

Spring 5-29-2015

# Digitization and Path Disruption: An Examination in the Funeral Industry

Matthias Wenzel

*European University Viadrina, mwenzel@europa-uni.de*

David Wagner

*German Graduate School of Management and Law (GGS), david.wagner@ggs.de*

Heinz-Theo Wagner

*German Graduate School of Management & Law, heinz-theo.wagner@ggs.de*

Jochen Koch

*Europa-Universität Viadrina, Frankfurt (Oder), Germany, koch@europa-uni.de*

Follow this and additional works at: [http://aisel.aisnet.org/ecis2015\\_cr](http://aisel.aisnet.org/ecis2015_cr)

---

## Recommended Citation

Wenzel, Matthias; Wagner, David; Wagner, Heinz-Theo; and Koch, Jochen, "Digitization and Path Disruption: An Examination in the Funeral Industry" (2015). *ECIS 2015 Completed Research Papers*. Paper 199.

ISBN 978-3-00-050284-2

[http://aisel.aisnet.org/ecis2015\\_cr/199](http://aisel.aisnet.org/ecis2015_cr/199)

This material is brought to you by the ECIS 2015 Proceedings at AIS Electronic Library (AISeL). It has been accepted for inclusion in ECIS 2015 Completed Research Papers by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# DIGITIZATION AND PATH DISRUPTION: AN EXAMINATION IN THE FUNERAL INDUSTRY

*Complete Research*

Wenzel, Matthias, European University Viadrina, Frankfurt (Oder), Germany,  
mwenzel@europa-uni.de

Wagner, David, German Graduate School of Management and Law, Heilbronn, Germany,  
david.wagner@ggs.de

Wagner, Heinz-Theo, German Graduate School of Management and Law, Heilbronn,  
Germany, heinz-theo.wagner@ggs.de

Koch, Jochen, European University Viadrina, Frankfurt (Oder), Germany, koch@europa-  
uni.de

## Abstract

*While the digitization of the business landscape provides firms with numerous business opportunities, it has severely disrupted established business practices of many traditional “offline businesses.” To shed light on the disruptive nature of digitization and the challenges that it entails for traditional offline businesses, we draw on path dependence theory to examine how digitization disrupts strategic paths. We explore this issue by analyzing the strategic path of funeral homes, a paradigmatic case of a traditional offline business that has been struck heavily by digitization. We show that digitization is capable of destabilizing the key mechanisms that drive the successful reproduction of strategic paths and, consequently, induce their eventual demise, whereas other (non-digital) disruptive events may challenge the strategic pattern of paths but do not necessarily lead to path disruption. By discerning and emphasizing this disruptive peculiarity of digitization, we contribute to better understanding the disruptive nature of digitization and the challenges that it entails for traditional offline businesses. Furthermore, we extend the extant literature on path dependence by providing a more nuanced understanding of path disruption, and we offer guidance to practitioners on how to cope with the challenges of path disruption through digitization.*

*Keywords: digitization, disruption, path dependence, funeral industry.*

## 1 Introduction

Scholars have long emphasized the substantial social changes that accompany digitization (Bell, 1973; Machlup, 1962; Wiener, 1948). Yet, in recent years, digitization—i.e., the transformation of “analog” products and processes into their digital counterparts (Tilson et al., 2010; Yoo et al., 2012)—has reached a new level. Information and communication technologies increasingly permeate our lives (Yoo et al., 2012) and their ubiquitous use shapes social life toward a “network society” (Castells, 2004; Rainie and Wellman, 2012).

These technological changes entail significant business opportunities for firms (Bharadwaj et al., 2013; Legner et al., 2011). For instance, firms may particularly benefit from digitizing parts of their formerly analog products and services and offering them on web-based channels (Oestreicher-Singer and Zalmanson, 2013; Rothmann et al., 2014; Stuckenberg et al., 2014; Wenzel et al., 2014); yet, the digitization of the business landscape has also been characterized as extraordinarily disruptive (Eden

et al., 2014; Fichman et al., 2014; Kude et al., 2014; Lyytinen and Rose, 2003; O'Reilly and Finnegan, 2005; Raeth et al., 2010; Scheerer and Kude, 2014; Selander and Jarvenpaa, 2013; Whelan et al., 2010, 2013); i.e., it may constitute a serious threat to existing business practices (Grover and Kohli, 2013). The drastic changes of the business landscape that come along with its digitization exposes especially long-established firms to major challenges of competing in the digital sphere (Butler, 2003; Feller et al., 2008, 2011; Henningsson and Henriksen, 2011; Henningson et al., 2010). Accordingly, the digitization of the business environment has particularly challenged long-established practices of traditional “offline businesses,” i.e., businesses that have a long history of offering non-digitized products and services (Grover and Kohli, 2013), such as the book industry (Gerlach and Buxmann, 2011), the camera industry (Lucas and Goh, 2009), the newspaper industry (Oechslein and Hess, 2013), and the music industry (Oestreicher-Singer and Zalmanson, 2013).

Recent works have suggested path dependence theory as an insightful theoretical lens for better understanding the challenges of these offline businesses in the digital sphere (Drnevich and Croson, 2013; Henningsson and Hanseth, 2011; Henningsson and Yetton, 2011). Path dependence is a process in which the managerial scope of action is reduced over time. This process is driven by positive feedback mechanisms and leads to the emergence and persistent reproduction of a strategic pattern with hardly any strategic innovation (Sydow et al., 2009). Prior research provides insightful contributions to better understanding the emergence of reproduced strategic patterns *before* path disruptions (Dobusch and Schüßler, 2013). Furthermore, first works have illuminated how and why strategic patterns are persistently reproduced in favor of strategic innovation even *after* path disruptions (Koch, 2011; Rothmann and Koch, 2014). Accordingly, extant literature on path dependence provides valuable insights into the historical development of the strategic path of traditional offline businesses that has led to constrained scope of action to respond to the disruptive forces of digitization (Kunow et al., 2013; Schreyögg et al., 2011) and sheds light on the reproduction of this path in favor of exploiting business opportunities that come along with emerging digital technologies (Rothmann et al., 2014). However, prior studies do not particularly focus on the disruption of strategic paths itself. Consequently, the disruptive peculiarities of digitization have not been fully explored (Gregory et al., forthcoming; O'Reilly and Finnegan, 2005).

Examining this issue is particularly important because a more thorough understanding of the nature of path disruption is vital to better understanding the challenges of traditional offline businesses to compete successfully in the digital sphere (Koch, 2011; Lavie, 2006). Thus, studying the disruption of strategic paths through digitization not only generates more insights into the disruptive peculiarities of digitization and the challenges that they entail (Gregory et al., forthcoming; O'Reilly and Finnegan, 2005) but also promises important insights for practitioners on how to cope with these challenges (Carlsson et al., 2011). Therefore, to shed light on this important gap, we formulate the following research question: *How does digitization disrupt strategic paths?*

We address this research question by empirically examining the strategic path of incumbent funeral homes in Berlin, Germany, as a paradigmatic case of traditional offline businesses. The incumbent firms in this industry have formed a successful strategic pattern over time (Breuer and Daumann, 2010) but have been struck by several shocks, i.e., market deregulation, the market entry of so-called “discount funeral homes,” and the digitization of firm–consumer interactions (Akyel, 2013). By analyzing this case, we discern a crucial peculiarity of digital disruptions: whereas other disruptive events challenge the strategic pattern, digital disruptions destabilize the self-reinforcing mechanisms of strategic paths. Our findings indicate that this seemingly subtle distinction has important implications. In particular, we show that, although environmental changes may potentially render a strategic pattern inappropriate for conducting business successfully, intact self-reinforcing mechanisms may mitigate, or even neutralize, the adverse impact of these environmental changes on the strategic pattern. Thus, only if disruptive events also destabilize these driving self-reinforcing mechanisms, strategic paths seem to be disrupted. Because disruptions through digitization seem to be

particularly well-suited for destabilizing the self-reinforcing mechanisms, digitization seems to play a key role in the disruption of strategic paths.

