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**WHY DO INCUMBENTS RESPOND HETEROGENEOUSLY TO DISRUPTIVE
INNOVATIONS? THE INTERPLAY OF DOMAIN IDENTITY AND ROLE IDENTITY**

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WHY DO INCUMBENTS RESPOND HETEROGENEOUSLY TO DISRUPTIVE INNOVATIONS? THE INTERPLAY OF DOMAIN IDENTITY AND ROLE IDENTITY

ABSTRACT

We adopt a multifaceted view of organizational identity to contribute to research on organizational identity and incumbent adaptations to disruptive innovations. Based on a qualitative, multi-case study on the responses of German publishing houses to the emergence of digitalization, we distill a novel and thus far disregarded facet of organizational identity: organizational role identity. We show how organizational role identity and organizational domain identity—the facet that has so far dominated research on identity and innovation—interactively determine how organizations interpret and respond to a disruptive innovation. In contrast to previous studies, we show that incumbents experience dysfunctional identity-driven struggles when one of the two identity facets is challenged by the disruptive innovation while the other is enhanced. We also induce that domain and role identities can jointly determine how quickly incumbents react to a disruption, whether they adopt that disruption, and the innovativeness of their responses.

Keywords

Disruptive innovation; incumbent inertia; organizational adaptation; organizational identity

One of the most critical challenges for established companies is making sense of and responding to disruptive innovations—i.e., new ways of creating and capturing value that dramatically deviate from the traditional innovation trajectory and are inherently financially unappealing to incumbents (Ansari, Garud, and Kumaraswamy, 2016; Christensen and Bower, 1996; Klenner, Hüsigg, and Dowling, 2013; Yu and Hang, 2010). In fact, many previous market leaders have lost their competitive dominance when disruptive innovations, such as digital photography (Benner, 2010), online news (Gilbert, 2005), and online music-distribution systems (Ansari and Krop, 2012), emerged. Given these ramifications, a wide stream of research has explored how organizational decision makers make sense of and adapt to disruptive innovations (for summaries, see Ansari and Krop, 2012; Eggers and Park, 2018; Hill and Rothaermel, 2003).

Within this research stream, a new conversation has emerged, which suggests that studies of the dynamics between organizational identity and innovation might be particularly suitable for developing a more accurate portrayal of the challenges involved in adapting to disruptive innovation (Altman and Tripsas, 2015; Anthony and Tripsas, 2016; Garud and Karunakaran, 2017; Livengood and Reger, 2010; Tripsas, 2009). According to Gioia, Patvardhan, Hamilton, and Corley (2013b, p. 125), “[o]rganizational identity represents those features of an organization that in the eyes of its members are central to the organization’s character or ‘self-image,’ make the organization distinctive from other similar organizations, and are viewed as having continuity over time.” In other words, “organizational identity” refers to members’ situated perceptions of *who we are as an organization* (Albert and Whetten, 1985). Such perceptions establish a cognitive “lens that provides a basis for sense-making” (Cornelissen, Haslam, and Balmer, 2007, p. 9; Dutton and Dukerich, 1991; Gioia and Thomas, 1996) and are, therefore, likely to influence how firm members attend to, interpret, and respond to changes (Livengood and Reger, 2010). Perceptions of organizational identity are particularly salient and influential when external events require organizations to make fundamental changes (Ashford, Lee, and

Bobko, 1989; Dutton and Dukerich, 1991; Nag, Corley, and Gioia, 2007), which is the case with disruptive innovations (Danneels, 2007).

The recent studies on organizational identity and innovation promise a new perspective on one of the focal questions in the conversation on disruptive innovation: Why do relatively homogeneous incumbents within an industry respond heterogeneously to the same disruption (Livengood and Reger, 2010; Tripsas, 2013)? Most importantly, response heterogeneity might be explained by the fact that the decision makers in some firms perceive a given disruptive innovation as *enhancing* their organization's identity, while decision makers in other firms perceive the same innovation as threatening or *challenging* their organization's identity (Anthony and Tripsas, 2016). Additionally, firms might differ in how their members align identity perceptions and innovative activities (Anthony and Tripsas, 2016; Garud and Karunakaran, 2017).

Despite these important advances, critical conceptual and empirical gaps remain in our understanding of the role of organizational identity in incumbents' responses to disruptive innovations. Most importantly, as noted by Anthony and Tripsas (2016), the extant literature almost exclusively adopts a sociological or institutional view of organizational identity (Navis and Glynn, 2010; Watkiss and Glynn, 2016). This perspective envisions organizational identity as enacted through claims of membership in a specific category, or domain, of organizations, especially claims about "which group of organizations we belong to" and "what is our competitive home turf" (Porac, Thomas, and Baden-Fuller, 1989). However, this view disregards that organizational identity is a multifaceted construct, which is construed through many other attributes than merely membership in a certain domain (Gustafson, 1995). For instance, perceptions of organizational identity also include claims about "why and how we do what we do" and "how we relate to others" (Gustafson and Reger, 1995). Acknowledging the multifaceted character of organizational identity is of vital importance. Prior accounts (e.g., Gilbert, 2005) indicate, at least implicitly, that disruptive innovations might challenge

facets of organizational identity beyond identity claims related to firms' membership in certain competitive groups or industries. However, we lack a clear understanding of which other facets are challenged by disruptions and how. Moreover, the extant research does not address how these different identity challenges could affect incumbent responses to disruptive innovation (Ashforth and Mael, 1996; Van de Ven and Poole, 1995). In short, identity challenges and innovation-identity realignment processes might be substantially more complex and multilayered than described thus far, which motivated us to investigate two crucial research questions: First, *which facets of organizational identity other than perceptions of the organization's membership categories surface when members attend to and interpret a disruptive innovation?* Second, *how and why does the way in which members perceive the various facets of their identities as challenged or enhanced by a disruptive innovation trigger inter-firm differences in organizational adaptation to that innovation?*

Given the open character of our research questions and the fact that we searched for heterogeneity in organizational response behaviors, we adopted a theory-informed, inductive, longitudinal, multiple-case research strategy (Eisenhardt, 1989; Glaser and Strauss, 1967; Yin, 1994). More specifically, we conducted a longitudinal analysis of 14 incumbent German book-publishing companies and their responses to digitalization between the early 1990s and 2011. We find that members of incumbent organizations make sense of disruptive innovations through their construals of two facets of organizational identity, which we label *organizational domain identity* and *organizational role identity*. Organizational domain identity—a concept closely related to the domain-focused research on identity and innovation mentioned above (e.g., Livengood and Reger, 2010)—refers to *organizational identity claims that stem from members' perceptions of the category of organizations to which their organization essentially belongs*. For instance, the members of some of the publishing companies we observed predominantly envisioned their organizations as “manufacturers of printed books,” while the members of other publishers perceived their firm as belonging to the category of

“content providers.” In contrast, organizational role identity—a facet of organizational identity that has not yet been conceptualized in prior studies—refers to those *organizational identity claims that stem from members’ perceptions of their organization’s longstanding, central, and distinct impact on the overall development of its respective category and their organization’s essential relation to other actors in that category*. For instance, some publishers’ members described their organization’s role in its category as that of a *shaper* who leads other players and defines the development of the category, while members of other publishers envisioned their organization as *follower* who adapts to, rather than initiates, changes in the category.

One of our key observations is that members of a firm can independently perceive both of these facets of organizational identity as being either challenged or enhanced by the adoption of a disruptive innovation. Furthermore, and counter to prior theory (e.g., Anthony and Tripsas, 2016), identity-related struggles tend to unfold when there is a *dissonance* in the identity-driven interpretations, such that members predominantly perceive one of the two identity facets as being enhanced and the other as being challenged. Finally, we find that, as members attempt to align adaptation with their perceptions of organizational identity, the various combinations of these perceptions engender different types of responses to the disruption innovation. In the specific case of our study, these response types include highly flexible, innovative adoption; flexible non-adoptive responses, or “bold retreats” (Adner and Snow, 2010); highly hesitant, rigid adoption (“cramming;” Christensen and Raynor, 2003); and aggressive, but somewhat “routine rigid” adoption of the disruption (Gilbert, 2005).

Our study makes at least three contributions to the literature. First, it advances the emerging conversation on the implications of organizational identity in adaptations to disruptive innovations by introducing a multifaceted view of organizational identity. In particular, we inductively distill the concept of organizational role identity and differentiate it from the previously studied organizational domain identity; we also show that, somewhat paradoxically, members can perceive the same

disruption as both identity challenging *and* identity enhancing, depending on how members perceive each of these two facets as being affected by a disruptive innovation. Second, these insights allow us to offer a more nuanced depiction of how and under which conditions identity-related struggles unfold in incumbent organizations, and how organization members deal with those struggles. Third, owing to the multi-case study design of our project, we are able to induce theory on how variance in organizational identity might lead to variance in organizational adaptation, which represents a novel contribution to the discussion on inter-firm response heterogeneity (Eggers and Park, 2018).

THEORY BACKGROUND

Disruptive Innovations and Heterogeneity in Adaptive Responses

Disruptive innovations, which are typically introduced by new entrants, are characterized by discontinuous changes in the three elements that constitute value creation and capture: the perceived benefit, the architecture of value creation, and the business model (Christensen and Raynor, 2003). With regard to the *perceived benefit*, disruptive innovations initially underperform established approaches in terms of traditional benefit dimensions while simultaneously introducing new benefit dimensions, such as ease of use, convenience, and often cheaper prices (Christensen, 1997). In this regard, disruptive innovations differ from “sustaining” innovations, which can be as radical in terms of the technical improvement but “give customers something more or better in the attributes they already value” (Bower and Christensen, 1995, p. 45). Equally importantly, disruptive innovations emerge under specific circumstances (Christensen, 1997; Klenner et al., 2013), particularly when the pace of technological development outstrips the mainstream demand for improvement (Christensen, Anthony, and Roth, 2004). In such situations, customers start to switch to disruptive innovations. This process intensifies as disruptive innovations improve, also along the established benefit dimensions, and more customers perceive and cherish the new benefits introduced by the disruptive innovation even if they initially conceived these benefits as unimportant (Adner, 2002). Another characteristic of disruptive

innovations is that they are based on fundamentally new *architectures for transforming inputs into outputs* (see Christensen and Bower, 1996, p. 198) with significant shifts in the underlying cost structure (Ansari et al., 2016; Christensen and Bower, 1996). Finally, a disruptive innovation is typically deployed in a considerably different *business model* (Christensen, 2006; Markides, 2006). This entails a new approach to transforming value into profit, especially in terms of the revenue and pricing structure.

A disruptive innovation puts established companies in a vexing dilemma (Christensen, 1997). On the one hand, disruptive innovations, at least in the long run, can be vital for a firm's growth and survival (Christensen, 1997). Thus, if decision makers decide against adopting an innovation that might successfully disrupt the market, they might put their firm's long-term success at risk. On the other hand, however, disruptive innovations are inherently financially unattractive, at least in the short-term. This is primarily given the uncertainty involved—indeed, it is difficult to decide *ex ante* whether a given innovation is disruptive and ultimately pans out economically (Klenner et al., 2013)—and because established, high-end customers are unwilling to employ the disruptive innovation (Ansari et al., 2016). Moreover, disruptive innovations require drastic, expensive, and politically difficult shifts in competences and resources (Anderson and Tushman, 1990). As a result, managers are torn between the need for adopting disruptive innovations and the pressures to stick to sustaining innovations (Christensen, 1997).

The incumbent's dilemma is strongly affected by cognitive mechanisms (Gilbert, 2005; Tripsas and Gavetti, 2000). Concepts of value creation and capture are social constructions that, over time, turn into widely shared cognitive schemas (Garud and Ahlstrom, 1997; Garud and Rappa, 1994, Kaplan 2011), which are inherently inadequate for making sense of disruptive innovations (Barr, Stimpert, and Huff, 1992; Dosi, 1982; Levitt, 1960; Tripsas and Gavetti, 2000; Weick, 2001). As a result, decision makers in incumbent organizations often experience difficulties in recognizing and interpreting

disruptive innovations (Eggers and Kaplan, 2013; Kaplan, Murray, and Henderson, 2003). Outdated schemas can lead managers to rigidly stick to old routines (Gilbert, 2005) and to “cram” (Christensen and Raynor, 2003) new technologies into established markets (Tripsas and Gavetti, 2000).

Cognitive lenses have also helped to explain why the responses of incumbent firms often vary substantially despite these generic inertial forces (Burgelman, 1994; Lant and Mezias, 1990; Tripsas, 1997; see Eggers and Park, 2018, for a summary). For instance, Gilbert (2005) suggests that the commitment of resources to disruptive technologies is stronger when members interpret a new innovation as a threat rather than an opportunity. Kammerlander and Ganter (2015) argue that family firms’ responses to disruptive technologies depend on the specific goals that CEOs pursue. One conversation that is currently unfolding within this research stream centers on one particularly influential cognitive structure for incumbents’ responses to disruptive innovation: organizational identity (e.g., Tripsas, 2009).

The Emerging Debate on the Role of Organizational Identity in Disruptive Innovation

Organizational identity has often been studied in the context of change and adaptation (Gioia et al., 2013b). This is not surprising given that change puts fundamental assumptions about the organization, its goals, its success, and its prospects into question, thereby making organization members more aware of their identity perceptions (Ashforth and Mael, 1996; Elsbach and Kramer, 1996). Moreover, organizational identity is a deeply embedded cognitive schema (Gustafson, 1995) that strongly influences the attention, interpretation, and actions of organization members (Ashforth and Mael, 1996; Kogut and Zander, 1996). In that regard, most of the literature has portrayed organizational identity as a change preventer because change a priori contradicts the concept of a more or less enduring identity (Ashforth and Mael, 1996; Burgelman, 1994; Dutton, Dukerich, and Harquail, 1994). In fact, members of organizations typically try to protect their identity perceptions by conservatively sticking to well-proven processes and structures (Brown and Starkey, 2000). However, some studies have noted that

perceived threats to organizational identity are effective triggers of change (Elsbach and Kramer, 1996). For example, Dutton and Dukerich (1991) showed how perceptions of a threatened organizational identity forced decision makers to dramatically alter the way the New York Port Authority treated homeless people seeking shelter in its facilities.

A growing stream of research that builds on these insights indicates that organizational identity carries great potential to provide a more grounded understanding of incumbents' attempts to adapt to disruptive innovations (e.g., Altman and Tripsas, 2015; Tripsas, 2009). In a recent literature review, Anthony and Tripsas (2016) suggest that members consider whether their shared perceptions of organizational identity are enhanced or challenged when they engage in an innovation activity. Moreover, these authors argue that if members perceive an innovation activity as "identity enhancing," they are, *ceteris paribus*, more likely to pursue it than if they feel that doing so would violate the attributes that constitute their organization's identity. In addition, organizations might differ significantly with regard to how they resolve dysfunctional conflicts and struggles that arise when a considered innovation activity challenges perceptions of organizational identity (Garud and Karunakaran, 2017). For instance, companies might reframe the innovation activities so that they appear to fit the organizational identity or they might shift organizational identity claims to accommodate the innovation (Tripsas, 2009).

"Domain"-focus of extant research on identity and innovation. As noted by Anthony and Tripsas (2016), the large majority of studies on organizational identity and (disruptive) innovation conceptualize organizational identity as deeply engrained perceptions of belonging to a certain competitive category or group. Livengood and Reger (2010) refer to these perceptions as an organization's "identity domain" and explain that these perceptions often refer to products or processes as attributes of an organization's identity. An example for this domain-focused view is O'Reilly and Tushman's (2004) account of how executives at USA Today attempted to shift the firm's identity away

from a “newspaper” and towards the notion of a “network.” Watkiss and Glynn (2016) show that this categorical, domain-focused conceptualization of organizational identity is well-established in the institutionalist or sociological perspectives on organizational identity and strongly affects organizational attention, interpretation, and action (see also Elsbach and Kramer, 1996; Navis and Glynn, 2010; Porac et al., 1989). The domain-focused view also is critical in the context of disruptive innovations because such shifts are likely to emerge at the periphery of incumbents’ identity domains (Tripsas, 2009), and to affect their boundaries (Adner, 2012; Ansari et al., 2016). Specifically, the more the members of an organization perceive a disruptive innovation as occurring inside rather than outside the boundaries of their identity domain, the more attentive they will be to that innovation and the more motivated they will be to embrace it (Livengood and Reger, 2010).

