Digital transformation strategy making in pre-digital organizations: The case of a financial services provider

Simon Chanias[a], Michael D. Myers[b],[*], Thomas Hess[a]

[a] Institute for Information Systems and New Media, LMU Munich, Ludwigstr. 28, 80539 Munich, Germany
[b] Department of Information Systems and Operations Management, University of Auckland Business School, Auckland 1010, New Zealand

ARTICLE INFO

ABSTRACT

The formulation and implementation of a digital transformation strategy (DTS) has become a key concern for many pre-digital organizations across traditional industries, but how such a strategy can be developed remains an open question. We used interpretive in-depth case study research to study how a European financial services provider has formulated and implemented a DTS. By focusing on the underlying processes and strategizing activities, we show that digital strategy making not only represents a break with the conventions of upfront strategic information systems (IS) planning, but reveals a new extreme of emergent strategy making. Specifically, we conclude that a DTS is continuously in the making, with no foreseeable end. By building on theory from IS strategizing and strategy-as-practice literature, we theorize an integrated process/activity model that characterizes DTS formulation and implementation in pre-digital organizations. Our model shows that the crafting of a DTS is a highly dynamic process involving iterating between learning and doing.

1. Introduction

The formulation and implementation of a digital transformation strategy (DTS) has become a key concern for many pre-digital organizations, given the transformative impacts of digital technologies on almost all aspects of an organization's inner and outer environment. Pre-digital organizations are established companies belonging to traditional industries, such as retail, automotive, or financial services, that were financially successful in the pre-digital economy, but to which the digital economy poses an existential threat (Ross et al., 2016). Unlike born-digital organizations such as Alphabet, Amazon or Tencent, pre-digital organizations often need to change their entire organization, business model and processes as they adopt digital technologies (Bharadwaj et al., 2013; Sebastian et al., 2017; Tumbas et al., 2017a). Digital technologies can transform an organization's products, services, operations, and business models, as well as its competitive environment (Fichman et al., 2014; Hess et al., 2016; Lucas et al., 2013; Yoo et al., 2012). For pre-digital organizations, digital transformation is a holistic form of business transformation enabled by information systems (IS) that is accompanied by fundamental economic and technological changes at both the organizational and industry-level (Besson and Rowe, 2012; Crowston and Myers, 2004; Venkatraman, 1994).

The introduction of a DTS is thus a response to the challenges of managing the growing landscape of digital initiatives and related infrastructures (Henfridsson and Bygstad, 2013). A DTS is supposed to coordinate, prioritize, and implement a pre-digital organization's transformation efforts and, as a long-term objective, to govern its journey to achieve the desired future state of being digitally transformed (Matt et al., 2015). Its scope goes beyond the digitization of resources and involves the transformation of key structural

and organizational aspects, the use of advanced information technologies (IT) or aspects of value creation including key products and services, leading to adjusted or completely new business models (Kane et al., 2015). However, although DTS formulation and implementation is a key concern for many pre-digital organizations, it remains an open question how such a strategy can be developed. In a recent survey by SAP (2017) it was found that 84 percent of global companies regard digital transformation as critical to their survival in the next five years, yet only three percent have completed organization-wide transformation efforts.

Hence, the purpose of this paper is to theorize an integrated process/activity model showing how pre-digital organizations can develop a DTS. Our research question is: *What processes and strategizing activities are underlying DTS formulation and implementation in pre-digital organizations?* Our objective is in line with the shift in interest from deliberate managerial planning to emergent strategies (Mintzberg and Waters, 1985) in contemporary IS strategy research – leading to increased attention to informal planning processes and actual strategy making activities (Henfridsson and Lind, 2014; Marabelli and Galliers, 2017; Peppard et al., 2014; Teubner, 2013).

To answer our research question, we conducted an interpretive in-depth case study (Klein and Myers, 1999) of a mid-sized European financial services provider (AssetCo) over a period of approximately 12 months. We began our research project just as the organization was beginning to initiate DTS formulation and implementation, hence we were able to accompany its development from initiation to publication of the "final" version. Our theoretical model was developed by iterating between the empirical data, insights from our narrative analysis, and (IS) strategizing literature. We believe that our findings may be of interest to all those pre-digital organizations that are considering developing their own DTS.

This paper is structured as follows: In Section 2 we explain the study's theoretical background. In Section 3 we describe the research method, the case selection, and the data collection and analysis process. In Section 4 we describe the case study. In Section 5 we theorize an integrated process/activity view on DTS formulation and implementation. The final section is the discussion and conclusions.

2. Theoretical background

2.1. A strategizing view on DTS formulation and implementation

A digital strategy is one that encompasses a "fusion view", in which both the IS and business strategy are equated. In other words, there is no longer a clear distinction between business strategy and IS strategy (Bharadwaj et al., 2013; Galliers, 2011; Mithas et al., 2013). Digital strategy is equally business-centric and technology-inspired (Sebastian et al., 2017; Yeow et al., 2018), and therefore differs from the understanding of IS strategy as the organizational perspective on the investment in, deployment, use, and management of IS (Chen et al., 2010; Teubner, 2013). Whereas a digital (business) strategy can be defined as an "… organizational strategy formulated and executed by leveraging digital resources to create differential value" (Bharadwaj et al., 2013, p. 472), a DTS seeks to provide insights about *how* such an organization-wide digital strategy might be developed and implemented (Hess et al., 2016; Matt et al., 2015). Of course, a DTS does not necessarily replace any former strategies, but most likely will need to be aligned with them.

In order to study the DTS formulation and implementation process and related activities, we adopt the concept of *IS strategizing* as a holistic approach. According to Marabelli and Galliers (2017, p. 1), IS strategizing is "… an established theorizing of how organizations engage in the on-going processes and practices of strategy making involving IS and IT." IS strategizing research is increasingly informed by the emerging strategy-as-practice literature in business strategy research (Marabelli and Galliers, 2017), as for example seen in the special issue on IS strategy-as-practice by *JSIS* (Arvidsson et al., 2014; Henfridsson and Lind, 2014; Huang et al., 2014; Leonard and Higson, 2014; Peppard et al., 2014; Whittington, 2014) – which showed that linking both knowledge bodies can contribute rich insights on strategy making in IS contexts. The strategy-as-practice school understands strategy development as a social practice and considers strategizing activities from a micro-perspective (Jarzabkowski, 2005; Whittington, 1996). Strategizing research has "… an emphasis on the detailed processes and practices which constitute the day-to-day activities of organizational life and which relate to strategic outcomes" (Johnson et al., 2003, p. 3). Therefore, IS strategizing is regarded as the *doing of IS strategy* based on a process of goal-directed activities, such as deployment, management, or investment in IT, with the purpose of realizing IS-based strategies in organizations (Henfridsson and Lind, 2014; Karpovsky et al., 2014).