## 2 Theoretical Background

Path dependence theory has found application in a broad range of disciplines, such as economics (Shapiro and Varian, 1999), sociology (Mahoney, 2000), political science (Pierson, 2000), and, most notably, information systems research (e.g., Henningsson and Yetton, 2011; Lim et al., 2011; Sambamurthy et al., 2003). In a strategic context, it explains the gradual reduction of managerial scope of action (Sydow et al., 2009) and provides powerful explanations for the persistent reproduction of a strategic pattern, i.e., “a combination of routines and resources” (Koch, 2011, p. 341). This process is divided analytically into three stages: the pre-formation phase, the formation phase, and the lock-in phase (Rothmann and Koch, 2014; Sydow et al., 2009; see Figure 1).

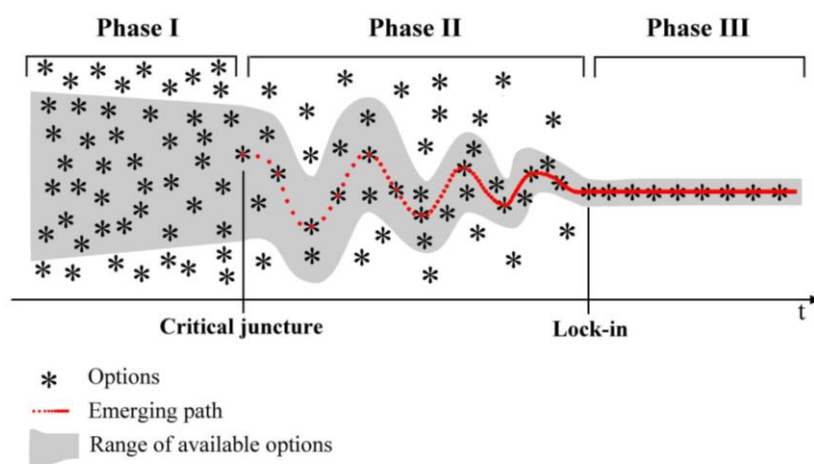


Figure 1. The emergence of a strategic path (Sydow et al., 2009, p. 692)

In the first phase, the pre-formation phase, firms select strategic options from a broad scope of alternatives. Although the range of perceived options is not unlimited (as illustrated by the gray area in Figure 1), it concedes considerable leeway for strategic choice (Sydow et al., 2009). The consequences of strategic decisions taken in this initial phase are not entirely predictable. Therefore, a seemingly small and perhaps even random choice of a strategic option may initiate the second phase, the formation phase, by triggering self-reinforcing mechanisms (Arthur, 1989). These mechanisms constitute any process of positive feedback that drives the selection of a strategic pattern (Schreyögg et al., 2011). They gradually increase the benefits of selecting one strategic pattern and progressively eliminating alternatives to this pattern from the available scope of action. For instance, “learning effects” gradually render a strategic pattern more attractive the more often it is reproduced because of the accumulation of related capabilities (Sydow et al., 2009). At this stage, strategic decisions are still reversible; however, the chances of a reversal become lower toward the end of this phase due to the increasing success of the emerging strategic pattern (Miller, 1993). When the self-reinforcing mechanisms have crowded out all alternatives to a strategic pattern, affected firms enter the lock-in phase; i.e., they persistently reproduce a strategic pattern and hardly perceive any alternatives to this course of action (Sydow et al., 2009).

The narrowed corridor of options does not adversely affect firm success in all cases. In fact, the aspiration of firm success through the exploitation of self-reinforcing mechanisms constitutes the essence of path dependence (Sydow et al., 2009) and is well-documented in information systems research (e.g., Bharadwaj, 2000; Lim et al., 2011; Saraf et al., 2007; Tallon and Pinsonneault, 2011; Wade and Hulland, 2004). Accordingly, firms may successfully reproduce a strategic pattern that is well-aligned with specific environmental conditions for long stretches of time (Koch, 2011; Rothmann

and Koch, 2014). However, constrained strategic innovation becomes critical when the strategic path is affected by disruptive events; i.e., changes in the environment that threaten path reproduction and potentially lead to a misalignment of the strategic pattern with environmental conditions (Schreyögg and Kliesch-Eberl, 2007). Because affected firms have forfeited their flexibility for increasing returns in the formation phase, they do not have any scope of action available to respond to these changes in the environment (Sydow et al., 2009).

This phenomenon has frequently been observed in traditional offline businesses such as the newspaper industry: market digitization has disrupted the business model of news publishers, and yet, these firms (still) perceive a tightly narrowed scope of action for establishing a new business model in digitized markets (Gilbert, 2005; Oestreicher-Singer and Zalmanson, 2013; Rothmann and Koch, 2014; Rothmann et al., 2014; see also Lucas and Goh, 2009; Kunow et al., 2013; Schreyögg et al., 2011; Tripsas and Gavetti, 2000). Due to the outstanding importance of self-reinforcing mechanisms in path-dependent processes, extant literature on path dependence primarily illuminates these cases by describing and explaining the emergence of strategic patterns that lead to a constrained scope of action in the moment of path disruption (Dobusch and Schübler, 2013). For instance, in the newspaper industry, the strategic pattern of producing and selling news in paper-based formats has formed based on the so-called “advertising–circulation spiral” (Hoskins, 2004): the placement of ads in newspapers enabled publishers to subsidize their product—either by decreasing the purchase price or by increasing product quality—to extend the circulation and, thus, to attract even more ad customers. In this model, customers turn out to pay only for a fraction of the costs of producing and distributing the newspaper. Accordingly, the long-standing success of this model has rendered offering paid digital news unattractive for news publishers, although it seems to have been a valuable strategic option when the Internet emerged as a mass medium (Rothmann and Koch, 2014).

Furthermore, a few studies have illuminated the retention of strategic patterns even after the strategic path is disrupted (Koch, 2011; Rothmann and Koch, 2014). For instance, although the newspaper industry was struck hard by increasing competitive pressure from digital news offerings and a slump-down of the advertising market, the news publishers transferred their ad-driven business model from the analog world into the digital sphere; i.e., they subsidized digital news by providing the content for free to extend the circulation and, thus, to render the news websites attractive to ad customers (Rothmann and Koch, 2014). The exclusion of strategic alternatives to this strategic pattern that have emerged along with the digitization of the newspaper industry, such as paid digital news, could be explained as a continuous and seemingly inescapable alternation between different forms of lock-in over time (Rothmann et al., 2014); i.e., cognitive (failing to recognize strategic alternatives), normative (rejecting attractive strategic alternatives), and resource-based (lacking the resources to exploit strategic alternatives) forms of lock-in (Koch, 2008; Sydow et al., 2009).

In sum, extant literature on path dependence provides valuable contributions to better understanding the emergence of strategic paths *before*, and the reproduction of strategic paths *after* their disruption through digitization. However, prior works do not particularly focus on the disruption of strategic paths through digitization itself. Similarly, the literature on digitization and its disruptive nature has primarily focused on antecedents and characteristics of digitization (Yoo et al., 2012). Accordingly, pervasiveness and radicality seem to be the “necessary conditions” for digitization to be disruptive (Lyytinen and Rose, 2003). However, extant literature has not identified the “sufficient condition” for disruptions through digitization, nor has it illuminated how it disrupts strategic paths (Lyytinen and Rose, 2003; Tilson et al., 2010; Yoo et al., 2012). Thus, there is considerable scope for shedding light on the peculiar nature of disruptions of strategic paths through digitization to provide an even better understanding of the challenges for traditional offline businesses (Gregory et al., forthcoming; O’Reilly and Finnegan, 2005).