However, despite these advances, the predictive power of our knowledge on the role of organizational identity in times of disruption remains limited as we still know very little about how differences in organizational identity contribute to heterogeneity in incumbent adaptations to disruptive innovation. Part of the problem is the lack of identity-focused, *cross-case* comparisons of structurally similar incumbents and their responses to disruptive innovations, which are necessary to discover nuanced differences in response patterns (for a notable exception, see Tripsas, 2013). Theoretically more critical is the somewhat limited conceptualization of organizational identity in the extant studies, which have largely ignored that organizational identity is in fact a multifaceted construct.

Organizational identity as multifaceted construct. Gustafson (1995) was perhaps the first to highlight that organizational identity cannot be reduced to categorical, membership-defined views but “transcend[s] any particular product, process, time or environment” (Gustafson and Reger, 1995, p. 464). Thus, to comprehensively understand a firm’s organizational identity, we must not only consider the category to which members believe their organization belongs, but also members’ perceptions regarding “why or how things are done” in their organization (Gustafson and Reger, 1995; Stimpert,

Gustafson, and Sarason, 1998) and the organization's essential values and beliefs (Ashforth, Harrison, and Corley, 2008; Nag et al., 2007). Such multifaceted perspective is highly important because disruptive innovation affects not only the (perceived) boundaries of a domain, but also—by definition—the mental models, beliefs, and values regarding how companies approach value creation and capture. Thus, organizational identity is likely to have a more complex and nuanced influence on adaptation to disruptive innovation than suggested by the purely domain-focused accounts on the topic.

Surprisingly, the extant research remains silent about which facets of organizational identity—other than the categorical facet that we label organizational domain identity—surface in the context of disruptive innovation or how they might influence incumbents' adaptive behaviors. Our study, which was based on an inductive epistemology (Glaser and Strauss, 1967), thus began without specific preconceptions of how the multifacetedness of organizational identity might affect adaptation. Ultimately, it revealed the concept and the distinct influence of *organizational role identity* as another influential facet of organizational identity. Below—especially in our description of emergent findings—we further explain organizational role identity and related extant theories and concepts.

METHODS

Research Design, Setting, and Sample

To answer our research questions, we studied the responses of established German book and magazine publishing companies to the emergence of digital products and services—especially e-books and apps, as well as such offerings as flat-fee access to various forms of electronic media—with a primary focus on the period between the early 1990s and the end of 2011. The first digitized books were commercially published in Germany in the 1990s. By the end of 2011, a dominant design for digital publishing had been established, driven largely by the launch of Apple's iPad and Amazon's Kindle in Germany.

We chose this setting because digitalization in publishing represents an archetypal case of a

disruptive innovation for several reasons (Benhamou, 2015). First, digital publishing reshaped the bundle of benefits offered to customers. Prior to the advent of digitalization, innovations in the publishing industry primarily improved performance with regard to either the content (e.g., new genres, new authors) or physical attributes of the printed medium (e.g., haptics, layout, illustrations, cover design). Moreover, to stimulate customer interest, publishers tried to gain premium shelf space in major bookstores, invested in presentations at major book fairs, and sought favorable reviews from journalists in printed newspapers (König, 2009). In addition mainstream customers were overserved with regard to focal traditional benefit dimensions such as haptics and layout, and they were unwilling to invest in expensive improvements in these dimensions, as shown, for instance, by the success of pocket books. While digital publishing underperformed in many of the traditional performance metrics such as haptics and layout, it highlighted other benefits that had previously been secondary or non-existent, such as 24/7 availability, dictionary functions, interactivity, customer ratings, and publishing speed.

Second, digital publishing was based on substantially different architectures and processes of value creation. This required different skills and competencies within the organization because knowledge of physical printing and layout equipment—previously a core competency of publishing houses—was replaced with knowledge of technologies that allowed for storage of information in databases and knowledge of different electronic formats (Ronte, 2001). Digital publishing also required integration with a new set of complementors (Adner, 2012). For instance, content had to be compatible with e-readers (e.g., Thalia's Tolino and Amazon's Kindle), which were constantly changing.

Third, digitalization fundamentally changed profit formulas and business models in the publishing industry. For example, digitalization allowed for new ways of generating revenue, such as flat-rate models. Moreover, publishing houses were no longer dependent on brick-and-mortar book sellers, as they could undertake direct sales to end customers through their websites. At the same time, new entrants, mostly from the software industry, started to offer books and magazines at substantially

lower prices. These business models were partially enabled by self-publishing services, such as Kindle Direct Publishing from Amazon.com and new methods of cross-subsidization, such as Google's approach of selling search data to advertising clients. Given these changes and the high levels of ambiguity and uncertainty, most incumbents initially viewed the idea of adopting digitalization as difficult, or even completely unattractive. In fact, archival sources from the German National Industry Association of Book Publishers (BOEV) show that, similar to other disruptive innovations described in the literature (Christensen and Raynor, 2003), innovations in digital publishing were almost exclusively introduced and fostered by new entrants, such as Google (Books), Amazon, and Apple.

The *German* book-publishing industry provides a particularly rich context for studying the responses of incumbent book publishers to digitalization because in Germany books play a particularly important role in society (Schulze, 2001). For instance, more schools in Germany are named after Johannes Gutenberg, the inventor of mechanical movable type printing (59 schools listed in the school directories of the 16 German federal states from 2012), than are named after Martin Luther (47) and Ludwig van Beethoven (8). The historical identification of German culture with book publishing is also evidenced by the Frankfurter Buchmesse and the Leipziger Buchmesse—widely regarded as particularly important international book fairs and major cultural events, with a tradition spanning more than 500 years.

We applied a theoretical sampling logic (Yin, 1994) and analyzed 14 of the most important German book publishers (according to BOEV). As our aim was to explain heterogeneity in response patterns, we included companies that varied in their embracing of digitalization. We focused our analysis on those firms that were among the hundred top-selling book publishers at the turn of the century. Further, we only included companies that were at least fifty years old and that employed at least fifty people in order to focus on those firms in which routines existed and in which an identity had formed prior to digitalization (see Table I for further characteristics of the sampled firms). Furthermore,

privileged access to confidential data, which was provided to us by company representatives for the purpose of conducting this study, was an important selection criterion. We added cases until we found that new cases would only add marginally to our theoretical understanding (Glaser and Strauss, 1967).

Insert Table I about here

Data Collection

Table II summarizes the data that we collected. Our data sources included web pages, interviews, unobtrusive observations, and other archival material.

Archival, longitudinal documents. We collected data from archival sources, including press clippings and (partially confidential) company presentations. We also collected an extensive number of historical webpages dating back to the mid-1990s, which we accessed via <http://web.archive.org> in line with previous research stating that the World Wide Web is a useful source for capturing an organization's identity (Coupland and Brown, 2004). Certain sections, such as "About Us" and "Our History," were particularly important, as they offered time-stamped data on incumbents' identities *before* and *during* the publishers' adaptations to digitalization. In particular, we used the book publishers' own descriptions, editorial letters published on the websites, and descriptions of the company's history to learn more about the facets of identity that were particularly influential. In addition, such sections as "News," "Press Releases," "Letter from the Editor," and "Products" often provided information on each incumbent's interpretation of the disruptive innovation and on its product portfolio, especially with regard to new (digital and print) product offerings and product abandonment. On average, we were able to analyze the websites in two-year increments.

Interviews. We conducted 70 semi-structured interviews with the CEOs of the 14 focal firms (average length: 75 minutes), managers and employees of the 14 firms, industry experts, and founders of new entrants (average length: 60 minutes). While interviews with members of the 14 incumbent

publishing firms took place in 2010 and 2011, expert and new entrant interviews were carried out from 2009 to 2012. Moreover, after the first round of data analysis, and whenever we found gaps in the data, we engaged in additional (email-based) conversations with the CEOs to discuss our preliminary findings with them. The core objective of the interviews was to identify and investigate activities, events, and narratives (Patriotta, 2003) that would reveal how perceptions of firm members influenced subsequent adaptation behaviors in incumbent firms. Similar to prior research (Gioia and Thomas, 1996; Livengood and Reger, 2010), we started by focusing on the top-management level, and subsequently interviewed additional employees and managers across hierarchies, departments, and tenures. This approach allowed us to obtain a variety of perspectives (Flick, 2009), which helped address concerns of retrospective bias (Huber and Power, 1985).

Our interview guidelines (available from the first author) were primarily informed by the literature on adaptations to disruptive innovations. Our questions focused on: (1) how incumbents interpreted the disruptive innovation (and how and why that changed over time); (2) how incumbents launched or “deferred” (Kaplan, 2008b) responses to the disruption (and when those activities took place, including information on planned activities); and (3) how the implementation of responses as well as feedback on such activities shaped perceptions and additional responses within the organizations (and whether there were differences among the perspectives of various stakeholder groups, such as top managers, employees, and customers). We encouraged our informants to recall concrete examples and events, a technique that provides more comprehensive and accurate accounts, and prevents post-hoc rationalization (Fisher and Geiselman, 2010). Interviews were recorded and verbally transcribed within one week¹.

Supplementary data. We collected supplementary data, which we used to triangulate the interview and archival data and to address alternative explanations. For instance, we took detailed notes during our on-site observations, which helped us make sense of the interviewees’ statements, and we

asked the interviewees to fill out additional surveys that provided us, for example, with information regarding the network ties they frequently built on. Furthermore, we unobtrusively observed members of the focal organizations at industry conferences, some of which were specifically dedicated to the topic of digitalization, and at large book fairs. Those observations helped us to interpret and triangulate the information gathered from the interviews. In addition, the second author had the opportunity to observe decision makers from large book retailers during numerous executive seminars (none of them involving the studied companies). That author also collaborated with the industry association BOEV on a four-month university consulting project and witnessed a steering board meeting of the BOEV where senior representatives of the industry discussed the uncertainty associated with digitalization. We compared insights from this supplementary data with information contained in other sources to systematically triangulate our emerging findings (Jick, 1979; Jonsen and Jehn, 2009).

Insert Table II about here

Data Analysis

Our analysis, which followed the general approach of grounded theory (Gioia et al., 2013a; Glaser and Strauss, 1967), was informed by procedures developed in prior studies on adaptation to discontinuous innovations (Kammerlander and Ganter, 2015; Kaplan, 2008b; König, Schulte, and Enders, 2012). We first summarized each case and extracted first-order concepts from the interviews and archival material in an open coding process (Mayring, 2008; Van Maanen, 1979). Thereafter, while comparing cases, we iteratively aggregated first-order categories into second-order themes and overarching dimensions of identity-driven interpretations and responses (Gioia et al., 2013a). On the basis of comparisons of patterns in the various cases, and the observation that they replicated the emerging patterns (Yin, 1994), we derived a mid-range theory on organizational-identity-driven processes and incumbent responses to disruptive innovations.

Throughout the data-analysis process, we regularly performed inter-coder agreement checks (Krippendorff, 2004) among the two to six coders (depending on the phase of analysis) and used divergences to further enhance the reliability of our coding.ⁱⁱ Finally, after we obtained a good match between the emerging theory and the data, we re-engaged in communication with our informants and with experts (e.g., at the annual meeting of the International Society for Book Studies) in order to validate our observations (Flick, 2009). Our emerging data structure (Nag et al., 2007) is illustrated in the online Appendix (Table A-I), including exemplary archival evidence and quotes. The data structure comprises facets of organizational identity that emerged as important throughout our analysis as well as categories and themes regarding the ways in which members perceived these facets of identity as being enhanced and challenged, the struggles that evolved under certain circumstances, and variance in response behavior. We iteratively improved this data structure, revolving back and forth between extant theory and our case observations (Eisenhardt, 1989), and used it as the basis for developing our final process model (see Figure 2) which we explain below, after describing four exemplary cases.

EMERGENT FINDINGS AND DESCRIPTIONS OF EXEMPLARY CASES

When making sense of the adaptive processes in the individual cases, we noted that members' perceptions of "To which category of organizations do we essentially belong?" and "What is our competitive home turf?" strongly influenced their interpretations of the disruptive innovation and the subsequent adaptation processes, as suggested by the extant research on organizational identity and disruptive innovation. However, in line with our initial intuition, we also realized that a second, not yet conceptualized, facet of identity surfaced in members' claims about their organizations' identities and played an equally crucial role in their companies' adaptive behaviors. These claims referred to perceptions regarding "Who are we with regard to our central and distinctive impact on the overall development of our category?" and "What is our essential relation to other actors in our category?". In particular, members referred to perceptions of their organizations as either *shapers* that form their

respective category's overall trajectory and lead the other actors, or *followers* that adapt to their field's development and react to external demands.

We labeled these constructs *organizational domain identity* and *organizational role identity*, respectively. We chose the term organizational domain identity because the underlying idea relates to Livengood and Reger's (2010) concept of "identity domains." We chose organizational role identity because the identity perceptions encompassed by this facet echoed, to a certain extent, the nature of individual role identities described in social identity theory—institutionalized characters that people in certain social positions perform and, over time, identify with (Burke and Tully, 1977; Tajfel and Turner, 1986).

As illustrated in Figure 1, we observed substantial variance in how members of incumbent firms perceived their organizations' domain and role identities and how these identity facets were affected by the disruptive innovation. Specifically—despite their considerable initial homogeneity in terms of products, customers, and skills—some organizations perceived their domain identity as enhanced because the disruptive innovation was perceived as falling within the organization's "home turf." Others, in contrast, perceived their domain identity as challenged by the disruptive innovation because they perceived the disruptive innovation as falling outside their domain and, consequently, that adopting those technological developments would threaten their domain identity.

Likewise, we observed that members of companies with a follower role identity felt that adopting the disruption would enhance that role identity, primarily because it presented an opportunity to fulfill new market demands. In contrast, members in organizations with a shaper identity felt that the disruptive innovation challenged the role identity. More specifically, they believed that the disruptive innovation introduced new benefit dimensions that their company was unable to provide, and they perceived their company's routines and resources as inferior to those of the new entrants. Thus, adopting digitalization would challenge their role as shaper. Interestingly, as discussed in the future

section, we did not observe cases of enhanced shaper role identities or challenged follower identities.

Insert Figure 1 about here

In the following, we first provide descriptive accounts of four exemplary cases—Leo Books, Taurus Print, Gemini & Sons, and Libra Press—which vary with regard to their members’ perceptions of domain identity and role identity and show how the two identity facets affected companies’ interpretations and responses when making sense of digitalization. Thereafter, we build on these and the ten other cases to induce a model that generalizes our observations into a mid-range theory.

Leo Books

Founded shortly after World War II, Leo Books had grown to a medium-sized publisher with over 200 employees by the end of the 20th century. In its early years, the publisher focused on loose-leaf collections, but it quickly extended its portfolio to include fiction, reference books, textbooks, trade magazines, and newsletters.

Early attention to digitalization. As early as 1999, Leo Books emphasized the opportunities that digitalization and “new media” offered for book publishers (“About Us,” website) and explicitly noted that embracing the new digital technologies was “an almost self-evident consequence [of the company’s] holistic [world view].” As reflected in multiple website and brochure statements, these perceptions continued, as members sensed that Leo Books had always essentially been “[a provider of] information and knowledge [and] not only printed papers” (“About Us,” website, 2001; similar in 2004 company brochure and CEO and manager interviews).

Emerging struggle to maintain shaper identity while embracing digitalization. Despite members’ perceptions that digitalization would enhance Leo Books’ domain identity, it took the company several years, until 2002, to start implementing the disruptive innovation. A manager

described this period of standstill: “Everyone wanted it [i.e., embracing digitalization], [... but] there were many discussions. It was a struggle.” The CEO explained this struggle in more detail:

[We did not feel threatened economically. Rather, it was] the fear of failure—our culture of perceiving ourselves as the best—that made us afraid that we would be unable to measure up to the standard of our own expectations. ... [Moreover,] we want to decide on our own what to do and what is right for our customers [instead of following what Google and Amazon tell us to do. ... We prefer initiatives] created from the inside. To remain self-contained [is our] ultimate goal.

Other statements made by interviewees underscored the CEO’s notion that there was no shared vision of how digital initiatives could fit members’ perceptions of the company as an independent leader or “shaper” (CEO) in its field. In this regard, the “About us” sections of Leo Books’ website and the company’s mission statementsⁱⁱⁱ continually pointed to “autonomy” and “independence” in strategic decisions as essential to the company as an information and knowledge provider. Moreover, other interviewees emphasized that the company wished to lead in the development of digital technologies, even if doing so required overcoming customer resistance. For instance, one manager stated:

When you ask customers ‘What do you want?’, you usually get vague answers based on something you have already seen. ... Our customers are very conservative with regard to digitalization.