One reason for the rise of IS strategizing is that it addresses several long-standing tensions in IS strategy research, such as the conflict between formal and informal approaches to strategy making (Marabelli and Galliers, 2017). This tension is reflected in the widely discussed distinction between strategy formulation and formation, mostly inspired by the work of Mintzberg (1978) (Sminia, 2009; Waema and Walsham, 1990; Walsham and Waema, 1994). Overall, the IS strategizing school pursues the idea of a coexistence of formal and informal approaches to strategy making, in line with Mintzberg and Waters' (1985) canonical terminology regarding *deliberate* and *emergent* strategies that represent two ends of a continuum along which a *realized* strategy lies. Galliers (2007, 2009, 2011) has proposed an integrated framework for IS strategizing that explicitly takes up these ideas and creates a link between IS/IT exploitation (planned) and exploration (emergent) in organizational contexts. We suggest, therefore, that the concept of IS strategizing represents a promising theoretical anchor point for our study, since it provides us with a dedicated lens for studying the practice of digital strategy making.

2.2. Conceptual basis

Recently, Burgelman et al. (2018) have recommended a *combinatory* view that treats processes and activities underlying strategy formation as closely related. Their integrated "Strategy as Process and Practice" view is intended to overcome existing boundaries between both research communities which "… can now be seen as unhelpful as the earlier boundaries between strategy content and strategy process research traditions" (Burgelman et al., 2018, p. 533). This comment is not surprising, since strategy process and practice research have a similar objective "… that is to study the strategic events and activities in organizations" (Paroutis and Pettigrew, 2007, p. 101). Whereas process refers to a sequence of events that describe how strategies are shaped and implemented over time (Chakravarthy and Doz, 1992; van de Ven, 1992), practice considers the ongoing strategizing activity (i.e. praxis) by the actors involved in strategy making (i.e. practitioners) who use a variety of tools, norms, and procedures for their strategy work (i.e. practices) (Vaara and Whittington, 2012).

Using the *combinatory* view of Burgelman et al. (2018), we aim to study the temporally recursive interplay between the realized strategy (i.e. the result of the strategy formation process that allows for both deliberate and emergent strategy) and strategizing episodes that can shape the former. This approach recognizes that "… the realized strategies of the past feed into the strategizing episodes in the present" (p. 541). Although strategy making oftentimes might be diffuse, Whittington (2006, p. 619) argues that "… a large part of it can be seen as taking place in more or less extended episodes or sequences of episodes", such as strategy workshops, presentations, projects, or even simple informal exchanges. In the context of IS, episodes of strategizing activities can be understood as "… particular, time-bound and situated manifestations of the interplay between practices (including its material artefacts, such as IS/IT) and practitioners" (Tavakoli et al., 2017, p. 170).

With regard to the orientation of the strategy process and related strategizing activities in DTS formulation and implementation, we consider the duality of recursiveness and adaptation suggested by Jarzabkowski (2004) as characterizing the daily practice in strategy making (Paroutis and Pettigrew, 2007). Building on structuration theory (Giddens, 1984; Jones and Karsten, 2008; Orlikowski and Robey, 1991; Walsham, 2002), which sees agency and structure as mutually constitutive, the main idea is that those involved in strategy making have a choice between recursive ways of acting based on routines or developing adaptive approaches to strategy making that are open and creative. Strategy makers face a dilemma of having "… to reconcile the concurrent but conflicting needs for change and stability" (Jarzabkowski, 2004, p. 530). Recursiveness characterizes activities that are recurrent, habitual, or routinized; in practice, it emerges "… because of the need of agents for ontological safety, the routinized nature of interaction between agent and structure, and the existence of self-reinforcing structures" (Paroutis and Pettigrew, 2007, p. 103). Adaptation, on the other hand, comprises exploratory, transformative and creative approaches to formulating and implementing strategies. Thus, Jarzabkowski's (2004) framework "… reflects the central notion of structuration that social structures reproduce certain practices in social action (recursivity), but are themselves transformed (or adapted) in social action" (Mantere, 2005, p. 159).

These theoretical underpinnings represent the starting point for our investigation of DTS formulation and implementation that we regard as inextricably interrelated (Mirabeau and Maguire, 2014). A DTS can be shaped through episodes of digital strategy making by actors who rely on recursive and/or adaptive practices. Our main objective is to theorize an integrated process/activity perspective on digital strategy making in pre-digital organizations – theorizing that builds on IS strategizing and is in line with the *combinatory* view described above.

3. Research method

We used interpretive in-depth case study research to study the process of DTS formulation and implementation. Since interpretive case study research seeks to understand both the context and process of IS, and how they influence each other (Walsham, 1993), we believe that this research method is appropriate for the study of DTS formulation and implementation. Interpretive case studies allow for the use of existing theories as a starting point, yet require "… a considerable degree of openness to the field data, and a willingness to modify initial assumptions and theories" (Walsham, 1995, p. 76). We followed the seven principles for interpretive field research as suggested by Klein and Myers (1999) (see the Appendix A).

3.1. Case selection and description

One important prerequisite for our study was to find an organization that had recently initiated a DTS but was at the very beginning of the digital transformation process. The organization we chose fitted this requirement. AssetCo (a pseudonym) is a mid-sized European financial services provider (between 500 and 1000 employees) and a wholly-owned subsidiary of a large, globally operating European bank (BankGroup). AssetCo was created in 2007 through a merger of two formerly independent subsidiaries of BankGroup, one with a focus on real estate, the other on leasing offers. AssetCo's business involves tangible asset investments including real estate, infrastructure, renewable energy, and movables. The organization serves its private, commercial, and institutional clients through a variety of products, in particular public and closed funds, as well as tailored financing and leasing offers. Towards the end of 2015, AssetCo's top management decided to initiate a DTS. A new digital transformation unit (DTU) was established along with a new role called "Head of Digital Transformation" (HDT). In October 2016, AssetCo's top management and the HDT agreed to form a research partnership with the first author (i.e. the field researcher).

Table 1
List of interviews.