## 3 Method

### 3.1 Research design and case selection

To examine empirically how digitization disrupts strategic paths, we conducted a qualitative case study with a longitudinal retrospective research design (Benbasat et al., 1987; Cavaye, 1996; Yin, 2014). The deployment of this research methodology complies with most path studies (Sydow et al., 2012). It further enabled us to acknowledge the processual nature of path dependence (Sydow et al., 2009) and the complex nature of disruptions through digitization (O'Reilly and Finnegan, 2005), which require rich descriptions to generate informed insights (Eisenhardt, 1989). We opted for a longitudinal retrospective research design because both path dependence and disruptions through digitization may best be observed in such a design (Antero et al., 2013; Dobusch and Schüßler, 2013).

Qualitative research especially benefits from the analysis of extreme cases in which the phenomenon of interest is particularly salient (Strauss, 1987). Although the funeral industry has remained largely unnoticed in information systems research, the strategic path of its incumbent firms constitutes a paradigmatic case (Yin, 2014) of traditional offline businesses that is still largely “analog” and in which the focal phenomenon can be observed extraordinarily well: the firms in this industry persistently reproduce a strategic path that has faced a number of disruptive events, including the digitization of firm–consumer interactions that enabled the funeral homes’ first step into the digital sphere (Akyel, 2013; Breuer and Daumann, 2010). We particularly focused our analysis of path disruption on the strategic path of incumbent funeral homes in Berlin, Germany, in the period from the 1960s to 2010. With more than 150 funeral homes, which were mostly family-owned and employed six employees on average by the end of this period, the industry in this regional scope not only accounts for the largest density of firms in Germany but was hit even harder by disruptive events than the rest of the industry (Akyel, 2013). Thus, because we could observe path disruptions even better within this regional scope, the case of the strategic path of incumbent funeral homes in Berlin is well-suited for theorizing (Strauss, 1987).

In line with common observations of mature and long-established industries with path-dependent firms (Vergne and Durand, 2011), the incumbent firms in the funeral industry in Berlin were equally struck by disruptive events, conducted similar strategic activities, and relied on the same self-reinforcing mechanisms (Breuer and Daumann, 2010). Thus, although structural differences such as firm size, ownership structure, etc. might have existed, the funeral homes reproduced the same strategic path (Burgelman, 2010). This lack of variation inhibited us to draw inferences from cross-case comparisons (Eisenhardt, 1989). Therefore, following suggestions to shed light on the challenges of coping with digital disruptions by taking a process view (Antero et al., 2013; Butler and Fitzgerald, 1999; Gregory et al., 2013; Henningson et al., 2010; Kude et al., 2014; Raeth et al., 2010; Selander and Henfridsson, 2012; Scheerer and Kude, 2014), we analyzed within-case variations (Langley, 1999) by comparing and contrasting the disruptive events, including digitization, that equally struck all firms in the industry over time as a holistic single case (Langley et al., 2013; Yin, 2014), with the strategic path of the funeral homes as the unit of analysis (Koch, 2008, 2011; Rothmann et al., 2014).

### 3.2 Data collection and analysis

To enable data triangulation, the qualitative data used for this study stems from different sources (Yin, 2014). In particular, we gathered our data in a three-stage process. First, to obtain a better understanding of the context in which the disruption of the strategic path occurred (Eisenhardt, 1989; Hedman et al., 2012; Sydow et al., 2012), we collected a body of (399) newspaper articles that covered the critical period from 1996 to 2010. We found these articles in established databases (*LexisNexis*, *Wiso*) based on keywords (“funeral industry AND Berlin,” “funeral home AND Berlin,” and so on). We complemented these articles with secondary quantitative data on developments in the funeral

industry in Berlin provided by the Federal Statistical Office of Germany (Destatis). We also used these secondary data for the case description provided above.

Second, because gaining an understanding of the multi-level phenomenon of path dependence requires rich accounts of central experts on the focal phenomenon (Sydow et al., 2012), we gathered primary data by conducting 25 semi-structured, retrospective interviews with 14 central experts that were knowledgeable about how the funeral homes' strategic path had emerged and how it had been disrupted in the focal period (Van de Ven, 2007). We identified these experts either by repeated encounters of their comments as interviewed experts in newspaper articles or based on recommendations by industry associations (Miles and Huberman, 1994). We conducted the interviews in 2013 and 2014 (see also Koch, 2008, 2011; Rothmann and Koch, 2014; Sydow et al., 2009). To reduce retrospective biases and ensure trustworthiness through triangulation (Lincoln and Guba, 1985), the interviewees had diverse knowledge backgrounds. This diversity resulted from the professions of the interviewees; i.e., besides interviewing nine funeral directors that provided a thick description (Geertz, 1973) of their strategic path and their perspectives on the disruptive events, we also conducted interviews with four heads of industry associations, one consultant, two suppliers, one publicist, and one cemetery administrator that engaged with the incumbent firms in the funeral industry in different contexts (Van de Ven, 2007).<sup>1</sup> While the narrative accounts of the funeral directors on the strategic path and its disruption were astonishingly similar, the other experts—as external observers—drew a deviating picture of the scope of action that the funeral homes had available. The triangulation of these accounts helped us better understand the strategic path in which the funeral homes were trapped by identifying certain blind spots (Schreyögg and Kliesch-Eberl, 2007). The interviews lasted approximately 87 minutes on average and more than 36 hours in total. We audio-recorded and transcribed all but two of the interviews. Because one interviewee refused audio-recording, we recorded the two interviews with this person in writing; the interviewee subsequently verified the protocol (Miles and Huberman, 1994).

To ensure the existence of narratively reported strategic patterns and mechanisms (Koch, 2011), we supplemented the interview data with direct on-site observations in ten funeral homes (Calori, 2002). We selected these funeral homes as suitable sites for empirical observations based on recommendations by the interviewed experts (Miles and Huberman, 1994). Whereas most funeral directors constrained the access for data collection to one hour, we entered two paradigmatic funeral homes (Yin, 2014) for two work days each and observed all activities of the firms' value chain, from the first contact with customers to the final delivery of the service on the cemetery. We immediately recorded our observations in field notes and gathered these in extended reports at the end of each day of observation (Miles and Huberman, 1994). To further increase the credibility of our findings by reducing the impact of ex-post rationalizations, we continuously contacted the experts informally via telephone calls and conducted follow-up interviews with all interviewed experts, which helped us clarify and improve our emerging research results (Lincoln and Guba, 1985).

To increase reliability, we constructed a case study database (Yin, 2014) by importing the gathered data into the qualitative data analysis software *Atlas.ti*, v7.1. Then, we used the software to code and analyze the data. Due to the existence of established frameworks for analyzing strategic paths, we could generate the coding categories deductively (Sydow et al., 2012). In particular, we drew on Koch's (2008) analytical framework for the analysis of strategic paths, which comprises (1) the revelation of at least one strategic pattern that is persistently reproduced, (2) the identification of at least one self-reinforcing mechanism that is related to the reproduced pattern, (3) the detection of critical events in the environment that disrupt the strategic path, (4) the observation of reactions to

---

<sup>1</sup> Three heads of industry associations and the publicist were funeral directors at the same time.

environmental changes to determine whether affected firms are able to overcome inertia, and (5) the determination of reasons for path dependence, i.e., resource-based, cognitive, or normative.

Koch's (2008) analytical procedure is inherently process-oriented in that it helped us reconstruct the emergence of the strategic path over time—with a focus on the development of the strategic pattern and the driving self-reinforcing mechanisms—as well as critical events that potentially disrupted the path (see also Koch, 2011; Sydow et al., 2009). We subsequently analyzed the impact of these disruptive events by comparing and contrasting them in a tabular format, an important “strateg[y] for theorizing from process data” (Langley, 1999, p. 691). In particular, we discerned similarities and differences among these disruptive events by focusing on their impact on the two key components of paths, i.e., the predominant strategic pattern and the self-reinforcing mechanisms (Koch, 2011). In the following section, we present the findings of our study in line with the applied analytical procedures.