However, members recognized that new and powerful entrants such as Apple, Amazon, and Google, would dictate the rules for the digital publishing world. As such, Leo Books’ decision makers felt the company’s role identity challenged as they could not see how they could pursue digitalization in a way that would reinforce their view of the company as a shaper of its market, instead of being driven by some external forces. For example, when asked why it was so hard for Leo Books to decide on any specific, major digital initiatives, one manager noted that members at Leo Books struggled to find ways to embrace digitalization while staying true to the shaper identity: “We do not just want to be *a* player in the market. We want to offer *unique* value.”

Until 2002, top management met multiple times with the aim of resolving this struggle. The CEO noted: “We talked about the right approach to digitalization every day.” However, the search and the conversations appeared to be stuck. A manager explained: “[We were] intensively searching for a

comprehensive and sustainable solution [...]. Unlike other publishing houses, we did not want to start with smaller, individual projects.” When pondering why Leo Books struggled in this respect, another employee stated: “[Our] philosophy is to offer not only the highest-quality content but also the best technological solutions,” and meeting these expectations seemed inconceivable. The CEO noted, “[we could not find a] holistic solution [...] that [...] went beyond our competitors’ offerings.” Overall, the struggles were tedious and dysfunctional. Notably, during this time, Leo Books did not innovate substantially in either the new digital domain or the established print domain.

Innovative adoption of the disruption triggered by a discovery. The situation started to change in 2002 when the top management team discovered an approach that finally allowed it to embrace digital technology in a relatively novel way that built on the firm’s internal knowledge. According to sources on various hierarchical levels, members of Leo Books realized that a previously internally developed database could be used as a basis for digitalizing the company’s products. This proprietary database was to become the “linchpin of [Leo Books’] digital product portfolio” (website, 2013). As soon as this opportunity was identified, a substantial amount of financial and human resources was dedicated to further developing digital products. In this regard, one manager noted “when you have your own ideas that are fundamentally different from your competitors’ ideas, then you have to give them a shot.”

In the ensuing years, the company introduced such products as proprietary, topic-focused social-network software; Internet TV; e-books; a variety of applications; audio files; social communities; premium electronic newsletters; and online seminars, which also allowed them to broaden their business model. In 2006, it summarized its progress as follows:

As in the past, we see ourselves as leaders in our market. With our digital product, we set totally new standards in the area of digital databases in our field. (website, 2006)

Since 2007, Leo Books has won numerous innovation prizes for its digital products. In a 2017 press release, the CEO indicated that Leo Books had indeed found a way to adopt digitalization that fitted the role identity of a shaper:

I am looking forward to the tasks lying ahead of us, especially with regard to further progressing with digitalization. [...] We are confident that we will respond to these tasks with standard-setting products.

Taurus Print

Taurus Print was founded shortly after World War II as a publisher of reference books and calendars. It grew into a medium-sized company with approximately 75 employees as of 2012. The portfolio was continuously adapted by adding reference books on a broad variety of topics and fiction books, as well as abandoning the calendar segment.

No intention to embrace digitalization. Although members of Taurus Print were aware of the digitalization trend in the 1990s, they viewed digitalized products as “second-rate” and expressed their unwillingness to produce and sell them (“About Us” webpage 1997). Along these lines, the CEO noted:

Our standards have to remain the same. In that regard, we are absolutely uncompromising. [...]. We will not produce junk just to survive.

Similarly, a top manager explained in a press interview: “We have always enjoyed creating beautiful books and we will continue to do so.” In an interview with us, an employee noted that “[our identity focuses on] producing pretty, formidable books that we like to exhibit and sell in book shops,” while a manager described the core of Taurus Print as “the print medium per se.” Moreover, the CEO denied in his interview with us that digitalization fell within his organization’s domain identity, emphasizing that electronic books “lack the sensual pleasure associated for instance, with turning pages” and that, “[our customers] are people who enjoy reading books [made of paper], not nerds surfing on the Internet.”

Absence of struggles and reinforcement of innovative initiatives in the established domain. We did not find any signs of identity struggles for Taurus Print. Notably, management quickly and unanimously decided to “continue to produce books as we have done in the past” (interview with

employee). The CEO confirmed in his interview with us that he did not “believe in any digital business models for [Taurus Print]” and, as such, believed that “not much will change in the future.”

Interestingly, even though both Taurus Print’s domain and role identities were challenged by digitalization, the publisher’s response was not inert but highly innovative, only that the company’s innovations focused on the established domain of printed books. In particular, around the year 2000, the company invested substantial financial and human capital in the further development of print books (manager, interview). Moreover, they invited book designers to post photos of their most beautiful books in specific sections of the website in order to promote and acknowledge the design of innovative, artistic books (website, starting in 2000). Several of the books published by Taurus Print received national design awards between 2000 and 2010 (website, press releases). In the same decade, Taurus Print widened its portfolio by including new topic areas, contracting with international best-selling authors, and introducing new user benefits in the high-end segment of printed books (e.g., introduction of lightweight books in 2012).^{iv}

Our data indicate that Taurus Print’s decision to invest in substantial “sustaining” innovations in the old domain was at least partly a reflection of its members’ strong perception of the organization as a shaper. For example, organization members described Taurus Print as “the most renowned publishing house of the post-war era in our segment” (CEO, interview) and as a company that had always assumed the role of a clear “leader [that] created its core market—there was nothing like that before” (manager, interview). Apparently, this identity strongly influenced innovation:

Other publishing houses say “Okay, we are a service provider—we want to be on it.” We are not like that. We work on issues internally and try to optimize everything before launching them. (Employee)

In a similar vein, a top manager acknowledged in a press interview that even though the demand for printed books might decrease, the company would still focus on this activity, as “a well-managed publishing house would not die just because of decreasing customer demand.” The CEO noted

We are dinosaurs in that regard. [...] We will see who will die and who will survive. However, we are ready to fight.

When reflecting on Taurus Print's activities with regard to digitalization, in a 2013 press interview, a top manager stated: "Work at the publishing house has not changed a lot." Indeed, even at the time of writing this study, the company continued to offer only very few digital products.

Gemini & Sons

Gemini & Sons was founded more than 150 years ago as a bookstore, but it quickly entered the publishing business. At the time of our study, it was a medium-sized publisher with approximately 75 employees and primarily active in the textbook and workbook segments in numerous topic areas.

Attention to digitalization but reluctance to embrace it. Organization members of Gemini & Sons noticed the emergence of digitalization in the late 1990s when competitors initiated round-table discussions on the topic. At the same time, they perceived the commitment to the "graphic design of books" and the "development of [printed] books—from the acquisition of authors to sales" as being at the core of the company's identity ("About Us," website 2001, 2006). One manager explained the organization's self-perception as "we publish books" and noted that anything else (e.g., digitalization) was "peripheral." Correspondingly, organization members were reluctant to embrace digital products. One manager predicted: "Our core products are printed books. [...] We will not change our business in the coming years." The disruption clearly challenged the domain identity.

Despite the strong rejection of digital products, company members perceived significant pressure to pursue digitalization actively. As explained by one manager, starting in the early 2000s, decision makers noted that the customer demand for digitalized solutions, such as e-books, apps, and software, was increasing. This manager also recalled that she and her colleagues (including the CEO) perceived increasing external pressure for digitalization:

We had a subscription to the industry association's magazine, which had more on more e-book reports on the front page ... showing us that we would not be able to avoid this trend. ... Moreover, at many industry association conferences and other gatherings of publishing houses, digitalization became the

focus of discussions. At those meetings, members of [Gemini & Sons] were expected to contribute to the discussions. Our CEO realized that we were expected to do something in the field of digitalization.

Emerging struggles. Intriguingly, members' perceived need to engage in digitalization—even though doing so would clearly violate Gemini & Sons' domain identity—was reinforced by their views of their company's role. Despite the fact that Gemini & Sons was a market leader in several of its segments at the time (according to several newspaper articles), members shared a strong perception of their organization as a “servant” (chief editor, around 2000) rather than a shaper. The CEO noted that, given this role perception, the company had little choice but to embrace digitalization:

The market dictates the terms. [...] We do what the customer wants [us] to do. [...] Over the more than 100 years of our company's history, we have always tried to keep a watchful eye on what is happening outside and to orient ourselves towards the large competitors.

The result was a struggle that many organization members felt at that time. A long-tenured middle manager noted that digitalized products did not fit with what the company stood for, but:

When something new happens, we have to react. When the customers decide that they need new product innovations, then we have to react.

In fact, the dilemma between the desire to stick with Gemini & Sons' domain identity as a book publisher and the desire to accommodate the organization's role identity by fulfilling emerging customer needs was so evident that managers discussed it not only internally but also externally. In a public letter published on the company's website in 2005, the CEO summarized the struggles that he and his top management colleagues faced:

Where do we come from? Who are we? Where do we want to go? [Shall we] frivolously follow whims and current consulting trends?

In his interview with us, the CEO elaborated:

We now have to deal with demands that are initially virulent and do not fall within our business area. I would prefer a world in which product digitalization did not exist. [...] Digitalization is a plague but we cannot avoid it.

Persistent struggles and inertia. The identity dilemma at Gemini & Sons resulted in highly dysfunctional, time-consuming, innovation-hampering conflicts and stagnation. A manager described the situation as “living under the sword of Damocles.” Gemini & Sons did not hire personnel dedicated

to digitalization and it did not invest substantial financial resources in the disruption. According to its product catalogue, Gemini & Sons launched one CD-ROM-based program in 2000. Although this launch could be interpreted as a cautious step towards digitalization, the company never actively promoted it. In the subsequent years, following the advice of several external service providers, Gemini & Sons offered a few digital products, such as audio CDs and downloadable content. However, all of these efforts merely served the purpose of “support[ing] book sales” (CEO, interview), resembling the pattern of cramming or routine rigidity described in the literature (Christensen and Raynor, 2003; Gilbert, 2005). Interestingly, the focus of the domain identity as a publisher of printed books even intensified, as reflected, for instance, in the fact that Gemini & Sons narrowed its set of competitive benchmarks to focus on only three long-time (print book) competitors. In 2007, the CEO noted in a speech how this focused domain identity increasingly alienated the firm from the rest of the industry: “Getting older makes our company a stranger in its own field. This publishing house ... is a phase-out model.” Despite this assessment, Gemini & Sons has not changed its approach toward digitalization.

Libra Press

Libra Press, a publisher with more than 500 employees, was founded a century ago. Prior to the emergence of digitalization, Libra Press focused on reference books, textbooks, trade magazines, and (temporarily) customer magazines. While its core business has remained stable over time, the topical focus and targeted customer groups have changed substantially.

Early embracing of digitalization. Members of Libra Press quickly recognized digitalization as an important issue. As early as 1991, the CEO predicted “the rise of digitalization” in a speech to other publishers. Moreover, early on, archival sources described Libra Press as a provider of “knowledge transfer that is relevant to practice” without any specific reference to “books” or “printed products” (website, early 1990s). Statements from archival websites, such as “we serve society by providing

information in the form of print and electronic media” (1996), show that Libra Press embraced digitalization as an attribute of its domain identity. Correspondingly, the CEO noted:

Some of our competitors are, of course, classical publishing houses. However, new competitors, especially content mediators such as Google, Xing, Internet newsgroups, and even industry fairs, have become even more important.

Interestingly, members of Libra Press and archival sources highlighted role identity perceptions as additional reasons for why the adoption of digitalization enhanced the organization’s identity.

Generally, the role of Libra Press as perceived by its organization members was that of “serving society” (“About us,” website since 1996) with a “focus on satisfying customers” (website since 2002).

Members noted that “the changes in the media industry [driven by digitalization] are the biggest changes seen in centuries—some say since the invention of the printing press” (CEO, interview). Thus, when members perceived that “the market required [digitalization]” (production manager), its pursuit fit with the company’s approach to following market developments.

Absence of struggles. We did not detect any struggle in Libra Press’s response pattern. Decision makers quickly agreed to adopt digital solutions. As early as 1997, the Libra Press website stated that “We will attend to the rapid technological change [triggered by digitalization].” According to the CEO,

Top management proposed ‘Let’s do that!’. The 89-year old owner [...] said: ‘That is an opportunity!’. Then we invested a two-digit million euro amount.

Interestingly, the decision to adopt digitalization was made even though doing so required “massive changes [with regard to products, processes and required capabilities]” (production manager).

In the initial adoption phase, which lasted from the mid-1990s to approximately 2002, the company launched such products as CD-ROMs, online periodicals, and an online shop. In 2002, the company also announced a partnership with an e-learning company. However, the adoption activities ceased in 2002 when the dot-com bubble burst, customer interest in digital products waned, and critical voices against digitalization emerged. In line with the customer trends and the company’s deeply engrained custom of following external developments, Libra Press reduced its digitalization efforts:

When the dot-com bubble burst, we stopped all [digitalization-related] activities. [...] We only restarted in 2006 and we did so in a very powerful way. In other words, we invested a lot of money. (CEO, interview)

As indicated by the CEO, the third phase of adoption began in 2006, as customer demand for online products started regaining momentum. Libra Press sold its printing plant, and re-entered digital publishing and widescale online activities. Moreover, the company hired a high two-digit number of employees to handle the firm's digital department.

Adoption activities characterized by lack of innovativeness. Perhaps the most intriguing twist in the Libra Press case was that the aggressive digitalization initiatives did not result in the most innovative, or unique products, even though the company experienced few identity-related struggles and debates. In fact, most of Libra Press's digital products were merely copies of competitors' products (manager). As one Libra Press employee noted, despite all of the investments, "the majority of our online content was reused print content." Another employee criticized the lack of "killer applications," and an editor summarized: "[We] lacked entrepreneurial spirit and good ideas for products." Our informants wondered why the company had this problem of being somewhat stuck in its existing routines. In this regard, one manager noted in a 2015 interview with the press:

We are often too busy with our business to radically change something and, maybe, too busy to ask totally novel questions.

One employee added that the problem might be related to the general approach to decision making: "[Management] blindly believe[s] the trend analyses and models provided by external consultants."

Cross-case Comparison and Model Development

The four exemplary cases—Leo Books, Taurus Print, Gemini & Sons, and Libra Press—illustrate a set of patterns that we also observed in the other 10 cases. This set of patterns serves as the basis of our mid-range theory and relates to three central aspects: challenging and enhancing domain identity and role identity; the struggles that unfold when one identity facet is challenged and the other is enhanced, and their resolution; and the heterogeneous responses of incumbent firms determined by the identity-

driven interpretations and struggles. Table III provides an overview of the findings, which we present in detail below (see Table A-II in the online Appendix for more fine-grained detail). Based on the emerging patterns, we induce our general mid-range theory, which is summarized in Figure 2, as well as the special application of that theory illustrated in Figure 3.

Insert Table III and Figures 2 and 3 about here

Challenging and enhancing domain identity and role identity. Similar to the four exemplary cases, the 10 other sampled firms acknowledged digitalization as an important development, but they differed substantially in their perceptions of how its adoption would affect their identities. Three of these further cases resembled Taurus Print and Gemini & Sons in that organization members perceived adopting digitalization as a challenge to their domain identity. For instance, organization members of Reader’s Finest considered their business as “very book-affine. We like the haptics. We like the smell. We like the sound [of turning pages]” (employee). Accordingly, they sensed that digital products would not fall into their home turf and that the implementation of digital technologies and a digital business model would contradict their domain identity perception, so they confined their activities to printing books. As the CEO of Reader’s Finest noted, “such initiatives outside of the print business [...] would be inconceivable for us.” Interestingly, mostly the companies that used “products” (e.g., books) to describe their domain identity perceived their domain identity as challenged by the disruption.

In contrast, seven companies, including Libra Press and Leo Books, believed that embracing digitalization would enhance their domain identity perceptions. Those firms mostly described their domain identity in terms of the value delivered to customers, such as “providing information.” They viewed the innovation as a way to accommodate their goal of delivering content. In this vein, for instance, the CEO of Peter’s Publishing House stated: “When talking about books, we do not distinguish between print and electronic books. They appear as the same for us.”

In most cases, organization members were highly consistent in their perceptions of whether the adoption of digitalization challenged or enhanced their firms' domain identities. However, notably, in two cases—House of Books and Reader's Publisher—the perceptions of top management (“domain identity challenged”) differed from perceptions on lower levels, especially among the younger employees and managers with shorter tenures (“domain identity enhanced”)^v.