Position	Number of interactions
HDT	18
Project Manager Digital Transformation	6
Employee DTU #1	6
Employee DTU#2	5
Employee DTU#3	2
Employee DTU#4	1
Employee DTU#5	1
Consultant DTU#1	1
Consultant DTU#2	1
CEO	1
COO	1
Board Member for HR and Transformation	1
Head of Marketing and Direct Sales	1
Head of IT	1
Project Leader Digital Initiative	1
Participant Digital Innovation Process	1

3.2. Data collection

The data collection process was iterative, following the recommendations of Walsham (1995). Data collection took place over a period of approximately 12 months, from October 2016 to October 2017. Important data sources were semi-structured (formal) interviews as well as unstructured (informal) conversations (Myers and Newman, 2007). In line with the fundamental principle of the hermeneutic circle for interpretive field research (Klein and Myers, 1999), we identified and requested new interview partners successively during the research period, with the support of the HDT and based on our perceived need to capture further perspectives on AssetCo's DTS. Those interviewed were members of the DTU, representatives of AssetCo's top management and other stakeholders that are employed or contracted by AssetCo. In total, we interviewed 16 people that were involved with AssetCo's DTS (see Table 1). Some people were interviewed several times during the research process, and in addition there were several informal conversations. Whereas formal interviews were tape-recorded and transcribed verbatim, the informal conversations were performed without recording and documented by writing memos directly after the interaction – an important data collection strategy in the field suggested by Schultze (2000). Most interactions took place face-to-face on the premises of AssetCo, although some interactions were conducted over the phone. Total interaction duration was 29.8 h, with 9.6 h of recorded interviews and 20.2 h of informal conversations.

Additional data sources were detailed field notes that document observations from regular onsite visits during the research period – six separate visits in total, covering 28.8 h of observations in the field; examples are observations of strategy workshops, working sessions, or team meetings of the DTU. Also, in line with the principle of contextualization (Klein and Myers, 1999), we collected several types of archival data for this study (132 documents in total). First, we gathered internal data (56 documents) that was voluntarily provided by AssetCo. These data included presentations and internal communications dealing with the content, process and context of the DTS. Second, we collected publicly available data (76 documents), such as annual reports, company presentations, official press releases and media reports. Internal archival data covers all relevant phases of AssetCo's DTS formulation and implementation between 2015 and 2017. The public data covers a period from 2010 to 2017. Table 2 provides an overview of the collected data.

3.3. Data analysis

Our data analysis process followed the guidelines proposed by Cohen et al. (2000) and reflected the hermeneutic orientation of our epistemology. The data analysis process was non-linear and emergent (Walsham, 1995) and, for this reason, comprised a

Table 2
Overview of the collected data.

Type	Amount	Duration (h)	Documented
Interactions	**41**	**29.8**	**90,635 words**
- Formal Interviews	12	9.6	81,237 words
- Informal Conversations	29	20.2	9398 words
Observations	**6**	**28.8**	**4832 words**
Archival Data	**132**	**–**	**5489 pages**
- Internal Data	56	–	807 pages
- Public Data	76	–	4682 pages

Table 3
Coding examples for the main theme 'DTS practices'.

Meaning unit	Tentative concept(s)	Sub-theme
"It is our practical experience that it has always been difficult to link project work with line functions. […] Therefore, this is a <u>CEO responsibility</u>. Accordingly, the <u>DTU</u> is under my responsibility and has a comprehensive focus. […]" *(Source: Interview transcript)*	CEO responsibility DTU	Setting up digital transformation governance structures
"[…] describes the communication measures intended to <u>advertise the digital innovation process</u>: across the office building they have hung up <u>posters</u> and distributed <u>idea submission sheets</u> at every workplace. […]" *(Source: Field note)*	Communication material	Outlining and communicating the DTS, using a variety of media and channels
"We are seeking to <u>connect with</u> comparable companies from real estate and financial services in general. […] we have initiated a <u>networking meeting</u>. […] The idea is to <u>have an exchange</u> on internal topics." *(Source: Interview transcript)*	Knowledge transfer	Networking, collaborating, and exchanging knowledge on digital transformation

narrative analysis of our case (Myers, 2013) that informed the coding of the data and vice versa.

The detailed case narrative documents how AssetCo's DTS developed over time. Structuring DTS formulation and implementation as a narrative in chronological fashion makes intuitive sense, since it shows how one event led to another or at least created the conditions for another. As a guidance for the narrative analysis, we used the context-process-content framework for transformational research proposed by Pettigrew (1987, 2012) in the sense of an analysis tool, as seen in other recent studies in the field of strategizing (e.g., Concannon and Nordberg, 2018). Building on contextualism allowed us to trace the dynamic interlinking of the DTS contents, the DTS formulation and implementation process, and the external and internal context of the organization. During the initial narrative analysis, we relied extensively on the collected archival data. Later, we refined the narrative by incorporating quotes and insights from observations and personal interactions. On this basis, we were able to identify and describe seven main phases of DTS formulation and implementation at AssetCo. We asked the HDT to review our narrative, who said that our description of the seven phases was accurate.

In parallel to the narrative analysis, we coded transcripts, memos, and field notes using the qualitative data analysis software package ATLAS.ti. The coding relied on a consensual approach between the field researcher and a second, independent researcher; obvious differences and coding scheme refinements therefore were discussed and resolved bilaterally. Using thematic analysis, we analyzed our data for tentative, descriptive concepts that were derived inductively. We sought to link tentative concepts to sub-ordinate and overarching themes that were also descriptive in nature. During this step, we iterated between the empirical data, theoretical conceptions from (IS) strategizing literature, and insights from the initial narrative analysis – especially regarding the seven main phases. Overall, we came up with more than 80 concepts that were grouped into four main themes: *organizational contexts*, *episodes of digital strategy making*, *DTS practices*, and *realized DTS*. Table 3 provides selected coding examples for the main theme *DTS practices*.

At a final stage of the data analysis process, we created several network illustrations of the derived themes and concepts. We identified the contours of an integrated process/activity model characterizing DTS formulation and implementation (the final version is shown in Section 5).

4. Case description

In this section, we first of all specify AssetCo's internal and external context during the research period. Next, we summarize the interplay of the content, context, and process during AssetCo's DTS formulation and implementation based on seven main phases that we observed.