## 4 Findings

### 4.1 1960s–1980s: Path emergence—pattern and mechanisms

The predominant strategic pattern of funeral homes in Berlin emerged in “the 60s, 70s and 80s, [...] the golden decades in the funeral industry” (Expert 6) in which funeral homes were extraordinarily successful. This success was based on offering standardized funerals with little differentiation.

*“You went to funerals in black clothing and performed certain rituals, and this was it.”*  
(Expert 3)

Such service standardization provided few needs for consumers to compare offers by different funeral homes. Because statutory providers of health insurance paid “funeral allowances [financial aid for the payment of funerals] as far as the eye can see” (Expert 6), consumers enjoyed extended financial scope and were not particularly price-sensitive. Beyond that, comparability was reduced by non-transparent pricing. The funeral homes placed a large profit margin on the coffin and did not charge other components. Thus, they could only “earn money [...] if they sell a good coffin” (Expert 10). This pricing practice obscured the cost structure of funeral services. Consequently, the lack of transparency reduced the possibilities for consumers to switch to competitors, such that the combination of selling the same service to the same customers was persistently reproduced.

The self-reinforcing mechanism that drove this strategic pattern primarily consisted of an informal arrangement that prohibited the funeral homes to actively acquire new customers. Thus, despite the large density of firms in this industry (Akyel 2013), a non-aggression pact neutralized competitive pressures.

*“Among older companies [...], there is a sort of code of honor [...]. You don't go there with a pound of coffee and say, ‘Here I am. Just call me.’”* (Expert 4)

The more firms complied with this code, the more attractive it became to avoid active customer acquisition; this positive loop relative to the pattern qualifies the code to be a self-reinforcing mechanism of path dependence (Schreyögg et al., 2011) for the funeral homes. Due to this code, the funeral homes acquired customers in their “catchment area [but] the funeral homes as such hardly differ” (Expert 8). Accordingly, the funeral homes focused on serving their regular customers in their vicinity.

*“The majority of our customers are those who say, ‘well, you have buried our uncle, you have buried our cousin, you have buried our father, and so on.’”* (Expert 8)

By relying on follow-up orders of the established customer base, the funeral homes could steadily generate revenues. Furthermore, “[the business] strongly relies on recommendations” (Expert 1) of satisfied customers that could passively enlarge the customer base without breaching the non-aggression pact. Thus, organizational reputation substantially drove the retention of existing and the



acquisition of new customers. At that time, the value of the funeral homes' reputation increased the more customer satisfaction they generated by meticulously following consumers' expectations. Due to this self-reinforcing loop, reputation is known as another self-reinforcing mechanism of path dependence (Mishina et al., 2012) and also drove the success of the strategic path of funeral homes at that time.

## 4.2 Path disruption

### 4.2.1 1989: Bisection of funeral allowances

The success of the incumbent funeral homes was threatened the first time in 1989, "when funeral allowances were cut in half" (Expert 8). While burials had been understood as a task of the state, the bisection of funeral allowances increasingly shifted the responsibility for burials toward the bereaved and reduced consumers' financial scope.

This situation could have destabilized the traditional service concept because of a potential increase in consumers' price sensitivity. However, "there was no problem" (Article 197) for funeral homes because the non-aggression pact that drove this pattern averted the disruption (see also Table 1). The code was still "respected and enforced by the colleagues" (Expert 12); i.e., the funeral homes retained their non-transparent business practices and continued to rely on their established clientele instead of actively acquiring new customers. Therefore, the possibilities for consumers to compare offers and to switch to competitors remained scarce.

### 4.2.2 1990s: Market entry of "discount funeral homes"

Such possibilities to compare offers and to switch to competitors could have opened up for consumers when so-called "discount funeral homes" entered the market at the beginning of the 1990s. These new market players aimed to offer "funerals at a low-priced rate" (Article 82), in part "by bringing the dead bodies to the Czech Republic for the cremation because it's simply cheaper there" (Expert 10). In contrast to the traditional pattern of incumbents who relied on their established clientele, these new market players attempted to aggressively acquire new customers.

*"[One director of a discounter] recently announced in the press, 'I underprice every written offer by up to 1,350 Euro.' Dupery! A funeral may cost 1,000 Euro but he underprices it by up to 1,350 Euro. This is really tough." (Expert 4)*

Although the discounters aggressively advertised low prices, extra charges frequently resulted in end prices that were higher than originally promoted. Therefore, the discounters were expected to disappear from the market as soon as "everyone in the quarter knows that [this discounter] advertises cheap prices but is not cheap at all" (Expert 6). However, the discounters could never be displaced entirely from the market because "they close the store and just open a new one" (Expert 8). Although discounters gained market share only slowly at the beginning, they had a sustainable impact on how the funeral homes would conduct their business.

*"Even those inhabitants of Berlin who are educated and wealthy would not think of ordering a decent funeral because they have been reading for 20 years that it is also possible to get one for a three-digit amount." (Expert 6)*

Thus, these players "upset the market" (Expert 6) by lowering consumers' price expectations independent of disposable income and of institutional differences, as "[t]here are differences between [Berlin's] districts. [...] But the trend is the same in these areas: [a funeral] should not cost anything anymore" (Expert 8). Because "prices had never been an issue and suddenly became an issue" (Expert 5), the perceivably emerging price sensitivity led to a first destabilization of the non-transparent strategic pattern (see also Table 1).

#### 4.2.3 End of the 1990s: Digitization of firm–consumer interactions

However, as illustrated in Figure 2, the economic situation of the funeral homes changed much more drastically at the end of the 1990s: the “discount funeral homes gained a dominant market position” (Expert 4) with the introduction of Internet offers.

*“During that time, something emerged that had not existed before: there were [discount] funeral homes that offered funerals on the Internet.” (Expert 12)*

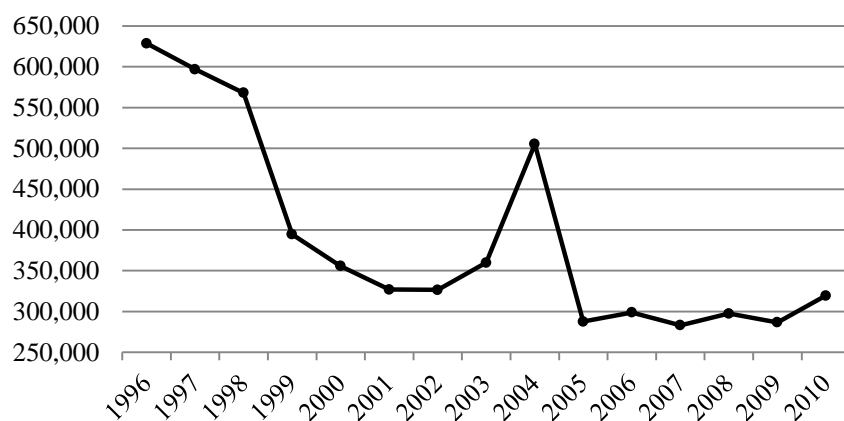


Figure 2. Revenues per funeral home in Berlin in EUR (Source: Own calculations based on data provided by Destatis)

To generate sales, discount funeral homes with online offers ensured “to be listed on top” (Expert 7) of result pages by search engines. In most cases, these offers could not be purchased directly in funeral homes but only via voice call and, thus, did not contain any counseling.

At first, the incumbents expected that their customers would not purchase an “online funeral” (Article 80) because they perceived digitized interactions with consumers on the Internet to be inferior for funeral purchases. However, they had to learn that consumers would also use digitized channels to look for funeral offers.