With regard to role identity, members of seven companies, such as Libra Press and Gemini & Sons, predominantly perceived their organizations as followers and as “servants” (Chief Editor, Gemini & Sons) of society and customers. For those companies, satisfying customer needs was a top priority. The CEO of TopPress used a boat metaphor to describe his company's role in its industry:

Our firm is like a ship with no final destination. We just move, and we have to make sure we do not move too fast or too slow. ... In such turbulent times, we have to carefully check where the wind is coming from. Those who do not do so will be in fundamental trouble. ... Our firm's history has been characterized by the fact that we have been able to quickly react to changes and external shocks. ... The only thing that I, as CEO, can do is to keep the organization alert so that it can react quickly.

Members of these organizations perceived digitalization as one possible way of enhancing their role identities, as the innovation provided them with new ways to satisfy their customers. In this respect, the CEO of Superbooks noted:

Prior to digitalization, we did not have any other medium to convey our content. ... When the publisher was established, the only way to mediate and transfer information to customers was in print.

Similarly, the CEO of Reader's Publisher explained: “Sometimes we say: ‘Ok, our customers want this, so we have to create and offer this product’.”

In contrast, members of six companies,^{vi} including Taurus Print and Leo Books, felt that digitalization challenged their role identities. Those companies defined themselves as shapers, and they wished to be “trailblazers” (assistant, Peter's Publishing House) that would have an impact on the development of their industry. They only wanted to work on “projects that suit us” (CEO, Secret Books). Members struggled to conceive of a way to embrace digitalization that would enhance this shaper identity. Most importantly, they realized that digitalization was first commercialized by new

entrants, which left established publishing houses to “copy” those formats instead of developing and launching them themselves. For instance, the CEO of Peter’s Publishing House emphasized that his organization always asked “Does this fit us [as shapers]?” and added:

[We had to] endeavor to play an active role among the industry leaders [but that was difficult because] normal e-books are as dull as dishwater. There is nothing innovative about them.

Identity-induced struggles and their resolution. Several of the firms in our sample were able to decide quickly for or against the adoption of digital technologies, without any struggles. Those were exactly the companies in which either both identity facets were enhanced or both identity facets were challenged by the disruptive innovation (see the arrow from “interpretations” to “response” in Figure 2, labeled as “consonant” interpretation). In the first group of cases (similar to Libra Press; lower-left quadrant in Figure 1), the disruptive innovation enhanced the firms’ domain identities and simultaneously enhanced their follower role identities. Members of these firms did not perceive any identity-related struggles and quickly decided *to adopt* the disruptive innovation. In these cases, members had a broad sense of their companies’ home turf, which often revolved around being a content provider rather than being tied to print. As they viewed themselves as followers, they did not struggle with the fact that their solutions would not necessarily drive the industry’s evolution. In contrast, members of the second group of cases (similar to Taurus Print; upper-right quadrant in Figure 1) perceived the disruptive innovation as challenging their print-based domain identity as well as their role identity a shaper. In those firms, a decision was swiftly made *to dismiss* digitalization-based innovations. Members of these organizations perceived e-publishing and electronic distribution as incompatible with their strong identification with printed books. They also conceived it as impossible to adopt the disruptive innovation in a way that would enhance their self-perceptions as shapers of the field. This was primarily because they viewed their firms’ resources and capabilities as incompatible to successfully adopt the disruption. As such, the decisions to stay away from digitalization were made “within few weeks” (Rocket Book) and “without lengthy discussions” (Reader’s Finest).

Perhaps the most intriguing cases were those in which one of the two identity facets was perceived as challenged by the disruptive innovation while the other was perceived as enhanced. Based on our evidence, we propose that the enhancement of one and the simultaneous challenging of the other organizational identity facet induces dysfunctional struggles and, at least temporary, inertia as well as a search for struggle resolution in the affected organizations (see middle of Figure 2). In all of these cases, we observed “standstills with massive struggles” (Peter’s Publishing House), such as those described above for Leo Books and Gemini & Sons. Notably, while these struggles paralyzed adaptive responses in all organizations for an extended period, the nature of those struggles differed. In cases like Leo Books (upper-left quadrant in Figure 1), where the domain identity was seen as enhanced and the role identity was seen as being challenged, organization members wanted to adopt the disruptive innovation. However, they could not initially conceive of a way of doing so without jeopardizing their organization’s role. The production manager of Secret Books described the lengthy process of finding the organization’s role in the digitalized world as follows:

[Digitalization] is difficult. It is still very difficult ... Of course, what we could offer is very general information put online for download.... However, [developing more advanced digital products] is a process that needs more time. Of course, we will go there. ... We have to develop new concepts from scratch. ... We have a very positive attitude towards digitalization—I was just very upset when I observed the first tentative attempts of other publishers, which were not based on advanced business models.

In cases where members perceived the domain identity as challenged and the role identity as enhanced (e.g., Gemini & Sons; lower-right quadrant in Figure 1), organization members found themselves in a dilemma—they did not want to adopt digitalization but felt pressured to do so in order to accommodate their role of fulfilling customer requests. In this regard, the CEO of Reader’s Publisher, noted:

If [digitalization and social media are] important for our customers, then we have to adopt them. However, I am quite hesitant. Most organization members of [Reader’s Publisher, including myself] would prefer to only be involved in print.

Interestingly, we observed that companies in the former group were able to resolve their struggles after, for example, intense intra-organizational discussions and employee training (Peter’s Publishing House). Companies in the latter group continued to struggle.

Heterogeneous responses of incumbent firms. The third theme emerging from our data was that specific combinations of domain and role identity (“enhancing” and “challenging”) not only affected the sensemaking processes and perceived struggles but ultimately lead to variance in organizations’ responses. Notably, our observations are limited as they only include cases of challenged shaper role identities and enhanced follower role identities, but no cases of enhanced shaper or challenged follower identities. We therefore not only induce a general theory on this pattern (lower part of Figure 2) but also a special application of that theory, which is illustrated in Figure 3.

First, generally, we induce that the firms whose members perceive both, their domain identity and their role identity, as “enhanced” by the disruptive innovation *quickly adopt that innovation* (see Figure 2). For the specific case of an enhanced follower role identity (in combination with an enhanced domain identity) which we observe in our setting, we anticipate an *aggressive, but somewhat non-innovative adoption* (lower-left quadrant of Figure 3). All publishers in this group launched their first digital products as early as the 1990s, and many of them added multiple revenue channels based on digital goods and services (see Table III). However, most of the digital products were e-books based on prior printed products, and they were created based on customer requests and other external input. Several of the interviewed experts and organization members indicated that those digital products were not particularly innovative. We propose that this rather rigid adoption of the disruptive innovation might be caused by the simultaneous enhancement of both identity facets and the resulting lack of reflection- and search-triggering struggles.

Second, generally, the firms whose members perceive both identity facets as challenged *quickly decide against adoption*. For the specific case of a challenged shaper domain identity (in combination with a challenged domain identity), we expect *non-adoption, but highly innovative domain defense* (upper-right quadrant of Figure 3). These firms neither hired employees to handle digitalization nor adapted their internal structures. Interestingly, however, this did not mean that these firms lacked

innovation. In fact, the “challenging/challenging” companies in our sample decided to undertake bold retreats into niche markets and worked on a series of innovations in the old, print domain, such as the introduction of new genres, paper-based quality innovations, intensified promotion of print-based products, and the contracting of new authors.

Third, and most intriguing are incumbents whose members perceive the disruptive innovation as enhancing one identity facet while challenging the other. As noted in Figure 2, in these cases, we expect *generally delayed responses due to the emerging intra-organizational identity struggles*, but we expect the *response type to depend on the specific constellation of identity challenge and enhancement*. Our data allow specific inferences for cases involving an enhanced domain identity and a challenged shaper role identity, namely a *highly innovative adoption* (upper left quadrant in Figure 3). In these cases, the shaper role identity apparently helps organization members to keep looking for disruptive solutions that will eventually enhance that role identity. In fact, all firms belonging to this group eventually overcame their identity struggles, and they adopted the disruptive technology in a creative manner, as evidenced by the various innovation awards they received for digital products. As such, we propose that struggles emerging from perceived challenges to shaper role identities might act as functional catalyzers for creative thinking and stamina (König, Kammerlander, and Enders, 2013) in the search for role identity-enhancing out-of-the-box disruptive solutions.

Finally, our data also allow for specific suggestions regarding the adaptive behavior of incumbents in which members see their company’s domain identities as being challenged while the role identities of follower as being enhanced (lower right quadrant in Figure 3)—a *highly hesitant, rigid adoption*. In fact, all firms belonging to this group included in our sample, tussled with ongoing inertia because they were unable to overcome their identity struggles. As such, members engaged in lengthy discussions that slowed decision making across the organization. In contrast to the “enhancement/challenge” type of organization described above, those discussions did not lead to a

fruitful discourse and were highly dysfunctional. Therefore, they resulted in a form of organizational paralysis that hampered initiatives in both the new and the old technology domains.

DISCUSSION

We used qualitative data from multiple cases to build theory on how organizational identity affects incumbents' sensemaking and responses when faced with an emerging disruptive innovation. In particular, we revealed that organization members interpret the response options based on how they enhance or challenge two distinct facets of organizational identity: domain identity and role identity.

Our study makes several contributions to the emerging stream of research on organizational identity in the context of incumbents' responses to disruptive innovations (e.g., Anthony and Tripsas, 2016; Tripsas, 2009). First, our cross-case research design introduces to this conversation a multifaceted view of organizational identity (Gustafson, 1995), thereby following Altman and Tripsas' (2015) and Anthony and Tripsas' (2016) calls to extend the focus of the identity-innovation research beyond the primarily institutional-sociological view of organizational identity (Navis and Glynn, 2010; Watkiss and Glynn, 2016). In particular, we induce the thus far overlooked facet of organizational role identity and demonstrate how role identity perceptions surface in the context of disruptive innovation. We also propose that disruptive innovations may challenge not only incumbents' organizational domain identities, but also their organizational role identities and, thus, add a new dimension to the extant, domain-focused conversation on identity and disruptive innovation (e.g., Livengood and Reger, 2010). In hindsight, it is theoretically consistent that we find role identity perceptions surfacing in times of disruptive innovation because such innovations are typically introduced by new entrants at the periphery of established industries (Christensen, 1997), and they tend to have a profound impact on the overall social structure of power and influence in the innovation ecosystem or value network (Adner, 2012; Ansari et al., 2016; König et al., 2012). Arguably though, organizational role identity could also have relevance for a wider range of identity-focused inquiries, well beyond the arena of disruptive

innovation, just as individual role identity has been shown to affect numerous social outcomes (Ashforth, Rogers, and Corley, 2011; Burke and Reitzes, 1981).

Second, conceptualizing organizational identity as a multifaceted organizational schema and collecting rich qualitative data on multiple cases allowed us to show that organizational identity has more intricate implications in the context of disruptive innovation than previously suggested (e.g., Anthony and Tripsas, 2016), especially complex identity struggles. In general, identity struggles form part of the more general, micro-level processes of negotiation and renegotiation (Garud and Rappa, 1994; Kaplan, 2008a) through which organizations adapt to radical change (Dutton and Dukerich, 1991; Elsbach and Kramer, 1996; Ravasi and Schultz, 2006; Tripsas, 2009). We specifically reveal that complex struggles do not necessarily evolve in organizations in which identity is challenged as a whole, as has previously been argued (e.g. Tripsas, 2009). Instead, they tend to emerge in organizations experiencing a *dissonance* in identity-driven innovation perceptions (i.e., organization members perceive one facet of identity as challenged and another facet as enhanced).

This insight might also explain central puzzles in extant research on identity and disruption. In particular, it might help to explain why, as noted by Anthony and Tripsas, many incumbents responded with inertia to disruptive innovations, such as those in the disk-drive industry (Christensen, 1997), even though those innovations were identity-enhancing, in the sense that “the boundaries of these industries remain[ed] intact despite [these disruptions]” (2016, p. 420)—an anomaly to the general premise that companies flexibly adopt identity-enhancing innovations. Our findings might explain this anomaly because they indicate that such disruptions might well have been identity-challenging for some incumbents in terms of an identity facet other than domain identity.

Interestingly, our observations suggest that struggles related to a challenged role identity are easier to address than challenges related to domain identity. In all of the cases with identity-induced struggles, organization members actively searched for identity-consistent ways to embrace the

disruptive innovation. Thus, our findings also extend prior descriptions of identity-innovation realignment strategies, which have thus far only included changes in the organizational identity to fit innovation activities (e.g., Tripsas, 2009) or attempts to “maintain [...] identity by selectively forgetting or reframing innovative practices” (Anthony and Tripsas, 2016, p. 425). Our observations of such cases as Leo Books highlight that organizations that search for identity-enhancing innovations might develop particularly creative, “out-of-the-box” solutions that help them identifying activities that are in line with their existing identity perceptions.

Third, these insights help to explain why there is heterogeneity in incumbents’ responses to disruptive innovations, despite endemic and powerful inertial forces (for an overview, see Yu and Hang, 2010). In fact, while the literature includes numerous descriptions of incumbent myopia and inertia (Christensen, 1997; Levitt, 1960; Miller and Friesen, 1980; Tripsas and Gavetti, 2000) and “cramming” (Christensen, 1997), we still know little about the circumstances that enable incumbents to adopt a disruption flexibly by building on new mindsets and establishing new routines (Gerstner, König, Enders, and Hambrick, 2013; Gilbert, 2005; König et al., 2013; O’Reilly and Tushman, 2004). In particular, we lack insight into the mechanisms that lead to “bold retreats”—highly innovative “sustaining” innovations that defend the existing domain (Adner and Snow, 2010)—among incumbent firms. Our theorizing can help fill these gaps. Most importantly, it shows that shaper organizational role identities are crucial for flexible innovations as they trigger adoption flexibility when the domain identity is enhanced and “bold retreats” when the domain identity is challenged. Shaper identities also appear to enforce “stamina” in organizational adaptation, which takes the form of continued investments in innovation despite possible struggles (König et al., 2013). On the other hand, follower role identities might exacerbate “routine rigidity” (Gilbert, 2005), which becomes evident in significant but more rigid investments in an innovation. All in all, organizational identity influences central mechanisms underlying incumbents’ adaptations to disruptive innovations and provides rich

explanation of anomalies to standard disruptive innovation theory (Gilbert, 2005; King and Baatartogtokh, 2015).

Third, our findings also provide interesting insights into the question of how organizational identity is affected by adaptations to disruptive change (e.g., Ravasi and Schultz, 2006; Tripsas, 2009), although this aspect not in the center of our theorizing. Interestingly, and somewhat contrary to our initial expectations, we observed only one major shift in organizational role identity: members of Books and More initially viewed their organization as a follower. However, after a major post-merger organizational restructuring in 2003, these perceptions shifted towards a shaper identity. This shift was also reflected in an increasing sense that the organization's role identity was being challenged by the disruptive innovation. As for domain identity perceptions, in contrast, we did not observe cases in which organizations changed their identity to align it to the disruptive innovation. In fact, Gemini & Sons showed a narrowing of the domain identity when digitalization emerged, as reflected in the reduction of the relevant "peer group" to three established book publishers. While this response resembles the "ego defenses" to identity threats that Brown and Starkey (2000) describe (e.g., denial and rationalization), it seems to contradict the broadening of the domain identity in the face of radical change observed in many studies (e.g., the shift from a concrete, product-based identity domain to a more abstract identity domain as a platform provider as described by Altman and Tripsas, 2013). Note that we included an arrow from the lower part of Figure 2 (responses) to the organizational identity perceptions to illustrate the potential recursive effect of adaptive responses on identity perceptions.

Finally, we offer insights for practitioners. In particular, our study reiterates calls for greater managerial awareness of the specificities of disruptive or discontinuous change, and the need to adapt processes and structures to different levels of uncertainty (Courtney, Kirkland, and Viguerie, 1997). First, when facing a disruptive innovation, executives should try to assess evolving identity perceptions. Moreover, they should be keenly aware of the two facets of domain identity and role

identity, and work to foster perceptions of a shaper identity, which seems particularly useful in times of disruption (Kreiner and Murphy, 2016). Second, managers should view organizational struggles as potential triggers for particularly innovative responses. The struggle itself does not necessarily need to be avoided. Instead, dysfunctional struggles need to be transformed into functional ones.

LIMITATIONS, FUTURE RESEARCH, AND CONCLUSION

Our article comes with several limitations, many of which point to interesting avenues for future research. Generally, we dedicated a significant amount of time and effort to ruling out the risk of retrospective bias through archival data and triangulation, and to investigating potential alternative explanations throughout the data-collection and analysis processes. Despite those efforts, other firm-specific factors might interact with the organization's identity and, thereby, affect the sensemaking process and organizational responses, leading to additional heterogeneity. Thus, scholars should scrutinize our findings and their generalizability through replications and extensions.