4.1. General context of AssetCo

4.1.1. External context

Since AssetCo operates several lines of business (divisions) with respect to tangible asset investments, it has a variety of competitors in the financial services sector. However, AssetCo is regarded as one of the largest players in Europe in this specific area of the financial services sector, particularly real estate investments in urban areas. Between 2015 and 2017, the real estate sector in this region was perceived as a booming market characterized by sharply increasing demand and rising prices with a low interest rate environment.

Unlike other pre-digital organizations belonging to traditional industries, AssetCo was not experiencing any pressure for digital transformation from its shareholders nor from customers or competitors. Although a digital financial and real estate start-up industry was establishing itself under the labels of "FinTech" and "PropTech" (referring to "Financial Technology" and "Property Technology" respectively), these born-digital organizations and their technological approaches were not perceived as a disruptive threat to AssetCo's core business.

Despite the lack of pressure for change, AssetCo was the first mover in the industry with regards to starting the process of digital

transformation. AssetCo's digital transformation intentions had a positive impact on its public image. The digital transformation aspirations as well as its publicly announced decision in 2016 to appoint a HDT also attracted much attention from industry representatives and the business media. AssetCo now started to be seen as one of the most innovative organizations within the industry. The organization profited from this innovative image, since property development companies increasingly sought to cooperate exclusively with AssetCo for selected real estate investment projects.

4.1.2. Internal context

The current Chief Executive Officer (CEO) of AssetCo was appointed in 2013, after serving as the organization's Chief Financial Officer (CFO). One of his early decisions was to sharpen the profile of the organization in internal and external communication by characterizing AssetCo as an "asset manager". Just a few years later, in 2016, AssetCo set itself the objective of becoming the "first digital asset manager" in the industry due to the visionary leadership of the CEO. The CEO was and still is today the main driver of AssetCo's digital transformation.

Although 2015 and 2016 were the most successful business years in the history of the organization – and hence there was no pressure to embark on a DTS, since the organization was in a very comfortable financial position – the CEO decided to initiate AssetCo's digital transformation. He saw the purpose of digital transformation as helping to ensure the organization's future viability:

> *"In 2016, we had the most successful business year in our 45-year old company history. In times of success, when the business is buzzing, it is really difficult to trigger change processes and to induce willingness to change among employees, since everybody is under the impression of success. And that's the point: being successful is already difficult, remaining successful is even more difficult. So, the question is, how we remain as successful as in 2016. Digital transformation is part of my answer."*

From a cultural and a political perspective, AssetCo likes to be perceived as a "friendly" organization that relies on a cooperative leadership style (instead of a hierarchical one, from which top management wants to move away). A common and unwritten rule imposed by BankGroup is that no negative pictures or threats are outlined in internal communication addressing employees. For this reason, AssetCo's top management decided to communicate its digital transformation as "surfing the digital wave" instead of "getting ahead of the digital tsunami". Despite this positive approach, not all those in management shared the mindset of the CEO. Some were reluctant to change, believing that the organization lacked digital competencies and skills. One unique feature of AssetCo's political situation is the strong and distinct role of its works council (an elected committee representing the interests of the employees). By law, this council has to be consulted in various matters and is able to block management decisions.

Prior to AssetCo's digital transformation efforts, the organization had little experience with digital innovation. This low experience level in digital innovation was primarily due to IT not being perceived as a core competency of AssetCo. Instead, as one might expect with a financial services organization, the use of IT is strictly regulated and, therefore, AssetCo has a highly security-oriented IT department that is mostly focused on keeping IT operations running. The IT department lacks both the competencies and the willingness to drive any form of digital innovation. For example, the Head of IT is perceived internally as a "cautious IT administrator", who tends to obstruct innovative activities. As the Head of Marketing and Direct Sales commented: *"The perspective of the IT department on changes or possible extensions had always been: 'Do they stress our systems? Which risks are associated with it? Do we want to open another interface and to increase system complexity?'"* This means that, even in 2017, most employees were not equipped with smartphones, WiFi access was not available on AssetCo's premises, and web browser access while surfing the Internet was restricted – all due to security concerns.
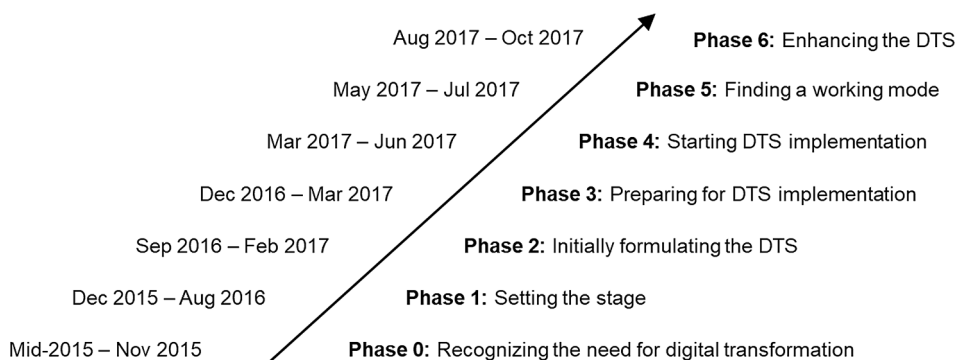
Aug 2017 – Oct 2017	**Phase 6:** Enhancing the DTS
May 2017 – Jul 2017	**Phase 5:** Finding a working mode
Mar 2017 – Jun 2017	**Phase 4:** Starting DTS implementation
Dec 2016 – Mar 2017	**Phase 3:** Preparing for DTS implementation
Sep 2016 – Feb 2017	**Phase 2:** Initially formulating the DTS
Dec 2015 – Aug 2016	**Phase 1:** Setting the stage
Mid-2015 – Nov 2015	**Phase 0:** Recognizing the need for digital transformation

Fig. 1. Main phases of AssetCo's digital transformation strategy formulation and implementation.

4.2. Digital transformation strategy formulation and implementation at AssetCo

The interplay of the content, context, and process during DTS formulation and implementation at AssetCo can be summarized in seven main phases, which took place between 2015 and 2017 (see Fig. 1).

4.2.1. Phase 0: recognizing the need for digital transformation (Mid-2015 – November 2015)

In mid-2015 AssetCo found itself having difficulties with its only sales channel for real estate fund shares targeting private customers. Sales through its business-to-business (B2B) distribution channel via BankGroup were declining and the Head of Marketing realized that the channel might come under more pressure due to forthcoming changes in legislation. He brought up his concerns in a variety of management meetings and in person with the CEO. As a solution, the Head of Marketing proposed that AssetCo should consider establishing a direct sales approach for real estate fund shares through digital channels, primarily via web and mobile. By having digitally-enabled direct sales and therefore creating a direct interface to private customers based on a business-to-customer (B2C) distribution model, the Head of Marketing thought this would address the two problems mentioned above. Moreover, he regarded this as important given changing customer behavior in terms of almost permanent Internet connectivity and increasing smartphone usage. From his perspective, recent technological developments offered an excellent opportunity to improve and intensify customer relationships.