*“Sometimes, I am amazed: a 75-year old guy comes in and says, he has found our website on the Internet. Previously, grandma asked her grandchildren to look up things with the computer. Today, they look it up themselves.” (Expert 8)*

Thus, when firm–consumer interactions “became digital” (Article 341), discounters’ aggressive means of acquiring new customers became effective, and the non-aggression pact as a driving self-reinforcing mechanism of the path lost its self-reinforcing attractiveness because it could no longer guarantee repurchases by regular customers (see also Table 1). Accordingly, the competitive situation changed drastically from a friendly non-aggression pact to “tough competition” (Expert 11). This destabilization of the code had a severe impact on the reproduction of the path, or as Expert 14 stated,

*“When such arrangements broke down, worlds fell apart for some funeral homes.” (Expert 14)*

Thus, the digitization of firm–consumer interactions seems to fulfill the necessary conditions of pervasiveness and radicality for being disruptive (Lyytinen and Rose, 2003). As the funeral homes suddenly became rivals, heavy price competition emerged; i.e., “prices are displayed in the window, like at a gas station” (Expert 6). To “survive in this price war” (Article 119), the incumbents reacted to this new competitive situation by offering low-priced funeral packages as well. Furthermore, they strengthened their reputation as a driving self-reinforcing mechanism of the strategic pattern to compensate for the fall of the non-aggression pact by emphasizing their reliable service to “regular customers [...] or customers that recommend us” (Expert 4). Not least, the incumbent funeral homes—albeit hesitantly—started to engage with consumers through digitized channels. Through “search

engine optimization” (Expert 1), they strengthened the second self-reinforcing mechanism—reputation—by emitting favorable signals (“Established since,” labels of ISO certification, etc.) in order to attract new regular customers.

#### 4.2.4 2004: Abolition of funeral allowances

The incumbent funeral homes’ reactions did not change the strategic pattern as such; i.e., the service provided to the established customer base remained the same. Nevertheless, these responses led to short-term improvements of the economic situation of funeral homes (see Figure 2). However, any upward trend was torn down along with the final abolition of funeral allowances in 2004. Thus, without receiving any financial aid, “death has become—financially—a private issue” (Article 4).

*This amounts to approximately 1,000 Euro that the bereaved have to pay by themselves—which they economize on [when ordering funerals]. (Expert 4)*

As illustrated in Table 1, along with the impact of environmental changes described above, this legal shift was perceived to intensify the price sensitivity of consumers and, thus, to destabilize the established, non-transparent strategic pattern. Accordingly, the funeral homes perceived the abolition of funeral allowances as a critical “upheaval in the market” (Expert 1) that led to an intensification of the crisis of the funeral homes (see also Figure 2).

	Destabilization of the strategic pattern	Destabilization of self-reinforcing mechanisms
1989: Bisection of funeral allowances	N/A	N/A
Beginning of the 1990s: Market entry of discounters	<p>“We had to cope with competitors that target a [low-cost] segment that had not existed in this form. (...) The standards ... have simply changed.” (Expert 1)</p> <p>“One of the leading [funeral] discounters advertised in the press with an opened coffin and with the slogan, ‘The Aldi [low-priced discount retail chain] of funeral homes.’” (Expert 2)</p> <p>“These were gigantic changes. But they were not immediately visible.” (Expert 5)</p>	N/A
End of the 1990s: Digitization of firm–consumer interactions	N/A	<p>“During that time, something emerged that had not existed before: there were [discount] funeral homes that offered funerals on the Internet and sold them supra-regionally.” (Expert 12)</p> <p>“There have been offers on the Internet such as ‘the entire funeral for 599 Euros.’ People realize only much later that they get screwed by such offers.” (Expert 9)</p> <p>“There virtually are ‘web funeral homes’. You fill out the form [online] and send it away.” (Expert 12)</p>
2004: Abolition of funeral allowances	<p>“With the abolition of funeral allowances, the market conditions have massively changed.” (Expert 1)</p> <p>“The abolition of funeral allowances was in fact a massive setback” (Expert 2)</p> <p>“When I talk to older colleagues, I often recognize that they moan and say that everything used to be much better when funeral allowances had existed.” (Expert 13)</p>	N/A

Table 1. Environmental changes and path disruption

## 5 Discussion

Our research question was: *How does digitization disrupt strategic paths?* As summarized in Table 1, our findings indicate that digitization particularly destabilizes the driving self-reinforcing mechanisms of strategic paths. While other (non-digital) events may challenge strategic patterns, intact self-reinforcing mechanisms may mitigate, or even neutralize, their deficiency. Thus, not all changes in the environment that may seem critical to the successful reproduction of a strategic path may eventually lead to its disruption; i.e., only those disruptive events that destabilize the driving self-reinforcing mechanisms of a strategic path seem to induce its eventual demise. Our findings suggest that digitization seems to be a critical disruptive event that destabilizes the driving self-reinforcing mechanisms and, thus, disrupts strategic paths.

The key role of digitization in disrupting strategic paths becomes particularly evident when comparing other disruptive events that preceded and followed. The bi-section of funeral allowances had no crucial impact on the strategic path because the key driving self-reinforcing mechanism—the code—stabilized the re-purchase by regular customers. In contrast, when the code collapsed due to the digitization of firm–customer interactions that enabled discount funeral homes to acquire new customers beyond the established “non-aggression pact,” a further market deregulation, the abolishment of the remainder of funeral allowances, had a severe impact on the strategic path because the mechanism had lost its stabilizing effect. Based on our analysis of extreme changes in the environment, such as the market entry of discount funeral homes, it seems that digitization has a more harmful impact on the driving self-reinforcing mechanisms of strategic paths than other disruptive events and, thus, leads to their eventual disruption. This seems to be the “sufficient” condition for digitization to disrupt strategic paths. By discerning and emphasizing this peculiarity of digitization, this study draws a clearer picture of the disruptive nature of digitization of the business landscape (Lyytinen and Rose, 2003; O’Reilly and Finnegan, 2005).

By shedding more light on the disruptive nature of digitization, our study also adds to a better understanding of the challenges with which traditional offline business cope when their strategic path is disrupted (Gregory et al., forthcoming; Lyytinen and Rose, 2003). While extant literature on path dependence mainly emphasizes the central role of self-reinforcing mechanisms in the emergence of strategic paths (Dobusch and Schübler, 2013), our study extends the important role of these mechanisms beyond explaining path emergence; i.e., our analysis suggests that strategic paths are essentially disrupted when their driving self-reinforcing mechanisms—such as the code in the funeral context—are destabilized. Thus, the key challenge with which path-dependent offline businesses may cope in light of digitization is the destabilization of the key mechanism that used to drive the success of reproducing the path and renders continued path reproduction inappropriate.

While drawing on path dependence theory from management research facilitates a better understanding of the challenges of traditional offline businesses in the digital sphere (Drnevich and Croson, 2013; Henningsson and Hanseth, 2011; Henningsson and Yetton, 2011), the examination of path dependence in the context of digitization can also inform path dependence theory (Yoo, 2013). The present study illustrates that not all changes in the environment inevitably lead to path disruption and particularly emphasizes the disruptive peculiarities of digitization; i.e., the destabilization of the driving self-reinforcing mechanisms that induce the path’s demise. In particular, while the market entrance of discount funeral homes destabilized the strategic pattern of incumbent firms, path disruption only occurred when the digitization of firm–consumer interactions eroded the code as the driving self-reinforcing mechanism of the path. Thus, while path dependence theory opaquely attributes path disruption to changes in the environment that lead to a misalignment of the strategic pattern with environmental conditions (Sydow et al., 2009), our analysis suggests that the necessary condition for a disruption of strategic paths is the destabilization of their driving self-reinforcing mechanisms. This way, we complement prior literature on path dependence with a more nuanced understanding of path disruption. Because we may not have obtained this important insight for path

dependence theory without taking an eye on the disruptive peculiarities of digitization, our findings essentially strengthen and reinforce the view that management research should take the information systems context more seriously (Drnevich and Croson, 2013). This seems to become ever more important along with the increasing digitization of firms, products, and markets that does not seem to be reversible (Yoo et al., 2012).