One particularly relevant research avenue would be to complete our conceptualization of organizational role identities and how they can be challenged by disruptive innovation. As noted above, we only observed cases in which disruptive innovations challenged shaper role identities and enhanced follower role identities. We did not encounter enhanced shaper identities and challenged follower identities. This is not surprising from the perspective of disruptive innovation theory, which emphasizes that these innovations, like all discontinuous innovations (Anderson and Tushman, 1990), render incumbents' established competencies obsolete. Thus, a disruptive innovation is likely to challenge, rather than enhance, an incumbent's shaper role identity, which often rests on the notion that the organization has historically had a strong influence on the established category that is affected by the disruption. Moreover, disruption enhances the adaptive inclination that is included in follower identity claims. However, a disruptive innovation could conceivably enhance a shaper role identity or challenge a follower role identity. For example, a disruption could enhance the shaper identity of a "de

alio” new entrant—an incumbent in another field entering the focal field (Barnett and Burgelman, 1996). We believe that the general process model displayed in Figure 2 is generalizable to such cases, while the matrix provided in Figure 3 relates to specific identity constellations we observed.

Relatedly, we encourage scholars to illuminate further the emergence, nature, and consequences of organizational identity. Notably, organizational identity theory (e.g., Gustafson, 1995) suggests that any structure or process, including a strategy, can become a part of members’ construals of their organization’s identity over time (Ashforth and Mael, 1996), but *how* a structure like a strategy becomes part of the organizational identity is less clear. For example, a shaper role identity might more easily emerge in a company that pursues the generic strategy of a differentiator, and a follower identity might be more likely in a company that pursues a cost-leader strategy. However, this relation between generic strategy and role identity is highly unclear: members of cost-leading companies like the German discount retailer ALDI or the US giant Walmart might well envision their companies as shapers of the discount segment. Moreover, in our study, many of the organizations in which members shared a shaper perception were not the market leaders in their segment, while certain companies whose members perceived their respective organization predominantly as follower were perceived as the leading companies by their competitors.

Another question is which roles other than follower and shaper surface, under which conditions, and with what outcomes? We believe scholars will find the shaper and follower archetypes in other industries. For example, the car manufacturer Daimler claimed in the context of its responses to digitalization: “Our starting point was the invention of the automobile ... Our drive is and remains a pioneering spirit. This is in our DNA ... We’ve always been in the lead” (Daimler, 2018). However, we encourage future research to identify other types of, and illuminate differences in, organizational role identities and their implications. This research might benefit from studies on individual role identities, but scholars should carefully avoid confusing individual and organizational levels of analysis.

Another intriguing contingency that offers ample opportunities for future research relates to the question of how top management characteristics might affect the emergence of and differences in organizational identities. Questions in this regard include: “To what extent do founders’ constructions of identity (Fauchart and Gruber, 2011), especially of organizational domain identity and role identity, become embedded in the narrative memory of organizations?” and “Are certain personalities—e.g., narcissists, such as Steve Jobs (Isaacson, 2011)—more likely to engrain their individual identities on the role identity perceptions of organization members?”. Such studies could be linked to recent insights on entrepreneurial identity (Powell and Baker, 2014) or CEO celebrity (Lovelace, Bundy, Hambrick, and Pollock, 2017). Related to these questions is the issue of identity change (Tripsas, 2009). While the sampled firms were relatively stable with regard to their identity perceptions, disruptive innovations might have the potential to substantially alter organizations’ identity perceptions (Anthony and Tripsas, 2016). Therefore, research on identities and innovation could contribute to current debates on the conditions under which identities change and how.

Finally, more research is needed to explore the long-term performance implications of organizational identity in the context of disruptive innovations (Voss, Cable, and Voss, 2006). We abstracted from performance because, in our empirical setting, digitalization only recently reached the end of its era of ferment. It is therefore too early to determine conclusively which publishers succeeded or failed in their adaptation efforts. However, we see ample opportunities for studies with even longer timeframes to examine carefully how identity struggles play out in the long run.

To conclude, our study offers a new perspective on the interpretive processes through which members of incumbent firms make sense of and respond to disruptive innovations. In so doing, it reiterates the importance of cognition, especially perceptions of organizational identity, in the context of organizational adaptation. We hope that our findings will open new areas of research for scholars attempting to develop clearer models of identity, organizations, and change.

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TABLES AND FIGURES

Table I Overview of cases^a

Publishing House	Market Segments ^b								Number of Employees in 1990	Firm Age (in years)
	Books				Periodicals					
	Fiction	Reference	Work-books	Textbooks	Journals	Trade magazines	Customer magazines	News-letters		
<i>Rocket Book [RB]</i>		x	x				(x)		~50	~50
<i>Reader's Finest [RF]</i>	x	x							~50	>150
<i>Taurus Print [TaP]</i>	x	x							~75	~50
<i>Books and More [BM]</i>		x		x					~75	~25
<i>House of Books [HoB]</i>		x	x	x	x	x		x	~75	>150
<i>Gemini & Sons [GS]</i>			x	x					~75	>150
<i>Secret Books [SEB]</i>	x	x						x	~100	~50
<i>TopPress [TP]</i>	x	x		x		x		x	~150	>100
<i>Reader's Publisher [RP]</i>		x				x		x	~200	>150
<i>Peter's Publishing House [PPH]</i>		x		x	x			x	~250	>150
<i>Leo Books [LB]</i>	x	x		x		x		x	~250	~50
<i>Book 2020 [B20]</i>		x				x		(x)	~400	~50
<i>Libra Press [LP]</i>		x		x		x		(x)	~500	~100
<i>Superbooks [SB]</i>		x		x		x		x	~1000	~50
Median									125	75

^a Listed in order of size; company names are pseudonyms.

^b Brackets indicate previous (i.e., in the twentieth century) market segments of the respective companies.

Table II Data sources

Interviews			Archival Documents			Additional Data	
Publishing House	Count	Informants	Count	Examples of Business Publications and Internal Documents	First Archival Webpage ^a	Presence at Book Fair	Surveys ^d
<i>Rocket Book</i>	3	CEO, editor, industry expert	4	Financial statement	1996	Yes	2
<i>Reader's Finest</i>	6	CEO, two production assistants, sales assistant, editor, industry expert	18	Internal workflows, brochures, press articles, financial statements	1999	Yes	4
<i>Taurus Print Books and More</i>	3	CEO, VP production, sales assistant	65	Brochures, press articles, financial statements	1998	Yes	3
<i>House of Books</i>	3	CEO, VP production ^b , industry expert	4	Brochures, press articles, financial statements	1998	No	0
<i>House of Books</i>	4	Owner, VP sales, VP production ^b , supplier	17	Brochures, press articles, financial statements	1998	Yes	0
<i>Gemini & Sons</i>	3	CEO, editor, industry expert	13	Brochures, financial statements	2001	Yes	2
<i>Secret Books</i>	4	CEO, VP production, VP sales, manager digitalization ^b	76	Brochures, press articles, financial statements	1999	Yes	1
<i>TopPress</i>	4	CEO, VP production, manager digitalization ^b , industry expert	17	Press articles, financial statements, CEO interview with media	1998	Yes	3
<i>Reader's Publisher</i>	5	CEO, VP purchasing, two managers, editor	59	Press articles, financial statements	1998	No	3
<i>Peter's Publishing House</i>	7	CEO, two production assistants ^b , sales assistant, head of work council, editor, industry expert	39	Company chronicle, internal organization charts, press articles, brochures, financial statements, CEO interview with media	1996	No	4
<i>Leo Books</i>	8	CEO, manager digitalization ^b , editor, two sales assistants, executive assistant, product owner, industry expert	17	Brochures, financial statements, CEO interview with media	1999	No	2
<i>Book 2020</i>	5	Owner, CEO, head of online marketing, manager online marketing, industry expert	47	Brochures, press articles, financial statements, CEO interview with media	1999	No	1
<i>Libra Press</i>	4	CEO, VP production ^b , editor, industry expert	33	Company chronicle, internal organization charts, press articles, brochures, financial statements	1996	No	2
<i>Superbooks</i>	4	CEO, product owner ^b , project team member, industry expert	84	Press articles, financial statements	1996	Yes	0
<i>Not case specific^c</i>	7	Two founders of new entrants, five industry experts	41	Academic books on the publishing industry, newspaper articles, blogs, webpages, market research studies	n.a.	n.a.	n.a.
Total	70		534			8	27

a: Historical websites were retrieved in two-year steps. b: Responsible for digital products. c: Focus on general issues concerning the response of publishers to digitalization. d: Number of interviews that included a systematic, structured questionnaire used to triangulate the data.

Table III Response Patterns of Studied Firms

Case	Domain Identity	Role Identity ^c	Struggle	Response to Disruptive Innovation	# Digital Revenue Sources ^b	Description of Response Behavior
<i>Leo Books</i> ^a	<i>Enhanced</i>	Shaper (<i>chall.</i>)	Yes: 1999 until 2002	Delayed response. Eventually, highly innovative adoption	7	Since resolution of identity-related struggle flexible and intensive activities with regard to digitalization: Several award winning apps, e-books, databases and complex, tailored business models (various combinations of online and offline subscription modes).
<i>Peter's Publishing House</i>	<i>Enhanced</i>	Shaper (<i>chall.</i>)	Yes: 2004 until ca. 2008	Delayed response. Eventually, highly innovative adoption	11	Since resolution of identity-related struggle flexible and intensive activities with regard to digitalization: For instance, launch of a broad variety of digital products, including business model (e.g., online subscription) and product feature innovations.
<i>Secret Books</i>	<i>Enhanced</i>	Shaper (<i>chall.</i>)	Yes, 2003 until 2005	Delayed response. Eventually, highly innovative adoption	4	Since resolution of identity-related struggle, flexible activities with regard to digitalization. For instance, launched selected, innovative, and award-winning mobile apps and databases. Novel business model through bundling offline and online products for customers.
<i>Taurus Print</i> ^a	<i>Challenged</i>	Shaper (<i>chall.</i>)	No	Quick innovative domain defense responses	1	Strong focus on print. Launched activities to strengthen print market share, e.g., by contracting new, promising authors and expanding into new, related topic fields.
<i>Rocket Book</i>	<i>Challenged</i>	Shaper (<i>enh.</i>)	No	Quick innovative domain defense responses	1	Strong focus on print. Engaged in multiple print-based, product innovations (e.g., mix of genres).
<i>Reader's Finest</i>	<i>Challenged</i>	Shaper (<i>enh.</i>)	No	Quick innovative domain defense responses	1	Strong focus on print. Attempts to strengthen print market share through incremental innovations, such as introducing new book series. Licensing of any non-print products.
<i>Gemini & Sons</i> ^a	<i>Challenged</i>	Follower (<i>enh.</i>)	Yes, ongoing	Ongoing inertia, hesitant rigid adoption	1	Perceives ongoing struggle. Recently launched a limited number of digital products, mostly as "goodies for free" (manager) on request of customers (no additional revenues).
<i>Book 2020</i>	<i>Challenged</i>	Follower (<i>enh.</i>)	Yes, ongoing	Ongoing inertia, hesitant rigid adoption	1	Perceives ongoing struggle. Restricts own digital activities to online sales of physical books and magazines; offers pdf newsletters. Strives to maximize profits for print products.
<i>Libra Press</i> ^a	<i>Enhanced</i>	Follower (<i>chall.</i>)	No	Quick, aggressive, but somewhat rigid adoption	5	Intensive activities with regard to digitalization, thereby following suggestions made by external consultants. Response assessed as rather inflexible by employees.
<i>Super-books</i>	<i>Enhanced</i>	Follower (<i>chall.</i>)	No	Quick, aggressive, but somewhat rigid adoption	4	Intensive activities with regard to digitalization. Acquired several IT companies and now offers mainly software products. Response assessed as rather inflexible by employees.
<i>TopPress</i>	<i>Enhanced</i>	Follower (<i>chall.</i>)	No	Quick, aggressive, but somewhat rigid adoption	6	Activities with regard to digitalization. Offers, for instance, e-books and smartphone apps.
<i>House of Books</i>	<i>Disagreement</i>	Follower (<i>enh.</i>)	Yes, ongoing (TMT)	Ongoing inertia, hesitant rigid adoption	3	Disagreement across hierarchical levels whether digital products challenge or enhance domain identity, thus no firm-level response but several smaller adoption activities driven by departments. For instance, as a reaction to the demands of some customers, launch of online portals. Core products, however, exclusively exist in print thus far.
<i>Reader's Publisher</i>	<i>Disagreement</i>	Follower (<i>enh.</i>)	Yes, ongoing (TMT)	Ongoing inertia, hesitant rigid adoption	3	Disagreement across hierarchical levels whether digital products challenge or enhance domain identity, thus no firm-level response but several smaller adoption activities driven by departments. None of those few activities related to the core business. Most digital products are free, providing no additional revenues.
<i>Books and More</i>	<i>Enhanced</i>	Follower Shaper (since 2003)	Yes, from 2003/4 until ca. 2008	Eventually, highly innovative adoption	9	Early activities in digital publishing. However, struggle arose when role identity changed from follower to shaper. Afterwards, even more innovative activities with regard to digitalization such as online, interactive learning platforms, e-books and online books, online and video trainings. Innovations of product features (e.g., interactive web platforms), distribution channels, pricing, and product packages.

^a: Case described extensively in main manuscript. ^b: Count based on information provided in interviews and current webpages. Count excludes CD-ROMs and use of the internet as a direct sales channel for books (as compared to the distribution of digital content). ^c: *chall.* = challenged; *enh.* = enhanced.

Figure 1 Matrix categorization of the 14 cases

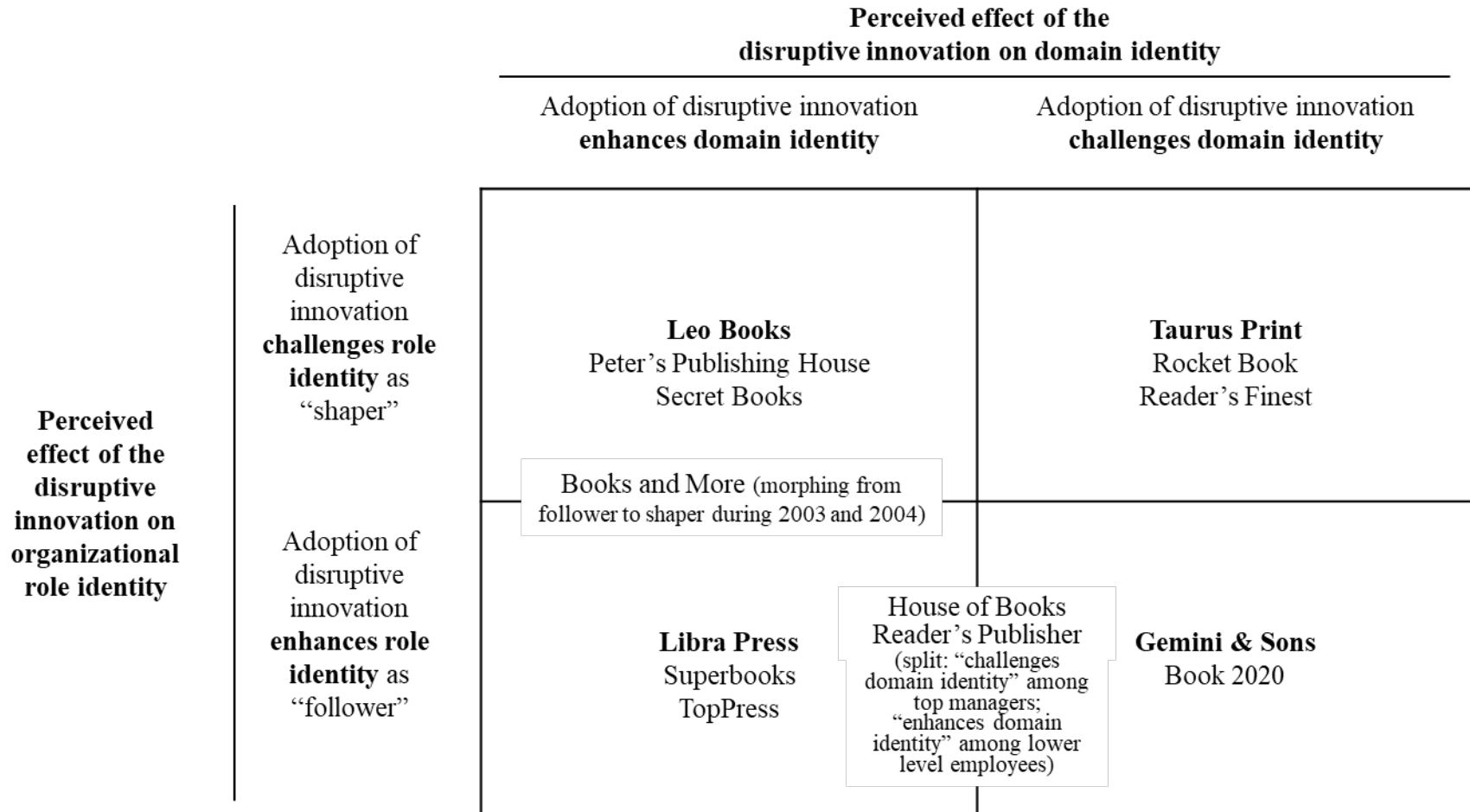


Figure 2 Identity-driven process of incumbent responses to disruptive innovations