Having bought this argument, the CEO assigned a project leader to drive the project. The project progressed so quickly that by the second half of 2015 the first direct sales offer went live on AssetCo's website. Although the project had been scoped as being concerned with direct sales only, the discussions surrounding this first project triggered a whole chain of additional considerations within the organization. These considerations addressed the state and the flexibility of AssetCo's IT infrastructure (which showed many shortcomings at that time), a possible cooperation with external IT service providers, and also the need for new working styles in a digital environment. Hence, this first project raised awareness of the possible need for a holistic digital transformation.

4.2.2. Phase 1: setting the stage (December 2015–August 2016)

In December 2015, the first of a crucial series of events took place. During a two-day workshop initiated by the Head of Marketing, AssetCo's top and division management discussed and debated the strategic agenda for 2016. Given the progress of the direct sales project, the strategic agenda for the upcoming year had two focus areas: "digital transformation" and "generation of new business / new products". The CEO communicated this new agenda to all employees via email just before Christmas. He outlined four key guidelines with respect to AssetCo's digital transformation for 2016:

- Increasing customer benefits based on a consequent linking of online and offline
- End-to-end view on all processes, interfaces, and business models
- Extension and enhancements of the existing technical infrastructure and platforms to ensure the future readiness
- Stringent digitization of business and service processes within a project-based approach

Between December 2015 and January 2016, a parallel development arose. AssetCo's leasing department was contacted by another subsidiary of BankGroup that is focused on banking services for the mid-sized industry sector. This subsidiary had identified a market potential for pay-per-use leasing offers for mobile assets, such as construction machines, and was looking for a partner within BankGroup that could realize a platform solution. Since AssetCo's leasing department had already been pursuing an implementation project for a new customer portal, it therefore considered extending the scope of the existing project. However, the department was lacking advanced platform knowledge and an appropriate external IT service provider, wherefore it sought advice from the project leader in charge of direct sales activities.

This project leader now began to think that AssetCo needed a digital service provider for a series of digital innovation projects across the organization. Hence, during a board workshop in March 2016, he proposed that AssetCo should contract a digital service provider for realizing the organization's strategic agenda. The board approved his suggestion.

In April 2016, two additional workshops for management took place. During the first workshop, the Head of Marketing (now called the Head of Marketing and Direct Sales) discussed AssetCo's digital transformation status. The project leader of direct sales activities then referred to the strategic agenda 2016, and argued in his presentation that instead of taking a "project-based approach", a "strategy" for digital transformation would be required. In order to realize such a DTS, a dedicated DTU would be needed soon. This DTU would operate separately and autonomously from the IT department, have its own staff, and acts as a think tank as well as an internal service unit for the organization. The CEO agreed with this recommendation. The CEO explained his general idea for the DTU as follows:

> "Meanwhile, I had observed that many organizations tended to create new forms like a 'garage' or 'campus', outside of the line organization and in a cross-functional setting. I liked this idea in the market, so I said, 'that's something I want to have, too'. The idea was to have a unit that is fresh and explicitly open-minded, and with people who always appreciate new ideas and not directly search for possible obstacles."

During a second workshop in April 2016, the establishment of the DTU was approved. Management also decided to establish a digital transformation board for AssetCo with a broad range of representatives from various divisions and functions. From a political perspective, the CEO also intended to use this workshop for assessing the attitude of the division managers – by identifying those who seek to actively contribute to AssetCo's digital transformation, and those who were mainly interested in protecting their own interests and objectives.
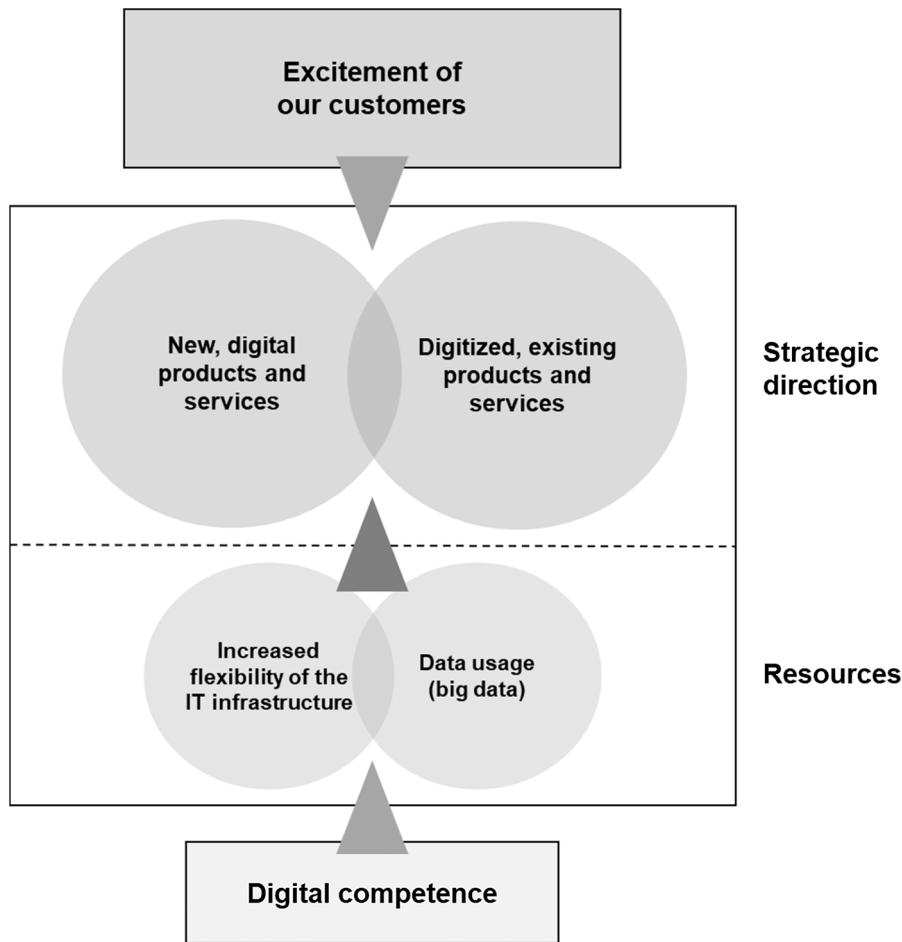
Fig. 2. AssetCo's digital transformation strategy target picture.