A better understanding of the challenges that path disruption through digitization entails also offers some practical guidance for affected firms (Carlsson et al., 2011). While extant literature on path dependence draws a dramatic picture of environmental changes and firms' inability to respond appropriately by engaging in strategic change (Sydow et al., 2009), it has little to offer on how to address those challenges (Rothmann and Koch, 2014). Our study provides a less dramatic view on path reproduction and disruption. In particular, our analysis suggests that not all seemingly critical changes in the environment can essentially disrupt the strategic path; instead, a disruption only seems to occur if environmental changes challenge the driving self-reinforcing mechanism that stabilizes the strategic path. This resilience (Weick and Sutcliffe, 2007) allows path-dependent firms to reproduce their strategic path even when environmental conditions have changed but the driving self-reinforcing mechanism remains intact. A need for action only emerges when environmental changes, such as the digitization of the business landscape, destabilize this driving self-reinforcing mechanism. While prior literature points to the need of path-dependent firms to align the strategic pattern to the new environmental conditions (but fail to do so) (Sydow et al., 2009), a more nuanced understanding of the challenge, with self-reinforcing mechanisms and their destabilization at the heart, suggests that affected firms may need to replace the deficient mechanism. For this, a "repositioning strategy" might be particularly suitable; i.e., the transfer of the strategic pattern into new markets in which new mechanisms may recover the former success of the strategic path (Adner and Snow, 2010). For instance, the funeral homes tried to replace the code as the key driving self-reinforcing mechanism with a stronger emphasis on their reputation. This endeavor failed because the gain in new customers through recommendations could not compensate for a decreasing willingness to pay for the mid-range funerals that they offered. By repositioning their offerings in market niches in which they can provide added value to customers in line with a "differentiation strategy" (Porter, 1980), such as the provision of "luxury funerals," the reputation of the funeral homes may not only have played a legitimate but even a vital role in enlarging their customer base (Rindova et al., 2005) and could have recovered the former success of the strategic path. However, such a move essentially requires path-dependent firms to be aware of the mechanisms that constitute the basis of their (former) success—which often remain obscured "behind the backs of [affected] agents" (Sydow et al., 2012, p. 155). Therefore, affected firms may require support by external observers (Schreyögg and Kliesch-Eberl, 2007) that help them cope with the challenges of path disruption that come along with the digitization of the business landscape.

## 6 Conclusion and Future Research Directions

Drawing on path dependence theory, we analyzed the case of the strategic path of incumbent funeral homes in Berlin, Germany, to examine how digitization disrupts strategic paths. We found that the digitization of the business landscape seems to destabilize the driving self-reinforcing mechanisms of strategic paths. While other disruptive events may challenge the strategic pattern but leave the driving self-reinforcing mechanisms intact, the destabilization of self-reinforcing mechanisms through digitization eventually induces the demise of the strategic path because these mechanisms can no longer disguise the deficiency of the strategic pattern.

These research results offer several theoretical contributions. First, we contribute to a better understanding of the disruptive nature of digitization (Gregory et al., forthcoming; O'Reilly and Finnegan, 2005; Lyytinen and Rose, 2003) by discerning and emphasizing its peculiarity; i.e., the disruption of strategic paths by destabilizing their driving self-reinforcing mechanism. Second, our study also contributes to a better understanding of the challenges with which traditional offline

businesses cope in the digital sphere (Gregory et al., forthcoming; Lyytinen and Rose, 2003) by emphasizing the destabilization of self-reinforcing mechanisms as the key reason for the disruption of strategic paths and the key challenge with which traditional offline businesses have to cope in the digital sphere. Third, we complement the literature on path dependence (Yoo, 2013) by providing a more nuanced understanding of how strategic paths are disrupted (Sydow et al., 2009).

By grounding our research question in an observable phenomenon, developing theory that helps us better understand this phenomenon, and disseminating the research results among practitioners, this study also has practical implications (Van de Ven, 2007), especially for traditional offline businesses, strategy experts with a technology focus, and CIOs (Jaworski, 2011). In particular, we mitigate the threatening outlooks of path-dependent firms in light of environmental change, such as the digitization of the business landscape, by emphasizing their resilience (Weick and Sutcliffe, 2007) if the driving self-reinforcing mechanism of the path remains intact. If changes in the environment destabilize this mechanism, affected firms are not necessarily required to adapt their strategic pattern to changed environmental conditions (Sydow et al., 2009) but may rely on a “repositioning strategy” (Adner and Snow, 2010) to replace the failed driving self-reinforcing mechanism with a new one. Yet, we emphasize the need for external support (Schreyögg and Kliesch-Eberl, 2007) in conducting such a repositioning.

Our findings should be interpreted in light of a number of limitations. While our qualitative study aims to gain rich insights into complex social phenomena such as path dependence and path disruption through digitization (Koch, 2008; O'Reilly and Finnegan, 2005), our research results are not statistically generalizable (Yin, 2014). Therefore, we encourage future research to test for the statistical generalizability of our results. Dobusch and Kapeller's (2013) methodological suggestions may provide a useful guide for this endeavor. In fact, the setting of the funeral industry and the focal empirical phenomenon of path disruption through the digitization of firm–consumer interactions are peculiar in many aspects. However, with regard to the phenomenon of interest, i.e., path disruption through digitization, the firms in this industry were affected just like many other traditional offline businesses, such as in the book industry (Gerlach and Buxmann, 2011), the camera industry (Lucas and Goh, 2009), the newspaper industry (Oechslein and Hess, 2013), and the music industry (Oestreicher-Singer and Zalmanson, 2013). As these businesses also seem to have been disrupted by a failure of the driving self-reinforcing mechanism, such as the advertising–circulation spiral in the newspaper industry (Rothmann and Koch, 2014), our findings seem to be transferrable to path-dependent firms that are affected by path disruption through digitization in different contexts (Lincoln and Guba, 1985). Thus, our research results may not be readily transferrable to instances of path disruption through other—supposedly non-digital—events. To gain an even better understanding of path disruption, we encourage examinations of the questions of how and under what conditions other events may disrupt strategic paths.

Furthermore, although we agree that path dependence theory constitutes an insightful theoretical lens for better understanding the disruptive nature of digitization and the challenges for traditional offline businesses that it entails (Drnevich and Croson, 2013; Henningsson and Hanseth, 2011; Henningsson and Yetton, 2011), we note that not all traditional offline businesses must necessarily be affected by path-dependent dynamics. Although path dependence may constitute a common reason for hyperstability among long-established firms (Dobusch and Schüßler, 2013), there may be other reasons for this phenomenon, such as escalating commitment (Staw, 1981) or imprinting (Stinchcombe, 1965). Because these concepts are not based on self-reinforcing mechanisms (Sydow et al., 2009), our findings on the necessity of destabilizing the driving self-reinforcing mechanisms of strategic paths to induce path disruption do not seem to be transferrable to traditional offline businesses in which these concepts play a dominant role. Therefore, to develop further knowledge on the disruptive peculiarities of digitization and the challenges that they entail (Gregory et al., forthcoming; Lyytinen and Rose, 2003; O'Reilly and Finnegan, 2005), we regard an extension of our findings toward escalating commitment and imprinting as an insightful direction for future research.