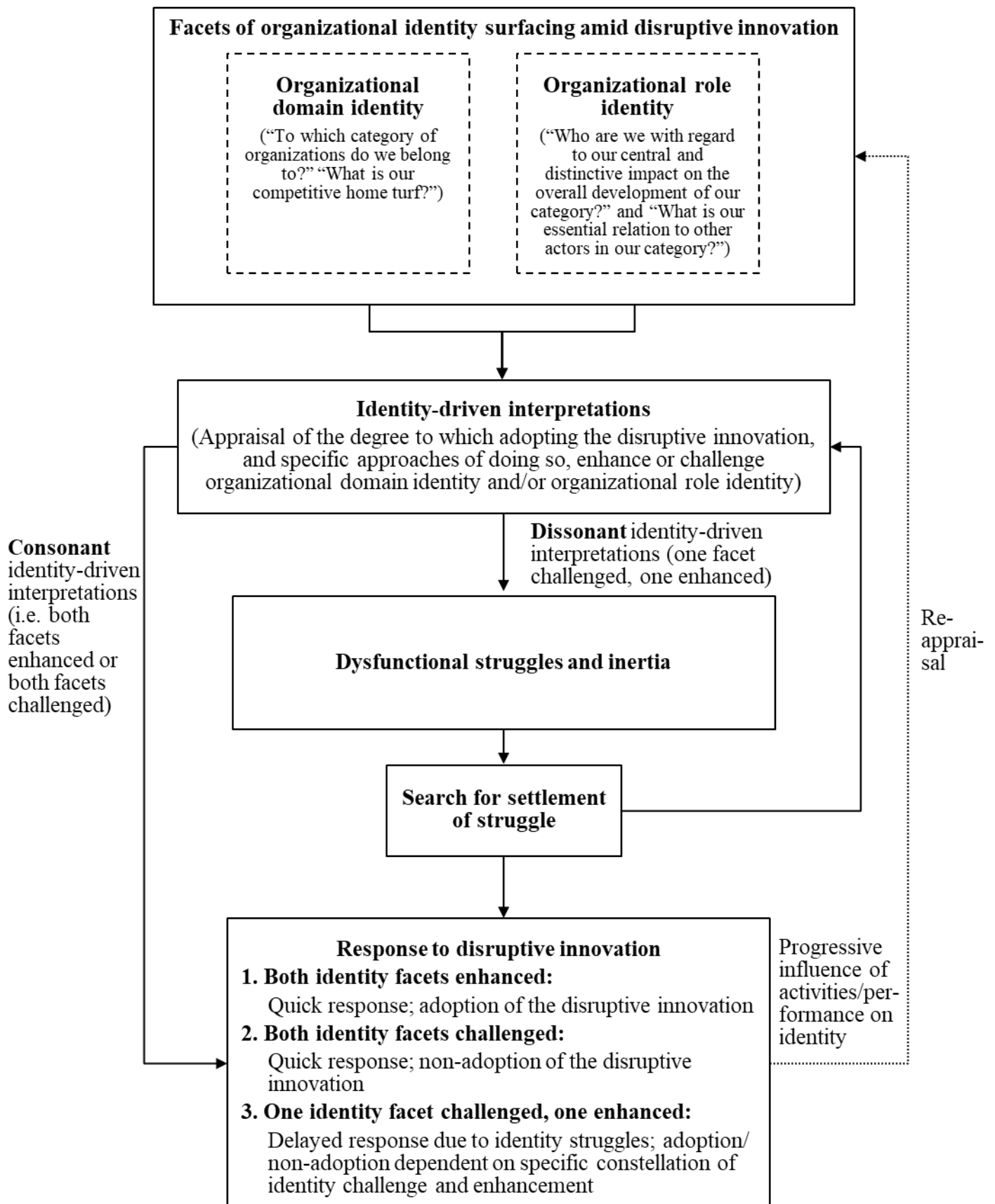


Figure 3 Specific identity-driven patterns of incumbent responses to disruptive innovations in cases of challenged “shaper” role identity and enhanced “follower” role identity

		Domain identity-driven interpretation	
		enhanced	challenged
Role identity-driven interpretation	“Shaper” identity challenged	highly innovative adoption	non-adoption, but highly innovative domain defense
	“Follower” identity enhanced	aggressive, but somewhat non-innovative adoption	highly hesitant, rigid adoption (inertia)

ⁱ Throughout the interviews we were conscious of the potential limitation, or retrospective bias, that arises when one asks a person to reflect on why they ignored or deferred response to disruption in hindsight. The problem is that, by definition, it is not easy to see disruptions occurring *ex ante* (Klenner et al., 2013; Nelson and Winter, 1977). As a consequence, firms easily conduct an error by omitting a disruptive innovation that later pans out (“false negative”) or commit to an innovation that afterwards turns out to fail (“false positive;” see Garud, Nayyar, and Shapira, 1997). To address this important limitation, we ensured that our questions and the subsequent conversations with the respondents were by no means judgmental in a sense that a quick and fundamental adoption of the disruptive technology was the superior or “right” reaction whereas other responses were inferior or “wrong.” We also used triangulation to minimize such hindsight bias.

ⁱⁱ E.g., in the mid to late 1990s, some publishers supplemented their physical books with CDs glued to the back covers. Interestingly, one coder interpreted this action as adoption of the discontinuity because those publishers had evidently recognized and used the technology, while the other coders viewed this action as non-adoption targeted at defending the printed domain. After an in-depth conversation among the coders, we decided to code such activities as “cramming,” a “routine rigid” (Gilbert, 2005) type of adoption, in line with the literature (Christensen and Raynor, 2003).

ⁱⁱⁱ All data—archival and interview-anecdotal—indicate that these perceptions were considerably stable over the period of observation. Interestingly, Leo Books’ members shared strong shaper identity perceptions even though the company had never been the market leader in terms of market power (e.g., market share).

^{iv} Taurus Print remains a leading innovator in the printed-book domain. For example, in 2016, the company introduced an innovation in its (printed) catalogue of new book releases—a particularly innovative form of paper (top manager, interview with press).

^v This resulted not only in intense intra-organizational discussions but also in the initiation of cautious, non-orchestrated activities by several departments in solo effort.

^{vi} In one company, Books and More, we observed a change in role identity perceptions from that of a follower to that of a shaper. According to our interview partners, perceptions of the organization’s role changed when a major merger took place around 2003. Please see also the respective part in the discussion section.

Table A-I Dimensions, Themes, Categories, and Quotations

Overarching Dimensions (bold text), 2nd Order Themes (<i>italics text</i>), 1st Order Categories (standard text)	Representative Quotations
I. Perceptions of domain identity during emergence of disruptive innovation	
<i>1. Narrow set of product-market identity attributes</i>	
A. Identity is tied to print	A1. [Reader's Finest] is very book-affine. We like the haptics. We like the smell. We like the sound [of turning pages] (employee, RF) A2. [Our customers] are people who enjoy reading books [made of paper], not nerds surfing on the Internet (CEO, TaP) A3. [The core of Taurus Print is] the print medium per se [...] We have always enjoyed creating beautiful books—and we will continue to do so (manager, TaP)
B. Identity tied to historical capability portfolio	B1. One important part of our philosophy is to keep our hands off activities, which we are not capable of doing (CEO, RB) B2. [Our] core competencies are related to the history and the established products of [B20] (website, B20, 2002) B3. One of our guiding principles is: 'Cobbler, stick to your trade' (middle manager, GS)
<i>2. Broad set of product-market identity attributes</i>	
C. Identity is holistic	C1. At [Superbooks], there are hardly any limits to the multitude of media and services (job offer, SB, 2006) C2. [BM provides] the entire spectrum (brochure, BM, 2006) C3. [We are a] holistic [provider of] products and services (brochure, LB, 2004)
D. Identity as a media-independent provider of service / content / knowledge / information	D1. [Our] mission [is] to provide content (websites, BM, 2000) D2. We see ourselves as a content provider, we are not a publishing house. [...] We are not the Gutenbergs (production manager, SEB)
<i>3. Narrow definition of domain identity</i>	
E. Competitors are a restricted set of incumbents	E1. We are among the 10 strongest publishers in our sector. We consider the other nine publishers as our main competitors (CEO, RF) E2. Our competitors are [three established companies] (CEO, RP)
F. Players from other contexts are not important	F1. Observing businesses from other sectors or startups is not at all important because they first have to become established (CEO, RF)
<i>4. Broad definition of domain identity</i>	
G. Anyone is a competitor	G1. [A competitor is] anyone that deals with the same topics as we do (CEO, SEB) G2. Competitors are broadly defined (CEO, TP)
H. Our competitive field is diverse and includes non-publishers	H1. Some of our competitors are, of course, classical publishing houses. However, new competitors, especially content mediators, such as Google, Xing, Internet newsgroups, and even industry fairs, have become even more important (CEO, LP) H2. [competitors] range from established publishers to small technology startups (manager responsible for electronic sales, SEB)
II. Perception of disruptive innovation and its adoption as enhancing or challenging domain identity	
<i>5. Digitalization challenges domain identity</i>	
I. Digitalization is outside the scope of our historically grown competencies	I1. We know exactly what we are good at. [And digitalization does not match our capabilities ...] (CEO, RB) I2. You simply cannot digitalize everything. [...] We are dinosaurs in this regard. [Our] print products are of high quality, and highly respected in the market. They are the flagship of the organization, they made the organization big (CEO, TaP)
J. Digitalization is outside our home turf because it is inappropriate to satisfy our customers' needs	J1. [Digitalization does not belong to our field because] electronic media are inappropriate for any advanced reading. [...] I think print is much more appropriate for this (CEO, RP) J2. I think that the haptic of paper cannot be replaced (CEO, RF)
<i>6. Digitalization enhances identity domain</i>	
K. Digitalization matches our open self definition	K1. [Of course digitalization fits us because] we do not feel obliged to [continue printing books—in fact we even] don't feel obliged to produce content. We always feel free to say: Let's build and run a school? Or: Let's start consulting! (CEO, BM)

	<p>K2. [Digitalization affects us because] we at [PPH] are very open with regard to the products [that we produce] (production manager, PPH)</p> <p>K3. [Digitalization fits us because] the medium is not important (CEO, TP)</p>
L. Digitalization is a liberation from constraints posed by print to convey content	<p>L1. Prior to digitalization we did not have any other medium to convey our content. [...] When the publisher was established, the only way to mediate and transfer information to customers was in print (CEO, SB)</p> <p>L2. We sell information to target customers. [...] In the pre-electronic era, we had no other media at hand to fulfill this task (CEO, SB)</p>
III. Emerging awareness of organizational role identity amid disruptive innovation	
<i>7. Emerging organizational role identity as a shaper</i>	
M. We are special	<p>M1. No one else puts as much effort in details as we do. [...] Who else is investing in such things nowadays? Who else invests in building up so much knowledge as we do? (CEO, RB)</p> <p>M2. [We are different because] we work a lot based on ideology here. We choose an approach and we will accept certain sacrifices (assistant, PPH)</p> <p>M3. We might just be the most renowned publishing house of the post-war era (CEO, TaP)</p>
N. Being leader and shaper is core to us	<p>N1. We are a company that strives to advance the world's knowledge [...] with a focus on quality and content (manager, BM)</p> <p>N2. We shape the 21st century's literature (website, 2004, BM)</p> <p>N3. We see ourselves as "advancer" (assistant, PPH)</p> <p>N4. We want to decide on our own what to do and what is right for our customers (CEO, LB)</p>
O. Innovation and motivation come from inside the company	<p>O1. It comes from within us. We want to sweat blood and tears but also to experience the joy of offering products to our customers. It really is a matter of the heart (sales employee, RF)</p> <p>O2. To the members of our firm it is very important WHAT they do. It is not as sales-oriented as in other firms, it comes more from the inside (CEO, BM)</p> <p>O3. While other publishing houses say 'okay, we are a service provider, we want to be on it,' we are not like that. We work on it internally and try to optimize everything before launching it (employee, TaP)</p>
P. We are an independent actor	<p>P1. What characterizes us is that we are very independent. We are actually completely independent [...] we are not the slaves (CEO, RB)</p> <p>P2. To remain self-contained [is our] ultimate goal (CEO, LB)</p>
<i>8. Emerging organizational role identity as a follower</i>	
Q. We are <i>not</i> shapers (explicit statements)	<p>Q1. Our firm is like a ship with no final destination. We just move, and we have to make sure we neither move too fast nor too slow (CEO, TP)</p> <p>Q2. We do not have a role as a pioneer. We are not drivers of the market (manager, RP)</p>
R. External environment determines our direction, even if this counters economic logic	<p>R1. We do not have a core product. We have target customers whom we serve. [...] We have to ask ourselves: What does the customer group require? (manager, TP)</p> <p>R2. The market dictates the terms. [...] We do what the customer wants [us] to do (CEO, GS)</p> <p>R3. When something new happens, we have to react. When the customers decide that they need new product innovations, then we have to react (middle manager, GS)</p>
S. Serving is at the core of thinking and acting / we are good at serving	<p>S1. [...] it's the proximity to customers that really characterizes us and makes us special. (production manager, HoB)</p> <p>S2. [Our] mission and capabilities are those of a "servant" (chief editor, GS)</p>
IV. Perception of conceivable solutions as either enhancing or challenging emerging organizational role identity	
<i>9. Conceivable solutions enhance organizational role identity</i>	
T. It's our role to follow the market—and the market wants digital products	T1. CEO's initial reaction to digitalization according to sales manager: "I do not know anything about it. But let's do it." (TP)
U. Continuing printed books allows us to continue shaping our environment / no junk to survive	<p>U1. Our standards have to remain the same. In that regard, we are absolutely uncompromising [...]. We will not produce junk just to survive. (CEO, TaP)</p> <p>U2. We will see who will die and who will survive. [...] we are ready to fight. (CEO, TaP)</p> <p>U3. We put huge effort into optimizing the layout for our books. And in the end, everything should just be an electronic file? No, that hurts. [That is, we will continue with printed books] (production manager, RF)</p>
<i>10. Conceivable solutions challenge organizational role identity</i>	
V. Would love to go digital, but it's challenging as we won't be the shapers anymore	<p>V1. [If we fully invest in digitalization], we endeavor to play an active role among the industry leaders (CEO, PPH)</p> <p>V2. [We did not feel threatened economically. Rather, it was] the fear of failure—our culture</p>