Between June and August 2016, the overall vision and setup of the DTU (e.g. staff composition, facilities, budget), along with the priority projects were discussed and defined. These discussions took place between the CEO, the Chief Operating Officer (COO), the digital transformation board and with the works council. The DTU was officially established in August and the COO became its official sponsor, since he generally oversaw all temporary projects at AssetCo.

Somewhat paradoxically, however, the CEO decided to take responsibility for AssetCo's digital transformation (without any form of "democratization"). Therefore, in September 2016, he recruited a former top manager from the video gaming industry as HDT. The HDT reported directly to the CEO with duties comparable to those of a Chief Digital Officer (CDO) (Singh and Hess, 2017; Tumbas et al., 2017b). The HDT would lead the DTU, serve as the "minister of foreign affairs" (in charge of externally and internally representing the DTU), and be required "*to push things forward within our regular corporate structure*" (interview with the CEO). Meanwhile, the former project leader of direct sales activities took the role of "minister of internal affairs" (in charge of all internal matters that require knowledge of AssetCo's organization). The DTU acquired six employees that were mostly delegated from other departments.

4.2.3. Phase 2: initially formulating the DTS (September 2016–February 2017)

With the appointment of the HDT, the DTU effectively started its work. The first task of the DTU was to formulate a DTS. In October 2016, the DTU drafted a target picture for discussion that followed the CEO's vision of becoming the "first digital asset manager". This initial target picture had four main strategic priorities (customer excitement, data usage, process automation, creation of new business models) and two enabler areas (digital competency and flexible IT infrastructure). The team also drafted a procedure model for a new and revolutionary digital innovation process based on an idea funnel that was supposed to boost digital innovation at AssetCo. However, after several internal workshops (with initial assessments of AssetCo's digital maturity) and exchanges with various digital transformation experts, it became obvious that the first draft of the DTS required more elaboration. The planned focus on process automation turned out to be a politically loaded and old-fashioned topic that had been pursued at AssetCo for several years, whereas a digital product and service focus (including underlying business models) seemed to be a more reasonable and
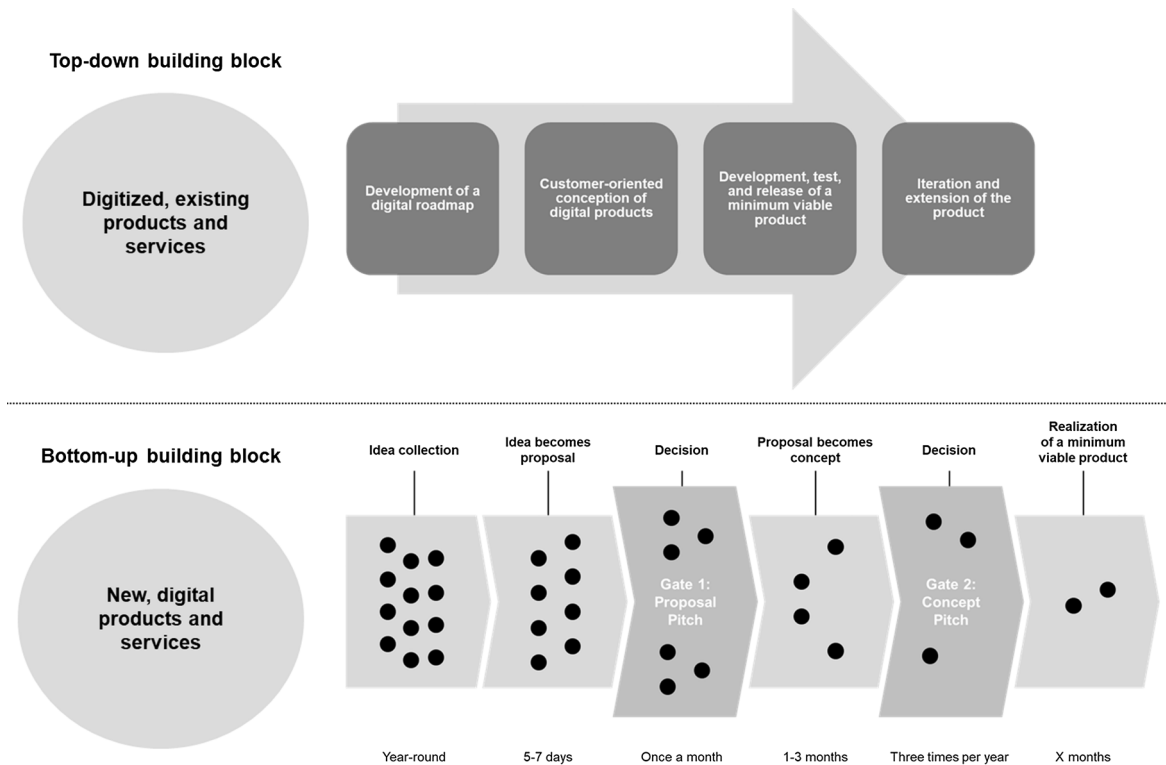
Fig. 3. AssetCo's digital transformation strategy building blocks.

contemporary approach. Therefore, the DTU came up with a second draft of the target picture in December.

During this time, the DTU also worked on several topics related to employees' attitude towards digital transformation and AssetCo's culture. To achieve these goals, the DTU made use of a variety of communication measures, including mailings, arranging fireside chats, leading workshops and preparing a short video. The video compared AssetCo to a "surfer riding the digital wave", which became the leitmotif for the overall DTS.

By February 2017 a target picture representing the new DTS presentation was finalized (see Fig. 2). The DTS is divided into two parts (*strategic direction* and *resources*), comprising six priorities. The overall *strategic direction* of AssetCo's digital transformation is to excite its customers and hence is customer-centric. It is based on the realization of new, digital products and services, and the digitization of existing products and services. To fulfill these strategic objectives, AssetCo requires diverse *resources* that build on the organization's digital competence (referring to a broad skillset associated with the digital economy and digital innovation, such as a deep understanding of new technological trends and their possible business impacts). The internal perspective with respect to necessary *resources* relies on the increased flexibility of the IT infrastructure and extensive data usage in terms of big data, which are both regarded as central digital transformation enablers.