## References

- Adner, R. and D. Snow (2010). "Old technology responses to new technology threats: Demand heterogeneity and technology retreats." *Industrial and Corporate Change* 19 (5), 1655-1675.
- Akyel, D. (2013). *Die Ökonomisierung der Pietät. Der Wandel des Bestattungsmarktes in Deutschland*. Frankfurt am Main: Campus.
- Antero, M. C., J. Hedman and S. Henningsson (2013). "Evolution of business models: A case study of SAP." *Proceedings of the 21st European Conference on Information Systems, Utrecht, Netherlands*.
- Arthur, W. B. (1989). "Competing technologies, increasing returns, and lock-in by historical events." *Economic Journal* 99, 116-131.
- Bell, D. (1973). *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. New York: Basic Books.
- Benbasat, I., D. K. Goldstein and M. Mead (1987). "The case research strategy in studies of information systems." *MIS Quarterly* 11 (3), 369-386.
- Bharadwaj, A. S. (2000). "A resource-based perspective of information technology capability and firm performance: An empirical investigation." *MIS Quarterly* 24 (1), 169-195.
- Bharadwaj, A., O. A. El Sawy, P. A. Pavlou and N. Venkatraman (2013). "Digital business strategy: Toward a next generation of insights." *MIS Quarterly* 37 (2), 471-482.
- Breuer, M. and F. Daumann (2010). "Der Bestattungsmarkt in Deutschland." *Jahrbuch für Wirtschaftswissenschaften* 60 (3), 227-253.
- Burgelman, R. A. (2010). "Strategic consequences of co-evolutionary lock-in: Insights from a process study." In: *The Hidden Dynamics of Path Dependence: Institutions and Organizations*. Ed. by G. Schreyögg and J. Sydow. London: Palgrave Macmillan, 233-248.
- Butler, T. (2003). "An institutional perspective on developing and implementing intranet- and internet-based information systems." *Information Systems Journal* 13 (3), 209-231.
- Butler, T. and B. Fitzgerald (1999). "Unpacking the systems development process: An empirical application of the CSF concept in a research context." *Journal of Strategic Information Systems* 8 (4), 351-371.
- Calori, R. (2002). "Real time/real space research: Connecting action and reflection in organization studies." *Organization Studies* 23 (6), 877-883.
- Carlsson, S. A., S. Henningsson, S. Hrastinski and C. Keller (2011). "Socio-technical IS design science research: Developing design theory for IS integration management." *Information Systems and e-Business Management* 9 (1), 109-131.
- Castells, M. (2004). *The Network Society: A Cross-cultural Perspective*. Northampton, MA: Edward Elgar.
- Cavaye, A. L. M. (1996). "Case study research: A multi-faceted research approach for IS." *Information Systems Journal* 6 (3), 227-242.
- Dobusch, L. and J. Kapeller (2013). "Breaking new paths: Theory and method in path dependence research." *Schmalenbach Business Review* 65 (3), 288-311.
- Dobusch, L. and E. Schüßler (2013). "Theorizing path dependence: A review of positive feedback mechanisms in technology markets, regional clusters, and organizations." *Industrial and Corporate Change* 22 (5), 617-647.
- Drnevich, P. L. and D. C. Croson (2013). "Information technology and business-level strategy: Toward an integrated theoretical perspective." *MIS Quarterly* 37 (2), 483-509.
- Eden, R., D. Sedera and F. Tan (2014). "Sustaining the momentum: Archival analysis of enterprise resource planning systems (2006-2012)." *Communication of the Association for Information Systems* 35, 39-82.
- Eisenhardt, K. M. (1989). "Building theory from case-study research." *Academy of Management Review* 14 (4), 532-550.

- Feller, J., P. Finnegan, B. Fitzgerald and J. Hayes (2008). "From peer production to productivization: A study of socially enabled business exchanges in open source service networks." *Information Systems Research* 19 (4), 475-493.
- Feller, J., P. Finnegan and O. Nilsson (2011). "Open innovation and public administration: transformational typologies and business model impacts." *European Journal of Information Systems* 20, 358-374.
- Fichman, R. G., B. L. Dos Santos and Z. Zheng (2014). "Digital innovation as a fundamental and powerful concept in the information systems curriculum." *MIS Quarterly* 38 (2), 329-353.
- Geertz, C. (1973). "Thick description: Toward an interpretative theory of culture." In: *The Interpretation of Cultures: Selected Essays*. Ed. by C. Geertz. New York: Basic Books, 3-30.
- Gerlach, J. and P. Buxmann (2011). "Investigating the acceptance of electronic books - the impact of haptic dissonance on innovation adoption." *Proceedings of the 19th European Conference on Information Systems, Helsinki, Finland*.
- Gilbert, C. G. (2005). "Unbundling the structure of inertia: Resource versus routine rigidity." *Academy of Management Journal* 48 (5), 741-763.
- Gregory, R. W., R. Beck and M. Keil (2013). "Control balancing in information systems development offshoring projects." *MIS Quarterly* 37 (4), 1211-1232.
- Gregory, R. W., M. Keil, J. Muntermann and M. Mähring (forthcoming). "Paradoxes and the nature of ambidexterity in IT transformation programs." *Information Systems Research*.
- Grover, V. and R. Kohli (2013). "Revealing your hand: Caveats in implementing digital business strategy." *MIS Quarterly* 37 (2), 655-662.
- Hedman, J., S. Henningsson and L. Selander (2012). "Organizational self-renewal: The role of Green IS in developing eco-effectiveness." *Proceedings of the International Conference on Information Systems, Atlanta, GA*.
- Henningson, S., B. Rukanova and S. Hrastinski (2010). "Resource dependencies in socio-technical information systems design research." *Communications of the Association for Information Systems* 27, 777-802.
- Henningsson, S. and O. Hanseth (2011). "The essential dynamics of information infrastructures." *Proceedings of the 32nd International Conference on Information Systems, Shanghai, China*.
- Henningsson, S. and H.Z. Henriksen (2011). "Inscription of behaviour and flexible interpretation in Information Infrastructures: The case of European e-Customs." *Journal of Strategic Information Systems* 20 (4), 355-372.
- Henningsson, S. and P. Yetton (2011). "Managing the IT integration of acquisitions by multi-business organizations." *Proceedings of the 32nd International Conference on Information Systems, Shanghai, China*.
- Hoskins, C. (2004). *Media Economics*. Thousand Oaks: Sage.
- Jaworski, B. J. (2011). "On managerial relevance." *Journal of Marketing* 75 (4), 211-224.
- Koch, J. (2008). "Strategic paths and media management: A path dependency analysis of the German newspaper branch of high quality journalism." *Schmalenbach Business Review* 60 (1), 51-74.
- Koch, J. (2011). "Inscribed strategies: Exploring the organizational nature of strategic lock-in." *Organization Studies* 32 (3), 337-363.
- Kude, T., S. Bick, C. Schmidt and A. Heinzl (2014). "Adaptation patterns in agile information systems development teams." *Proceedings of the 22nd European Conference on Information Systems, Tel Aviv, Israel*.
- Kunow, K., M. Gersch and J. Koch (2013). "Temporary incompetence as a path-breaking strategy: Two major record companies' efforts to escape their competence lock-in." *Jahrbuch Strategisches Kompetenz Management* 6, 9-33.
- Langley, A. (1999). "Strategies for theorizing from process data." *Academy of Management Review* 24 (4), 691-710.