	<p>of perceiving ourselves as the best—that made us afraid that we would be unable to measure up to the standard of our own expectations. In the field of new media, we were unlikely to be as successful as in our established business (CEO, LB)</p> <p>V3. When new markets are opening, then we have to evaluate whether and how we [as shapers] fit in (manager, BM)</p>
<p>W. Digitalization is not who we are; but we should go digital because the market wants us to</p>	<p>W1. If [digitalization and social media are] important for our customers, then we have to adopt them. However, I am quite hesitant. Most organization members of [Reader’s Publisher, including myself] would prefer to only be involved in print (CEO, RP)</p> <p>W2. Where do we come from? Who are we? Where do we want to go? [Shall we] frivolously follow whims and current consulting trends? (CEO, GS, 2005)</p> <p>W3. We now have to deal with demands that are initially virulent and do not fall within our business area. I would prefer a world in which product digitalization did not exist [...] digitalization is a plague—but we cannot avoid it (CEO, GS)</p>
<p>V. Organizational paralysis amid ongoing identity struggle</p>	
<p><i>11. Protracted decision making due to ongoing identity struggle</i></p>	
<p>X. Discussions take long because “Digitalization yes, but not in a way we are not shapers anymore”</p>	<p>X1. [Digitalization] is difficult. It is still very difficult [...] Of course, what we could offer is very general information put online for download. [...] However, [developing more advanced digital products] is a process that needs more time. Of course, we will go there. [...] We have to develop new concepts from scratch. [...] We have a very positive attitude towards digitalization—I was just very upset when I observed the first tentative attempts of other publishers, which were not based on advanced business models. (production manager, SEB)</p> <p>X2. [...] we sometimes stand in our way because we always discuss how new [digital] products would fit us [as leaders] (production manager, SEB)</p> <p>X3. Everyone wanted it [i.e., embracing digitalization], [...] but there were many discussions. It was a struggle. [However,] we do not just want to be a player in the market. We want to offer unique value (manager, LB)</p>
<p>Y. Returning discussions around perceived need for taking <i>conscious</i> decision worthy of shaper</p>	<p>Y1. One of the biggest difficulties is that we need to know what we want. And that we identify how we can contribute real value to the value chain (CEO, PPH)</p> <p>Y2. [Again and again,] we discussed how we want to present ourselves [with respect to digital products] and took a conscious decision (sales manager, SEB)</p>
<p><i>12. Passive responses and “ego-defenses”</i></p>	
<p>Z. Frustration that print-focus is contested by perceived pressure to digitalize products</p>	<p>Z1. Our core products are our print products, but they will certainly have a tough time in the future with many fights (member of marketing department, B20)</p> <p>Z2. Digitalization has been a huge challenge to us. [...] The biggest problem was that we did not have a real product anymore. We just had a lot of information burnt on a CD. [...] We could not see how this should be a product (sales manager, HoB)</p> <p>Z3. Getting older makes our company a stranger in its own field. This publishing house, that celebrates an anniversary this year, is a phase-out model. The printed book will not maintain its dominant role as information medium in the cultural life (CEO, GS)</p>
<p>AA. Frustration about difficulties to find shaper-solution with digitalization</p>	<p>AA1. No one can force us to produce specific products. I always tell my colleagues: If someone tells you to produce certain products, e.g., apps, and in a certain way, then leave it. Do something else. Adaptation to digitalization yes, but normal e-books are as dull as ditchwater. There is nothing innovative about it (CEO, PPH)</p>
<p>VI. Internally focused activities during struggle and settlement</p>	
<p><i>13. Restriction of digitalization activities</i></p>	
<p>AB. Products rejected because they don’t fit us as shapers</p>	<p>AB1. Our company is very selective as to which products are digital (manager, SEB)</p>
<p>AC. Digital products, only to somehow follow market needs</p>	<p>AC1. To satisfy the trends, we launched the first electronic product [i.e. a CD-ROM] (archival website, B20)</p>
<p><i>14. Internal search for solutions that enhance domain-identity-driven and role-identity-driven interpretation</i></p>	
<p>AD. Active search for solutions that exceed the “standard”</p>	<p>AD1. We haven’t launched digital versions of this [specific] product yet. We work full stretch on this project. Now, we finally have some very good ideas about what to do. This will exceed a pure online version of those products, because this would be nothing new. [...] In any case that will be something that the publishing sector has not seen before (CEO, SEB)</p> <p>AD2. [We were searching for a] holistic solution [...] that allowed [us] to offer value to the customers and [...] thus went beyond the competitors’ offerings (CEO, LB)</p>
<p>AE. Top management encourages employees to develop ideas on how to find</p>	<p>AE1. The top management asked us to come up with solution proposals [for digitalization] (production manager, PPH).</p>

“internal” solutions	AE2. Then we started to think what else we could do and how we could use our strengths to develop [digital] products (CEO, BM)
AF. Failing attempts to broaden domain identity perceptions to embrace digitalization	AF1. Digitalization of books is easy. It is associated with technical problems that are all solvable. What is challenging is that we want to use the new media to provide really new forms of content [and thus continue to be someone that advances the world] (manager, SB)
<i>15. Beginning settlement of struggle</i>	
AG. Decision to go into products that are ahead of the market (even customer expectations)	AG1. We will not produce classic e-books. Reading books as e-books is boring. Especially when it's black and white and without color. What is interesting is offering real applications (sales manager, SEB)
AH. Increasing internal momentum after perceived breakthrough, supported by management communication	AH1. When [digitalization] started several years ago we were excited about digitalization. But we were not prepared yet. Then we started to doubt [about how digitalization could be meaningfully implemented]. But now it is part of our daily job (sales manager, PPH)
VII. Decision making under consistent domain-identity driven and role-identity-driven interpretation	
<i>16. Decision making uncontestedly revolves around adoptive responses</i>	
AI. Quick decisions for launches of digital products	AI1. When digitalization came up, we asked our suppliers to provide us with digital products. That wasn't any turmoil at all. That was just starting first initiatives and entering the market (CEO, SB) AI2. Quick decision, as role of TP is to “offer products and services to the target customers. [...] New things will be added, other things will be abandoned” (manager, TP)
AJ. Hurdles in decision making removed proactively	AJ1. Sometimes problems occur. Then one stops and recognizes: oh there is a wall! And then you have to choose another way that goes past the wall (CEO, TP)
<i>17. Decision making uncontestedly revolves around non-adoptive responses</i>	
AK. Unanimous abstinence from adoption: it's us who decide what we can and want	AK1. At RB, we do what we are capable of and what we like to do—that is what makes our firm so great and what I like about it (CEO, RB) AK2. [At TaP, we decided to continue producing] pretty, formidable books that we like to exhibit and sell in book shops (senior sales manager, TaP)
AL. Emerging view of digitalization as a bolster to print	AL1. We discussed among the TMT whether we should develop and sell e-books. We were very hesitant, consciously hesitant. [...] Maybe our books will become more precious, more expensive in the future, targeted at book connoisseurs (CEO, RF)
VIII. Responses within the old domain	
<i>18. Activities to increase the revenues generated by print business</i>	
AM. Incremental product innovation in print	AM1. Lighter books (TaP) AM2. Additional entertainment elements in print books such as riddles (RF) AM3. New and refined editions of classic books and mix of genres (RF)
AN. Expansion of targeted print markets	AN1. Broadening of product portfolio by increasing the number of topics the publisher's books focus on (TaP; RB) AN2. Activities to sell print products internationally (RB)
AO. Intensified promotion of print products	AO1. Use of digital products, e.g., DVDs, (as “free goodies”) to support sales of print products (RF; RP) AO2. How we see it and how we communicate it: Only if you buy the print product, you also get access to the online product (sales manager, HoB) AO3. New sales channels, e.g., online shop to support print products sales (B20; RF)
<i>19. (Partial) exit from print domain</i>	
AP. Divestiture of parts of the print business	AP1. Substantial parts of print portfolio have been divested over the last years (SB) AP2. Sales of printing press in 2005 (LP)
AQ. Dismissal of employees with skills in print	AQ1. Layoffs of employees with print-specific skills (PPH; B20)
IX. Responses within the new domain	

<i>20. Flexible entry into digital publishing</i>	
AR. Launch of innovative, electronic-only products	AR1. Apps based on newly developed databases (SEB) AR2. Launch of electronic journals without print equivalent (PPH) AR3. Interactive books which allow communication between author and reader (BM) AR4. Social-network software and advanced search engine (LB)
AS. Digitalization (and adaptation) of core products	AS1. Flagship product digital and adapted to needs of customers using the digital version (PPH) AS2. Digital publishing centered around former core print products that were digital and substantially adapted (BM)
AT. Tailored sales channels for digital products	AT1. Web platforms and shops that particularly promote sales of digital products (SEB) AT2. Intense promotion of digital products, for instance on publisher's website (LB)
AU. New revenue models for digital products	AU1. Sales of book chapters instead of entire books (PPH) AU2. Sophisticated pricing models for customers that use interactive online platforms (BM) AU3. Pay-per-view instead of purchase-of-text (PPH)
AV. Digitalization supported by members with respective skills/experience	AV1. Hiring of experienced managers (SEB) AV2. Digitalization skills as part of the job description (BM)
<i>21. Aggressive entry into digital publishing</i>	
AW. Digitalization of most print products	AW1. All print products, including backlist, digital (PPH) AW2. Large number of electronic (relative to print) products (BM)
AX. Acquisition of companies associated with digitalization	AX1. Acquisition of software developing house (SB) AX2. Acquisition of online portal (RP; SB)
AY. Dedication of large amount of manpower to digital publishing	AY1. New department founded (LB; PPH) AY2. New managers and employees hired (SB; PPH; SEB) AY3. Several millions of EUR invested into hiring (LP)
<i>22. Inflexible entry into digital publishing</i>	
AZ. Conversion of print to digital products without adaptation	AZ1. In most cases we still just recycle the book and put it online (operations manager, SB) AZ2. Most products are converts of print products to pdfs instead of new products (according to sales manager of TP) AZ3. No native digital content generated (RP) AZ4. A majority of online content [of LP] was reused print content (employee, LP)
BA. Lack of generation of native digital content	BA1. No native digital content generated (RP; TP) BA2. [We] lacked entrepreneurial spirit [...] for [native digital] products (editor, LP)
<i>23. Cautious entry into digital publishing</i>	
BB. Launch of only few digital products	BB1. Firm-level decision that digitalization of entire portfolio is unnecessary (TP) BB2. Decision not to offer any apps, e-books, or online books (SB) BB3. Low number of digital products, no e-books or online books (HoB)
BC. Entry into digital publishing based on existing resources with no new staff hired	BC1. Any digital activities based on existing staff (RP)

Legend: B20: Book 2020; BM: Books and More; GS: Gemini & Sons; HoB: House of Books; LB: Leo Books; LP: Libra Press; PPH: Peter's Publishing House; RB: Rocket Book; RF: Reader's Finest; RP: Reader's Publisher; SB: Superbooks; SEB: Secret Books; TaP: Taurus Print; TP: TopPress.

Table A-II Evidence per case

	Domain Identity	Role Identity	Struggles	Organizational Responses
1. Leo Books [LB]	<p>Domain identity enhanced by disruptive innovation</p> <ul style="list-style-type: none"> Embracing the new digital technologies was “an almost self-evident consequence [of the company’s] holistic [world view].” (“About Us,” website of Leo Books, 1999) Leo Books has always essentially been “[a provider of] information and knowledge [and] not only printed papers.” (“About Us,” Leo Books website, 2001; similar statement found in 2004 company brochure) 	<p>Role as shaper challenged by disruptive innovation</p> <ul style="list-style-type: none"> Leo Books’ identity rested strongly on perceptions of “autonomy” and “independence” in its strategic decisions. (“About us” website of Leo Books, mission statement of Leo Books) “We do not just want to be <i>a</i> player in the market. We want to offer unique value.” (manager) “We want to decide on our own what to do and what is right for our customers [instead of following what Google and Amazon tell us to do. ... We prefer initiatives] created from the inside. To remain self-contained [is our] ultimate goal.” (CEO) 	<p>Substantial identity-induced struggles</p> <ul style="list-style-type: none"> “[We did not feel threatened economically. Rather, it was] the fear of failure—our culture of perceiving ourselves as the best—that made us afraid that we would be unable to measure up to the standard of our own expectations.” (CEO) “[We were] intensively searching for a comprehensive and sustainable solution [...]. Unlike other publishing houses, we did not want to start with smaller, individual projects.” (manager) “[Our] philosophy is to offer not only the highest-quality content but also the best technological solutions.” (employee) “[We could not find a] holistic solution [...] that [...] went beyond our competitors’ offerings.” (CEO) 	<p>Highly innovative adoption</p> <ul style="list-style-type: none"> Leo Books realized at that time that a previously developed database (that had actually been a pet project driven relatively long ago by a long-tenured employee) was useful as a basis for digitizing the company’s products. This proprietary database was to become the “linchpin of [Leo Books’] digital product portfolio.” (website of Leo Books, 2013) “When you have your own ideas that are fundamentally different from your competitors’ ideas, then you have to give them a shot.” (manager) “As in the past, we see ourselves as leaders in our market. With our digitized product, we set totally new standards in the area of digitized databases in our field.” (website of Leo Books, 2006) Leo Books has won numerous innovation prizes for its digitized products.
2. Taurus Print [TaP]	<p>Domain identity challenged by disruptive innovation</p> <ul style="list-style-type: none"> “We have always enjoyed creating beautiful books – and we will continue to do so.” (top manager, interview with 	<p>Role as shaper challenged by disruptive innovation</p> <ul style="list-style-type: none"> Taurus Print is “the most renowned publishing house of the post-war era in our segment.” (CEO, interview) 	<p>No struggles observed</p>	<p>Non-adoption, but highly innovative domain defense</p> <ul style="list-style-type: none"> The management quickly and unanimously decided to “continue to produce books as we have done in the past.” (employee)

	<p>press)</p> <ul style="list-style-type: none"> • “[Our identity focuses on] producing pretty, formidable books that we like to exhibit and sell in book shops.” (employee) • The core of Taurus Print is “the print medium per se.” (manager) • “[our customers] are people who enjoy reading books [made of paper], not nerds surfing on the Internet.” (CEO) 	<ul style="list-style-type: none"> • Taurus Print had always assumed the role of a clear “leader [that] created its core market—there was nothing like that before.” (manager) • “Other publishing houses say ‘Okay, we are a service provider—we want to be on it.’ We are not like that. We work on issues internally and try to optimize everything before launching them.” (employee) • “We are dinosaurs in that regard. [...] We will see who will die and who will survive. However, we are ready to fight.” (CEO) 		<ul style="list-style-type: none"> • The CEO confirmed in his interview with us that he just does not “believe in any digital business models for [Taurus Print]” and, as such, believed that “not much will change in the future.” • Around the year 2000, Taurus Print invested substantial money and human capital into the further development of “pretty, high-quality books that are sold via bookshops.” (senior sales manager) • Several of the books published by Taurus Print received national design awards in the 2000-2010 period (website, press releases).
<p>3. Gemini & Sons [GS]</p>	<p>Domain identity challenged by disruptive innovation</p> <ul style="list-style-type: none"> • Members of this organization perceived the commitment to the “graphic design of books” and the “development of [printed] books - from the acquisition of authors to sales” as being at the core of the company’s identity (company website, About Us, 2001, 2006). • “We publish books” [anything else—such as digitization—was] “peripheral.” (manager) • “Our core products are printed books. [...] We will not change our business in the coming years.” (manager) 	<p>Role as follower enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • “The market dictates the terms. [...] We do what the customer wants [us] to do. [...] Over the more than 100 years of our company’s history, we have always tried to keep a watchful eye on what is happening outside and to orient ourselves towards the large competitors.” (CEO) • “When something new happens, we have to react. When the customers decide that they need new product innovations, then we have to react.” (long-tenured middle manager) 	<p>Substantial identity-induced struggles</p> <ul style="list-style-type: none"> • “Where do we come from? Who are we? Where do we want to go? [Shall we] frivolously follow whims and current consulting trends?” (CEO, public letter) • “We now have to deal with demands that are initially virulent and do not fall within our business area. I would prefer a world in which product digitalization does not exist. [...] Digitization is a plague – but, somehow, we cannot avoid it.” (CEO) • A manager described this situation as “living under the sword of Damocles.” 	<p>Highly tentative, rigid adoption</p> <ul style="list-style-type: none"> • Gemini & Sons offered few digitized products, such as audio CDs and downloadable content – yet all of these efforts served the mere purpose of “support[ing] book sales.” (CEO, interview). • Gemini & Sons further narrowed its set of competitive benchmarks to focus on only three long-time (print book) competitors. • “Getting older makes our company a stranger in its own field. This publishing house ... is a phase-out model.” (CEO, public speech)

<p>4. Libra Press</p> <p>[LP]</p>	<p>Domain identity enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • Already in 1991, the CEO highlighted “the rise of digitalization” in a speech to other publishers. • Libra Press is described as being a provider of “knowledge transfer that is relevant to practice” without any specific reference to “books” or “printed products” (website of Libra press, early 1990s). • “We serve society through providing information in the form of print and electronic media.” (company website, 1996) • “Some of our competitors are, of course, classical publishing houses. However, new competitors, especially content mediators, such as Google, Xing, Internet newsgroups, and even industry fairs, have become even more important.” (CEO) 	<p>Role as follower enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • The role of Libra Press is “serving society” (website of Libra Press, “about us,” since 1996) with a “focus on satisfying customers.” (website of Libra Press, since 2002) • “The market required changes.” (production manager) 	<p>No struggles observed</p>	<p>Aggressive, somewhat rigid adoption</p> <ul style="list-style-type: none"> • “The top management proposed ‘Let’s do that!’ and the then-89-year old owner [...] said: ‘That’s an opportunity!’ And then we invested a two digit million EUR amount.” (CEO) • “When the dot-com bubble burst, we stopped all [digitalization-related] activities [...]. We only restarted in 2006 – we did so in a very powerful way. That means, we invested lots of money.” (CEO) • Most of Libra Press’ digitized products merely copied existing products of competitors (manager). • “A majority of our online content was reused print content.” (employee) • [There is a] lack of “killer applications.” (employee) • “[We] lacked entrepreneurial spirit and good ideas for products.” (editor)
<p>5. Peter’s Publishing House</p> <p>[PPH]</p>	<p>Domain identity enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • PPH perceives itself as a “service provider [that] combines advantages of traditional books and multimedia concepts.” (website, 2004) 	<p>Role as shaper challenged by disruptive innovation</p> <ul style="list-style-type: none"> • “We want to be very proactive and offer something new and valuable.” (production manager) • “We see ourselves as trailblazer.” (assistant) 	<p>Substantial identity-induced struggles</p> <ul style="list-style-type: none"> • “One of the biggest difficulties is that we need to know what we want. And that we identify how we can contribute real value to the value chain.” (CEO) • “The top management asked us to 	<p>Highly innovative adoption</p> <ul style="list-style-type: none"> • Launch of innovative electronic – only products: 2006: first smartphone application; 2008: new web portals, new online services; also offers journals and data bases without a print equivalent.