This target picture of the DTS was complemented by two building blocks: a top-down building block for the digitization of existing products and services (guided by top management for digitally transforming AssetCo's main lines of business), and a bottom-up building block for realizing new, digital products and services (by actively pulling digital innovation from the organization, but also by collaborating with PropTech start-ups). Also, the DTS contained several cultural and political guidelines, concerning the need to take a customer-centric thinking, to work agile and flexibly, collaboratively and interdisciplinary, as well as be open-minded and creative – following the "fail fast, fail early" principle. The DTS stressed the need for digital transformation to be holistic, constituted by the realization of projects and initiatives in all six priorities.

Both building blocks of the DTS are shown in Fig. 3. The main idea of the top-down building block is to develop a digital roadmap by deriving digital innovation projects for AssetCo's main lines of business in accordance with top management. These projects will then be realized with a customer-orientation and based on the agile development of a minimum viable product (MVP), which will be incrementally extended and improved. The bottom-up building block is based on an extensive digital innovation process relying on an idea funnel, inspired by proven, agile procedures from the start-up industry, such as idea pitching or rapid prototyping. The approach is as follows: ideas for new digital products and services are collected throughout the year. The DTU reviews all submitted ideas in order to identify potential overlaps or misfits, and provides the submitters with an overall evaluation. The submitters of those ideas that are short listed then need to create a pitch deck including a rough outline for a business model for a first proposal (with support from the DTU). This proposal needs to be presented in front of a permanent judging panel (consisting of various top managers, including the CEO, the COO, the HDT, and the Head of IT). This proposal pitch is called Gate 1. The best submitters then work on a

rapid prototype in collaboration with AssetCo's digital service provider using agile methods, but also might be obliged to perform additional business analyses (e.g. compiling market overviews). This "proof of concept" then needs to be presented a second time in front of an extended judging panel (called Gate 2). If the concept is approved, it receives a dedicated budget for realizing a MVP and becomes an agile project. Eventually, the agile project might be handed over to a sponsoring division or function from AssetCo's line organization which embeds it into a real business context.

4.2.4. Phase 3: preparing for DTS implementation (December 2016–March 2017)

Although an initial DTS was now formulated, internal alignment and decision-making processes were fairly slow. Hence, the DTU decided to parallelize formulation and implementation activities. The HDT explained the DTU's decision to increase the overall pace: *"In the next months, we have to move away from the 'we are talking about digital transformation' level to the 'we are pursuing and realizing digital transformation' level."* So, the HDT actively sought to establish an agile working mode for the DTU as well as to create organizational structures that would support DTS implementation during the next year. In this context, the CEO agreed with the HDT's recommendation that AssetCo's digital transformation efforts should be part of divisional managers' target agreements, meaning that they are instructed by top management to support the DTU's activities and be required to allocate a certain amount of their time for this purpose. The CEO also agreed with the HDT's recommendation to dissolve the digital transformation board, which increasingly had proven itself to be an obstacle during the previous months. Instead, the DTU decided with top management support to participate in an external PropTech start-up accelerator program, which opened up the opportunity to identify possible investment opportunities in the future. In January, the DTU's team came up with the idea of realizing and launching an internal communication campaign for AssetCo's digital transformation. The campaign was planned to kick-off and advertise the digital innovation process by the beginning of March 2017.

During January 2017, however, a surprising development arose that would have a large impact on the DTU's work and the overall political situation. It was internally announced that, as of 1st March 2017, AssetCo would appoint a new board member in charge of human resources (HR) and transformation (duties that previously belonged to the CEO) by promoting a former HR manager. This decision was surprising, since now a third board member (besides the CEO and the COO) would become responsible for parts of AssetCo's digital transformation. The DTU feared that this new appointment had the potential to increase political tensions around the DTS.

The DTU's fears were quickly realized. In February, a workshop on AssetCo's DTS with top management took place. The main objective of this workshop was to review and approve the final DTS draft. Although the final draft was approved, the designated board member (soon to be in charge of HR and transformation) raised concerns regarding the start of the digital innovation process and the related communication campaign. The HR manager commented that the organization was being overstrained with the activities of the DTU. She also said that the organization was unable to support managers quickly enough with an understanding of the desired leadership style. She proposed that the DTU should wait for another three or four months before starting the digital innovation process and the related communication campaign.

More political tensions now began to surface. Several managers approached top management directly to propose their own ideas regarding AssetCo's digital transformation. These managers sought to bypass the DTU, since they felt disadvantaged by the special role of the DTU. For example, the Head of IT proposed his own strategic approach that was supposed to complement AssetCo's DTS – but without informing or involving the DTU. His strategic plan outlined several initiatives, such as the creation of a digitally-enabled future workplace for AssetCo's employees or the introduction of WiFi across AssetCo's premises. According to the HDT, the IT department *"had a vision of doing it on their own."* There were also conflicts with the HR and communications department, which started to do information hiding and to not include the DTU in some digital transformation related discussions.

As a response to these increased tensions, top management decided in March 2017 to create a revised digital transformation board with participants representing the three key stakeholders, i.e. the DTU (which now officially was under the responsibility of the CEO), the IT department (under the COO), and the HR and communications department (under the new board member). This new board was tasked with resolving the current political tensions and ensuring a continuous alignment between these key stakeholders during the implementation of AssetCo's DTS.

4.2.5. Phase 4: starting DTS implementation (March 2017–June 2017)

A large workshop about AssetCo's DTS took place in March 2017 with top, division, and middle management (around 75 participants) in attendance. This workshop went well and no further concerns were articulated about the DTS. The DTU decided to start the digital innovation process soon, despite the concerns brought up by the new board member. Hence, the communication campaign began at the end of March and continued for the next few months. The campaign included mailings to all employees, intranet postings including a series of videos, a variety of manuals, posters and idea submission sheets distributed throughout the organization. In addition, the DTU offered a series of "enabling" workshops on the digital innovation process and on selected digital technologies.

One month after the launch of the campaign, around 100 ideas had been submitted by AssetCo's employees, growing to almost 150 ideas by the end of June 2017. However, only six proposals were pitched in front of the judging panel during three Gate 1 meetings (the proposal pitch stage). Of these six proposals, four ideas were approved to the concept stage. According to the HDT, the judging panel tended to be too appreciative of the presented proposals and, therefore, to be less strict compared with the actual requirements specified by the DTS bottom-up building block. He commented:

"Top management was highly enthusiastic and wanted to give everybody a chance. However, this does not comply with our original idea of having a funnel that purposely eliminates ideas that do not fit well. This behavior doesn't make our life in the DTU much easier – although I still do not want to complain about the situation that we currently have to initiate more projects than we actually could handle."