- Langley, A., C. Smallman, H. Tsoukas and A. H. Van de Ven (2013). "Process studies of change in organization and management: Unveiling temporality, activity, and flow." *Academy of Management Journal* 56 (1), 1-13.
- Lavie, D. (2006). "Capability reconfiguration: An analysis of incumbent responses to technological change." *Academy of Management Review* 31 (1), 153-174.
- Legner, C., C. Nolte and N. Urbach (2011). "Evaluating mobile business applications in service and maintenance processes: Results of a quantitative-empirical study." *Proceedings of the 19th European Conference on Information Systems, Helsinki, Finland*.
- Lim, J.-H., T. C. Stratopoulos and T. S. Wirjanto (2011). "Path dependence of dynamic information technology capability: An empirical investigation." *Journal of Management Information Systems* 28 (3), 45-84.
- Lincoln, Y. S. and E. G. Guba (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage.
- Lucas, H. C. and J. M. Goh (2009). "Disruptive technology: How Kodak missed the digital photography revolution." *Journal of Strategic Information Systems* 18 (1), 46-55.
- Lyytinen, K. and G.M. Rose (2003). "The disruptive nature of information technology innovations: The case of internet computing in systems development organizations." *MIS Quarterly* 27 (4), 557-595.
- Machlup, F. (1962). *The Production and Distribution of Knowledge in the United States*. Princeton, NJ: Princeton University Press.
- Mahoney, J. (2000). "Path dependence in historical sociology." *Theory and Society* 29 (4), 507-548.
- Miles, M. B. and A. M. Huberman (1994). *Qualitative Data Analysis: An Expanded Source Book*. 2nd Edition. Thousand Oaks, CA: Sage.
- Miller, D. (1993). "The architecture of simplicity." *Academy of Management Review* 18 (1), 116-138.
- Mishina, Y., E. S. Block and M. J. Mannor (2012). "The path dependence of organizational reputation: How social judgment influences assessments of capability and character." *Strategic Management Journal* 33 (5), 459-477.
- Oechslein, O. and T. Hess (2013). "Paying for news: Opportunities for a new business model through personalized news aggregators." *Proceedings of the 19th Americas Conference on Information Systems, Chicago, Illinois*.
- Oestreicher-Singer, G. and L. Zalmanson (2013). "Content or community? A digital business strategy for content providers in the social age." *MIS Quarterly* 37 (2), 591-616.
- O'Reilly, P. and P. Finnegan (2005). "Performance in electronic market places: Theory and practice." *Electronic Markets* 15 (1), 23-37.
- Pierson, P. (2000). "Increasing returns, path dependence, and the study of politics." *American Political Science Review* 94 (2), 251-267.
- Porter, M. E. (1980). *Competitive Strategy*. New York: Free Press.
- Raeth, P., N. Urbach, S. Smolnik, B.S. Butler and P. Königs (2010). "The adoption of Web 2.0 in corporations: A process perspective." *Proceedings of the Americas Conference on Information Systems, Lima, Peru*.
- Rainie, L. and B. Wellman (2012). *Networked: The New Social Operating System*. Cambridge, MA: MIT Press.
- Rindova, V. P., I. O. Williamson, A. P. Petkova and J. M. Sever (2005). "Being good or being known: An empirical examination of the dimensions, antecedents, and consequences of organizational reputation." *Academy of Management Journal* 48 (6), 1033-1049.
- Rothmann, W. and J. Koch (2014). "Creativity in strategic lock-ins: The newspaper industry and the digital revolution." *Technological Forecasting and Social Change* 83 (3), 66-83.
- Rothmann, W., M. Wenzel and H.-T. Wagner (2014). "Alternating forms of lock-in: Publishing digital news in the path of a free content culture." *Proceedings of the 22nd European Conference on Information Systems, Tel Aviv, Israel*.

- Sambamurthy, V., A. Bharadwaj and V. Grover (2003). "Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms." *MIS Quarterly* 27 (2), 237-263.
- Saraf, N., C. Schlueter Langdon and S. Gosain (2007). "IS Application Capabilities and Relational Value in Interfirm Partnerships." *Information Systems Research* 18 (3), 320-339.
- Scheerer, A. and T. Kude (2014). "Exploring coordination in large-scale agile software development: A multiteam systems perspective." *Proceedings of the 35th International Conference on Information Systems, Auckland, New Zealand*.
- Schreyögg, G. and M. Kliesch-Eberl (2007). "How dynamic can organizational capabilities be? Towards a dual-process model of capability dynamization." *Strategic Management Journal* 28 (9), 913-933.
- Schreyögg, G., J. Sydow and P. Holtmann (2011). "How history matters in organisations: The case of path dependence." *Management and Organizational History* 6 (1), 81-100.
- Selander, L. and O. Henfridsson (2012). "Cynicism as user resistance in IT implementation." *Information Systems Journal* 22 (4), 289-312.
- Selander, L. and S. Jarvenpaa (2013). "Online impulse activism at Amnesty International." *Proceedings of the 34th International Conference on Information Systems, Milan, Italy*.
- Shapiro, C. and H. R. Varian (1999). *Information Rules: A Strategic Guide to the Network Economy*. Boston: Harvard Business School Press.
- Staw, B. M. (1981). "The escalation of commitment to a course of action." *Academy of Management Review* 6 (4), 577-587.
- Stinchcombe, A. (1965). "Social structures and organizations." In: *Handbook of Organizations*. Ed. by J.G. March. Chicago: Rand McNally, 142-193.
- Strauss, A. L. (1987). *Qualitative Analysis for Social Scientists*. Cambridge, MA: Cambridge University Press.
- Stuckenberg, S., T. Kude and A. Heinzl (2014). "Understanding the role of organizational integration in developing and operating Software-as-a-Service." *Journal of Business Economics* 84 (8), 1019-1050.
- Sydow, J., G. Schreyögg and J. Koch (2009). "Organizational path dependence: Opening the black box." *Academy of Management Review* 34 (4), 689-709.
- Sydow, J., A. Windeler, G. Müller-Seitz and K. Lange (2012). "Path constitution analysis: A methodology for understanding path dependence and path creation." *Business Research* 5 (2), 155-176.
- Tallon, P. P. and A. Pinsonneault (2011). "Competing perspectives on the link between strategic information technology alignment and organizational agility: Insights from a mediation model." *MIS Quarterly* 35 (2), 463-486.
- Tilson, D., K. Lyytinen and C. Sørensen (2010). "Digital infrastructures: The missing IS research Agenda." *Information Systems Research* 21 (4), 748-759.
- Tripsas, M. and G. Gavetti (2000). "Capabilities, cognition, and inertia: Evidence from digital imaging." *Strategic Management Journal* 21 (10/11), 1147-1161.
- Van de Ven, A. H. (2007). *Engaged Scholarship: A Guide for Organizational and Social Research*. Oxford, UK: Oxford University Press.
- Vergne, J.-P. and R. Durand (2011). "The path of most persistence: An evolutionary perspective on path dependence and dynamic capabilities." *Organization Studies* 32 (3), 365-382.
- Wade, M. and J. Hulland (2004). "The resource-based view and information systems research: Review, extension, and suggestions for future research." *MIS Quarterly* 28 (1), 107-142.
- Weick, K. E. and K. M. Sutcliffe (2007). *Managing the Unexpected. Resilient Performance in an Age of Uncertainty*. 2nd Edition. San Francisco: Wiley and Sons.
- Wenzel, M., W. Rothmann and J. Koch (2014). "Tight-loose coupling of bundled capabilities: The imbalanced utilization of emerging digital technologies in newspaper businesses." *Proceedings of the 35th International Conference on Information Systems, Auckland, New Zealand*.

- Whelan, E., W. Golden and B. Donnellan (2013). "Digitizing the R&D social network: Revisiting the technological gatekeeper." *Information Systems Journal* 23 (3), 197-218.
- Whelan, E., R. Teigland, B. Donnellan and W. Golden (2010). "How Internet technologies impact information flows of R&D: Reconsidering the technological gatekeeper." *R&D Management* 40 (4), 400-413.
- Wiener, N. (1948). *Cybernetics: Or control and Communication in the Animal and the Machine*. Cambridge, MA: MIT Press.
- Yin, R. K. (2014). *Case Study Research: Design and Methods*. 5th Edition. Los Angeles: Sage.
- Yoo, Y. (2013). "The tables have turned: How can the information systems field contribute to technology and innovation management research?" *Journal of the Association for Information Systems* 14 (2), 227-236.
- Yoo, Y., R. J. J. Boland, K. Lyytinen and A. Majchrzak (2012). "Organizing for innovation in the digitized world." *Organization Science* 23 (5), 1398-1408.