	<ul style="list-style-type: none"> • “We are a ... publisher, internationally active, that develops and sells content in any technical form.” (CEO when he aimed to describe his company in one sentence) • “[Digitization affects us because] we at [PPH] are very open with regard to the products [that we produce].” (production manager) • “When talking about books, we do not distinguish between print and electronic books. They appear as the same for us.” (CEO) 	<ul style="list-style-type: none"> • “Sometimes—but on rare occasions—we say: They are all crazy, we’ll do it the way we like and make decisions contrary to the customer demands.” (CEO) • “We always have to ask ourselves: Does that fit us?” (CEO) • “No one can force us to produce specific products. I always tell my colleagues: If someone tells you to produce certain products, e.g., apps, and in a certain way, then leave it. Do something else.” (CEO) • “[We had to] endeavor to play an active role among the industry leaders [but that was difficult because] normal e-books are as dull as dishwater. There is nothing innovative about them.” (CEO) 	<p>come up with solution proposals [for digitization].” (production manager)</p> <ul style="list-style-type: none"> • “There was a strong sense of uncertainty and even anxiety at PPH. ... We conducted workshops [based on digitization] and surveyed the employees. Finally, I think we succeeded quite well.” (production manager) • “When [digitization] started several years ago we were excited about digitization. But we were not prepared yet. Then we started to doubt [about how digitization could be meaningfully implemented]. But now it is part of our daily job.” (sales manager) 	<ul style="list-style-type: none"> • Dedication of large amount of manpower to digitized publishing: 1996: two employees solely responsible for electronic products (newly hired in the 1990s); in beginning of 2000s: online unit with several employees founded.
<p>6. Secret Books [SEB]</p>	<p>Domain identity enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • “We see ourselves as a content provider, we are not a publishing house. ... We are not the Gutenbergs.” (production manager, three times repeated in the interview) • “[Competitors] range from established publishers to small technology startups.” (manager responsible for electronic sales) 	<p>Role as shaper challenged by disruptive innovation</p> <ul style="list-style-type: none"> • “We do not invest in any commercial activities, regardless of the medium, that do not suit us. For instance, we would not launch an internet platform related to cooking just because we could earn money with it. [...] We only do things that suit us.” (CEO) • “We invest much time and effort in order to continue offering superb products. Those 	<p>Substantial identity-induced struggles</p> <ul style="list-style-type: none"> • “[Digitization] is difficult. It is still very difficult ... Of course, what we could offer is very general information put online for download.... However, [developing more advanced digitized products] is a process that needs more time. Of course, we will go there. ... We have to develop new concepts from scratch. ... We have a very positive attitude towards digitization—I was just very 	<p>Highly innovative adoption</p> <ul style="list-style-type: none"> • Award-winning DVD; two internet portals, web-based TV channel (archival websites). • In 2009/2011: first apps (among three top-selling apps in Germany for several months). • Continuous: Creation and development of online database. • “We have launched several really novel products. Very nice going. ... I am somewhat proud of it.” (CEO)

	<ul style="list-style-type: none"> • “[Digitization seen as inside SEB’s domain since] SEB is an innovative publisher, characterized by openness.” (sales manager) 	<p>last 20% [of quality] are most expensive and customers do not pay for it. But we place value on it.” (CEO)</p> <ul style="list-style-type: none"> • “We aim to offer products, which the industry sectors have not seen before [and we are reluctant to introduce any new electronic products that are] nothing new.” (CEO). 	<p>upset when I observed the first tentative attempts of other publishers, which were not based on advanced business models.” (production manager)</p> <ul style="list-style-type: none"> • “When deciding which new digitized products to offer, we sometimes stand in our own way because we always discuss how new products would fit us [as shapers].” (production manager) 	
<p>7. Rocket Book [RB]</p>	<p>Domain identity challenged by disruptive innovation</p> <ul style="list-style-type: none"> • “The core product of [RB] is the [printed] book - supported by other media” (CEO) • “One important part of our philosophy is to keep our hands off activities which we are not capable of doing.” (CEO) • “We know exactly what we are good at. [And digitization does not match our capabilities].” (CEO) 	<p>Role as shaper challenged by disruptive innovation</p> <ul style="list-style-type: none"> • “What characterizes us is that we are very independent. We are actually completely independent.” (CEO) • “We are active in a small market, but we are not the slaves [of customers and competitors].” (CEO) • “Who else invests in building up so much knowledge as we do? ... It is only us who have built up this stock of knowledge, because, to say it bluntly, we are so ‘stupid’ to care about this level of detail. No one else wants to do it, because it requires so much effort.” (CEO) • RB has a focus on “high quality, good value” and desires to offer a “concentrate of the best” by engaging the “best authors” (website statements) and thus being “creative and innovative.” (press release, 	<p>No struggles observed</p>	<p>Non-adoption, but innovative domain defense</p> <ul style="list-style-type: none"> • Continuous effort to modernize the layout and optimize the “look-and-feel” of print products (CEO) • Substantial broadening of print product portfolio in 2007, 2009, and 2010; geographic expansion (internationally) via licensing.

		2004)		
8. Reader's Finest [RF]	Domain identity challenged by disruptive innovation <ul style="list-style-type: none"> • “Our core products are books, printed books. And this won't change.” (CEO) • “[Reader's Finest] is very book-affine. We like the haptics. We like the smell. We like the sound [of turning pages].” (employee) • “I think that the touch and feel of paper cannot be replaced... [Thus, new media] will never be our market in the future.” (CEO) • “Such initiatives outside of the print business [...] would be inconceivable for us.” (CEO) 	Role as shaper challenged by disruptive innovation <ul style="list-style-type: none"> • “We do not want to produce only books [such as soft cover belletrist], but we want to produce special books.” (sales manager) • “Independence” as one of the firm's most important goals (website 1999). • “One of [Reader's Finest] most important principles is to generate ideas internally.” (employee) 	No struggles observed	Non-adoption, but innovative domain defense <ul style="list-style-type: none"> • Since 2004: new series of books in foreign language, new editions of “classic” books, new genres, mix of genres. • Further examples of incremental innovations in the old (print-based) domain: mentioned by CEO: jokes at the end of each chapter; new writing styles; riddles included in the texts.
9. Book 2020 [B20]	Domain identity challenged by disruptive innovation <ul style="list-style-type: none"> • “Our core products are print books.” (member of marketing department) • “We will concentrate on our core competencies [which are related to established print products].” (chronicle, 2011) 	Role as follower enhanced by disruptive innovation <ul style="list-style-type: none"> • Main goal is “to make customers more successful [by providing information and] to fully concentrate on the customers' demands and to quickly react to changes.” (website, 2002) • “It is expected from each manager that we travel to the US at least once and observe the upcoming trends there.” (internet marketing manager) • “We are permanently engaged 	Substantial identity-induced struggles <ul style="list-style-type: none"> • “Our core products are our print products, but they will certainly have a tough time in the future with many fights.” (member of marketing department) • Decision to continue focusing on print products, but several investment to “do what is expected from B20.” For instance, as stated on website: “To satisfy the trends, we launched the first electronic product [i.e. a CD-ROM].” 	Highly tentative, rigid adoption <ul style="list-style-type: none"> • “We have several eBooks. They are all nitty-gritty, no real products.” (internet marketing manager) • “Our firm doesn't really make revenues with digitized products.” (internet marketing manager)

		<p>in market research [in order to fulfil our purpose].” (CEO)</p> <ul style="list-style-type: none"> • “Typically, we do anything that needs to be done [but we want to continue focusing on print].” (internet marketing manager) 	<ul style="list-style-type: none"> • However: “Revenues with digitized products do not play a central role for us. ... Our core product is still based on print products.” (CEO, interview). 	
<p>10. Superbooks [SB]</p>	<p>Domain identity enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • “At Superbooks, there are hardly any limits to the multitude of media and services.” (job offer, 2006) • SB as a provider of “holistic, thorough, and high quality information.” (website, 2002) • “Prior to digitization, we did not have any other medium to convey our content. ... When the publisher was established, the only way to mediate and transfer information to customers was in print.” (CEO) 	<p>Role as follower enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • “Concrete demands and requirements of our customers are our starting point ... and also [the input we get from the] close cooperation with authors.” (websites, 2001, 2006) • Several measures in place to support this customer-centered view: Dedicated time to spend with customers every week mandatory for all managers; customer survey, focus groups, usability labs, congresses, large field crew (CEO). • “Our customers’ interests and demands are core to us.” (press release, 2006) 	<p>No struggles observed</p>	<p>Aggressive, somewhat rigid adoption</p> <ul style="list-style-type: none"> • Several print products converted to digitized products, for instance periodicals (since 1999) or CDs (since 2004); “In most cases we still just recycle the book and put it online.” (operations manager)
<p>11. TopPress [TP]</p>	<p>Domain identity enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • “We see us as a service provider.” (manager) • Competitors are “broadly defined.” (CEO) • TP’s contacts with non-publishing businesses seen as very important as they are a “source of information across 	<p>Role as follower enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • “Our firm is like a ship with no final destination. We just move, and we have to make sure we do not move too fast or too slow.” (CEO) • “We do not have a core product. We have target customers whom we serve. [...] 	<p>No struggles observed</p>	<p>Aggressive, somewhat rigid adoption</p> <ul style="list-style-type: none"> • Most products are print-pdf converts without adaptation according to sales manager. • Only little native digitized content generation. Online manager: “We could have probably done more [with regard to developing novel products].”

	<p>the boundaries of the publishing sector.” (manager)</p> <ul style="list-style-type: none"> • “[Digitization fits our identity because] the medium is not important.” (CEO) 	<p>We have to ask ourselves: What does the customer group require?” (online manager, when asked about core product)</p> <ul style="list-style-type: none"> • CEO’s initial reaction to digitization according to sales manager: “I do not know anything about it. But let’s do it.” “Sure, our core product will completely change because of digitization. This is like with clothes. Clothes need to be warm and practical. However, we do not care about color and design and do not know how this will look like.” (CEO) 		<ul style="list-style-type: none"> • First decided to digitize the entire backlist in 2009, but then decided that it is “not necessary,” not required by customers and thus stopped in the middle. (manager)
<p>12. House of Books [HoB]</p>	<p>Split between domain identity challenge and enhancement</p> <p>Top management:</p> <ul style="list-style-type: none"> • “Traditional print business” as core focus. (numerous managers and employees) • Four established print publishers active in the same segment seen as main competitors. (sales manager) <p>but also contrasting evidence by younger manager and member of the owning family:</p> <ul style="list-style-type: none"> • HoB is a “publisher that offers any information [that the customer] needs.” (manager) 	<p>Role as follower enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • “We listen carefully to what our customers say. And we do what they want us to do.” (sales manager) • “We are the biggest German publisher in our specific sector... But it is the proximity to customers that really characterizes us and makes us special.” (production manager) • “Our tradition is that we are obligated to the customer. This has been our tradition for more than 20 years. And due to that, we have had to change all the time.” (manager) 	<p>Substantial identity-induced struggles</p> <ul style="list-style-type: none"> • Disagreement across hierarchical levels whether digital products are within or outside identity domain, thus no firm-level response but several smaller adoption activities driven by departments. • “Initially, we did not have internal discussions about whether to digitize our print magazines. However, customers approached us with their respective demands. Thus we felt prompted to put our content online [for free].” (manager) • “Digitization has been a huge challenge to us. ... The biggest problem was that we did not have a real product any more, no great opus. We just had a lot of 	<p>Highly tentative, rigid adoption</p> <ul style="list-style-type: none"> • None of those few digitalization activities related to the core business. • Most digitized products are free, providing no additional revenues.

			information burnt on a CD. ... We couldn't see how this should be a product." (sales manager)	
13. Reader's Publisher [RP]	<p>Split between domain identity challenge and enhancement</p> <p>Top management:</p> <ul style="list-style-type: none"> • Print perceived as superior because of the many "advantages of print books [such as] haptics [and the] opportunity to turn the pages." (CEO) • "I think that electronic media are inappropriate for any advanced reading. ... I think print is much more appropriate for this." (CEO) <p>but also contrasting evidence e.g., by communication department:</p> <ul style="list-style-type: none"> • RP is a company that "serves customers media-independently and in a target-group oriented way [and that] provides any type of information." (press release, 2009) 	<p>Role as follower enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • "We do not have a role as a pioneer. We are not drivers of the market." (online manager) • "Our most important goal is to please our customers' needs." (manager) • "If our target customers expect something, then we [as RP] will do it." (CEO) • "If [digitization and social media are] important for our customers, then we have to adopt them. However, I am quite hesitant. Most organization members of [Reader's Publisher, including myself] would prefer to only be involved in print." (CEO) 	<p>Substantial identity-induced struggles</p> <ul style="list-style-type: none"> • "Around 2005, we had long discussions, a lot of persuading was required. Because organization members thought: "We do that in print and then we see what else we can make out of it." Today we have a different understanding of digitized products but this process is still ongoing, we haven't finished it yet. ... Even today, work at RP doesn't run smoothly when it comes to digitized products." (manager) • "Product digitization is a curse. But I can't complain about it every day, we can't change it any more." (CEO) 	<p>Highly tentative, rigid adoption</p> <ul style="list-style-type: none"> • No digitization in core business. • According to Editor some "cramming" activities, e.g., free software. • No native digitized products created.
14. Books and More [BM]	<p>Domain identity enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • BM's mission is to "provide content." (website, 1990s) • "Not the medium matters but the content." (website, 1998) 	<p>Until 2003: Role as a follower enhanced by disruptive innovation</p> <ul style="list-style-type: none"> • BM as "market-driven [and] customer-oriented." (website, mid/end 1990s) <p>From 2003: Role as a shaper challenged by disruptive innovation</p>	<p>Substantial identity-induced struggles</p> <ul style="list-style-type: none"> • In the beginning, no struggle, just launch of first electronic products. This was described by CEO as "we are there" move. • "Digitization of books is easy. It is associated with technical 	<p>Highly innovative adoption</p> <ul style="list-style-type: none"> • Around 2000s: Launch of digitized electronic books. • 2004: launch of (premium) e-books with interactive supplementary material. • 2011: software, computer

		<ul style="list-style-type: none"> • “We shape the 21st century’s literature.” (website, 2004) • “Most of our new ideas come from the employees. ... We owe success to our employees that are granted space for pioneering spirit.” (manager) • “We are very quality-oriented, very content-oriented. For the members of our firm it is very important <i>what</i> they do. It is not as sales-oriented as in other firms, it comes more from the inside.” (CEO) • “We adhere to our basic principles. [...] We confidently state what we believe is right and we have the heart to enter new paths.” (publically available document). • “When new markets are opening, then we have to evaluate whether and how we [as shapers] fit in.” (manager) 	<p>problems that are all solvable. What is challenging is that we want to use the new media to provide really new forms of content [and thus continue to be someone that advances the world].” (manager)</p> <ul style="list-style-type: none"> • “Just producing electronic books [i.e. converted from print books] would be a disappointing signal.” (manager) 	<p>games, e-learning, online books (for tablets and smartphones), interactive books (author and reader interact already during development process), video training, apps; all supported by several changes in the organization: “We experimented quite a lot.” (CEO; supported by press releases)</p> <ul style="list-style-type: none"> • Sophisticated pricing model for interactive online content (since ca. 2011). • Experience with new media as important hiring criteria (production manager). • Large number of electronic products (as compared to number of print products).
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