digital
business model. However, the only attractive opportunities they recognized involved leveraging their dominant capability, i.e., the ad-focused publishing capability, and using the suppressed journalistic capability for auxiliary purposes. Thus, as organizations perceive their environment from the background of their own capabilities (Porac and Thomas 1989), the dominant capability seems to narrowly frame the perceived scope of strategic options that organizations may potentially exploit by using such technologies. Thus, the dominance of one capability within the bundle of coupled capabilities leads to one-sided perceptions of changes in the environment and uni-directional creativity in favor of continuing to leverage the prevailing capability as a response (see Figure 2). Consequently, the trajectories for organizational change seem to become tightly constrained.

This finding echoes recent insights that patterns of technological disruption (Tushman and Anderson 1986) do not result from technological incapacities of incumbents as such but rather from a lack of strategic and organizational adjustments (Kaplan 2008; Kapoor and Adner 2012; Rosenbloom and Christensen 1994; Tripsas and Gavetti 2000). However, our findings extend beyond these insights by providing a specific answer to the question of why this is the case; i.e., the imbalanced coupling of bundled capabilities. As the case of the German newspaper industry shows, the imbalanced coupling of bundled capabilities impedes strategic realignments that would facilitate the successful use of emerging digital technologies. Thus, besides adding another essential building block in “the ongoing process of building a theory of disruption” (Christensen 2006), our analysis unveils imbalanced couplings of bundled capabilities as a major impediment to the successful use of digital technologies (Nevo and Wade 2010). For the analyzed news publishers, a more appropriate coupling of their capabilities could have facilitated a broader intra-organizational discourse (see Koch 2011) on how to strategically utilize newly emerging technologies. This might not guarantee successful strategic change, but at least opens up a necessary scope for using new technologies in different ways.

The imbalanced coupling of bundled capabilities that led to failed organizational adjustments particularly results from the co-existence of tight and loose linkages between bundled capabilities. Thus, we provide further empirical support for the dialectical view of couplings that rejects a uni-dimensional understanding of linkages between elements in a coupled system (Orton and Weick 1990). Whereas other works have emphasized the simultaneous existence of tight and loose couplings on different levels of analysis, such as the organization and the environment (Danneels 2003), local networks and global networks (Rasche 2012), and the group level and the organizational level (Benner and Tushman 2003), we show that different types of couplings may also co-exist on the same (organizational) level of analysis. Furthermore, we show how elements, such as capabilities, can simultaneously be tightly and loosely coupled, i.e., by a functional separation of couplings in connection to different purposes, such as budgetary resource allocation and work organization through a professional code. These novel insights provide a more fine-grained understanding of couplings among elements on the organizational level that are desperately needed to invigorate the well-established literature on couplings (Gavetti et al. 2007).

The functional separation of couplings that facilitates their co-existence coincides with ambidexterity, i.e., the simultaneous but separated management of contradictory exigencies to facilitate organizational change (Benner and Tushman 2003; Tushman and O’Reilly 1996). Whereas prior works have emphasized ambidexterity as a dynamic capability that facilitates organizational change (O’Reilly and Tushman 2007), our analysis of couplings of bundled capabilities does not provide supportive evidence for this idea; in fact, as our analysis reveals, the ambidextrous management of tight and loose couplings of capabilities may even impede organizational change in response to environmental changes because of a dominance of one capability that drives affected organizations into narrow strategic trajectories. Therefore, we conclude that tight and loose couplings need to be balanced as a “tight-loose coupling” (Danneels 2003). Thus, we contribute to understanding the nature of dynamic capabilities as the managerial balance of contradictory exigencies (Teece 2007; 2012), such as the balanced deployment of complementary but opposing capabilities (e.g., Rai and Tang 2014) but also tight and loose couplings of bundled capabilities.

As illustrated in Figure 2, bundles of capabilities that are balanced with tight-loose couplings seem to be particularly promising with regard to facilitating organizational change. Because these are not dominated by single capabilities, organizations perceive their environment from the background of all available capabilities, conceive a broader scope of opportunities, and are able to release larger creative potentials for driving organizational change. Such a balance may be necessary for utilizing capability synergies for releasing the strategic value of digital technologies (Nevo and Wade 2010) in innovative business models.
Conclusion and Future Research

Our research question was: How must capabilities be coupled to fully exploit the strategic potentials of emerging digital technologies and, with it, to facilitate organizational change? In light of the presented functions and dysfunctions of both tightly and loosely coupled capabilities with regard to facilitating organizational change, we drew on the case of the newspaper industry to show that imbalanced couplings of bundled capabilities can lead to uni-directional perceptions of the scope of opportunities for using emerging digital technologies and may impede strategic adjustments that would be required to make substantive use of these technologies. Therefore, we conclude that organizational change through dynamic capabilities requires a careful balance of both tight and loose couplings of bundled capabilities. The main managerial implication from this insight is that, to recognize and exploit emerging opportunities that new digital technologies offer, organizations may have to include different organizational subsystems during the strategic decision making processes—especially during phases of change in the technological environment. This might open up the strategic discourse on how to strategically utilize these technologies because subsystems with different capabilities recognize different opportunities for using new technologies (Porac and Thomas 1989). However, to ensure a broader scan for opportunities of strategically utilizing new technologies, organizations would need to achieve a state of balanced coupling of bundled capabilities. This may involve major challenges of reducing power asymmetries and of changing well-established organizational structures.

The results of our study shed light on an issue that has remained concealed, i.e., how capabilities must be coupled to facilitate organizational change (Akgün et al. 2012). The identification of such couplings is a promising starting point for future research to obtain even more insights into this puzzling phenomenon (Orton and Weick 1990) and, perhaps, to address some of the following limitations of our study. First, our qualitative case study may yield rich insights into the studied phenomenon but our findings are not statistically generalizable (Langley 1999). However, the aim of qualitative research is not to obtain results that are statistically generalizable but instead to obtain analytical generalization of novel phenomena through theoretical abstraction from rich empirical data (Yin 2014). Despite the lack of statistical generalization of our research results, we believe that our findings are transferrable (Lincoln and Guba 1985) to most innovative organizations that rely on two central capabilities (Danneels 2002): a product development capability (e.g., producing journalistic content) and a marketing capability (e.g., selling ads). However, to ensure that our findings are not idiosyncratic to the studied case in some respects, future research may test whether the newly theorized phenomenon retains its validity in broader statistical populations as well.
Second, based on views of the concept of dynamic capabilities as the balanced management of contrary exigencies (Teece 2007, 2012), we suspect similar constellations to enable organizational change in organizational systems with three or more coupled capabilities as well. However, the empirical analysis of the selected case of the German newspaper industry does not provide conclusive evidence for this presumption. Therefore, future research may explore the investigated phenomenon in organizational systems that rely on more than two capabilities.

Third, in line with the assertion that the coupling of bundled capabilities is primarily a strategic issue (Wu et al. 2014), the capability approach provides insightful contributions to understanding organizational change on a strategic level (Parmigiani and Howard-Grenville 2011). Accordingly, our analysis of the news publishers focused on their strategy process. Thus, while a main argument of our paper is that the very lack of participation of journalists in the strategy process has led to the dominant focus on the ad market in line with the imbalanced coupling of bundled capabilities in favor of the publishing capability, this focus on the strategy process cannot provide a more nuanced answer to the question of why the journalists did not participate in the strategy process. Although prior studies that have analyzed the journalistic subsystem of these publishing houses emphasize that the journalists seem to focus much more on the development of content than on ads (Koch 2008), future research may extend beyond the immediate focus on the strategy process by jointly studying both subsystems in order to gain further insights into the interaction between coupled capabilities.

Fourth, in our case, the imbalanced coupling of bundled capabilities remains rigid over the entire contemplated period. In organizations that are not entirely affected by path-dependent dynamics yet (Koch 2011), such constellations may also change over time. For instance, self-reinforcing dynamics may lead to increasingly tight couplings of bundled capabilities over time due to increasing returns on their complementary deployment (Weick 2001). Such developments lead to constrained managerial scope of action and, thus, reduce organizations’ ability to adapt to changes in the environment (Orton and Weick 1990). Such path-dependent dynamics (Sydow et al. 2009) are also acknowledged in the literature on dynamic capabilities (Ambrosini and Bowman 2009) but are hardly investigated in this field (Schreyögg and Kliesch-Eberl 2007). Adopting the reformulated view of dynamic capabilities as bundles of coupled capabilities, future research on the evolution of such couplings in organizational systems may provide fruitful insights into this phenomenon. Furthermore, as organizational systems seem to tighten their couplings over time quasi-automatically because of self-reinforcing dynamics, the question that remains is how organizations maintain a certain degree of looseness to balance tight and loose couplings of capabilities over time (Danneels 2003). Such insights would not only be valuable for research on dynamic capabilities to clarify how the deployment of dynamic capabilities continuously enables organizational change (Eisenhardt and Martin 2000; Teece 2007, 2012) but also for research on path dependence to explain how hyper-stability can be avoided (Koch 2011; Sydow et al. 2009).

References


Tight-loose Coupling of Bundled Capabilities