Overall, the outcome of the digital innovation process was perceived to be positive, both by top management and participating employees. The process had unveiled a large potential for digital innovation within the organization that had not previously been expected. As AssetCo's CEO explained:

"I really have to say that I am very enthusiastic regarding the first outcomes of the digital innovation process. I thought that we would mostly receive ideas that are less innovative and helpful to us. But the employees really came up with great ideas about how our organization can become an even better partner for our customers. So, therefore, I think the ground here at AssetCo is very fertile for such a format."

The participating employees were also enthusiastic about the process. One participant commented that the discussions with the judging panel were open, respectful and constructive, unlike previously when top management tended to be problem-oriented from the very beginning, identifying potential shortcomings. This participant was very positive about the possibility of directly presenting his ideas in front of top management. In the past, his experience had been that senior managers took ideas from their lower-level employees and claimed these as their own.

We can see, then, that AssetCo was experiencing the beginning of a cultural change during Phase 4. Top management was now directly approachable through the digital innovation process, valuing the best ideas independently of where they came from within the hierarchy, and accepting open, constructive discussions while allowing for possible project failures.

4.2.6. Phase 5: finding a working mode (May 2017–July 2017)

In order to properly establish the digital transformation board, another workshop was held in May to clarify digital transformation governance. The outcome of this workshop was clear task and role descriptions for the three involved parties (the DTU, the IT department, and the HR and communications department), and an overall time schedule for the digital transformation board.

While the implementation of the bottom-up building block seemed to be on track, there was little progress with the implementation of the top-down building block. Therefore, between May and June 2017, the DTU developed and proposed a digital roadmap. However, top management declined to approve the roadmap, saying that they wanted to wait for the strategic insights from a corporate strategy project on the future of asset management. Until the results of this project were available, the DTU's activities to define a digital roadmap needed to be paused. Consequently, the DTU was unable to make progress on the top-down building block of the DTS.

Meanwhile, due to internal reorganization plans by AssetCo's top management, the HDT was told that the DTU and the department in charge of direct sales were planned to merge. Just two months later, however, in July 2017, top management decided to cancel the plan for a merger of the DTU and the direct sales unit.

Overall, it seemed that AssetCo was still in the middle of finding a working mode for digital transformation. This phase was frustrating for the HDT, since he was distracted from the task of digital transformation by having to discuss details of the digital roadmap, the reorganization and other politically loaded matters with a variety of stakeholders. He commented:

"On a daily basis, I basically sat down together with all three involved board members to have discussions, and to eventually come up with the result: we are not going to change anything. This was no fun situation for us."

In retrospect, however, the HDT acknowledged that this difficult phase was necessary for alignment between the key stakeholders of AssetCo's digital transformation activities, even though it took much longer than expected.

4.2.7. Phase 6: enhancing the DTS (August 2017–October 2017)

The work on the digital innovation process was making progress and the first prototypes were under development for a concept pitch at the first Gate 2 meeting. Meanwhile, the DTU had gained several insights and recognized the need for further elaborating on the DTS bottom-up building block. Hence, a change to the bottom-up building block was the inclusion of exit options for each gate, since some ideas might be waived. Additionally, an indefinite number of concept pitch gates were included into the digital innovation process, since several iterations might be required before an agile project could be handed over to the line organization. Another change to the DTS bottom-up building block was the extension of the methodological approach comprising three idea sources for the digital innovation process: (1) targeted (internal) innovation based on closed workshops with selected participants; (2) external innovation through PropTech start-up investments; and (3) open (internal) innovation through workshops.

Another attempt was now made to develop a digital roadmap in order to make progress with the top-down building block of the DTS. In August 2017, therefore, the digital transformation board developed a work plan outlining several top-down driven projects for the following year. However, this plan also began to stall due to difficulties in achieving internal consensus. In reaction, during a large management workshop that was held in September 2017, both the CEO and the HDT tried to sharpen the internal understanding of the DTS. The CEO asked all attending managers to take the initiative by coming up with their own ideas for fulfilling the strategic direction of the DTS.
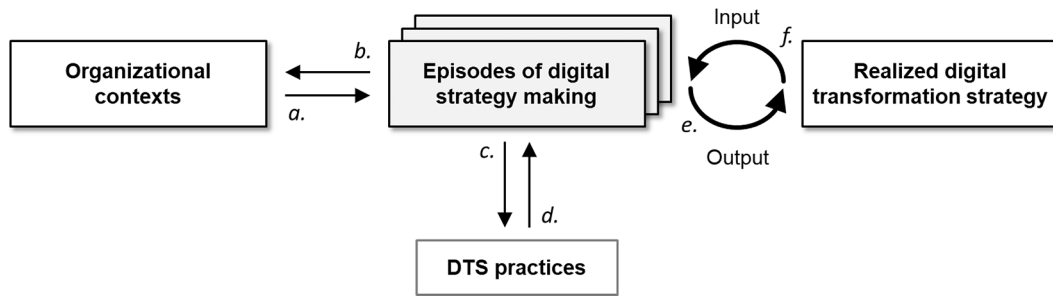
Fig. 4. Integrated process/activity model.

After the first months of DTS implementation, the DTU's team increasingly realized that it was a very difficult undertaking to drive the top-down building block of the DTS. Hence, from the DTU's perspective, the bottom-up building block of the DTS turned out to be the more promising part of the DTS – since it was obviously better understood by the employees. The board member in charge of HR and transformation agreed with this observation:

"On the one side, we need the systematic top-down procedure by top management. On the other side, we need the people that are at the basis of our organization, deeply involved in the processes, and, especially, close to the customer – they see and understand things totally different than top management… Therefore, I believe that top-down / bottom-up is the perfect combination for our DTS."

In September 2017, the DTU celebrated its first anniversary. The interim feedback from the CEO was highly positive, since the achievements of the DTU had met his expectations. The announcement to appoint a HDT as well as to create a DTU had a positive impact on AssetCo's perception in the market. The board member in charge of HR and transformation also seemed to be satisfied with the working mode that AssetCo had now established. She commented:

"We are on a very good way, but it really costs us lots of effort. I also believe that this is just new territory for all of us. The HDT comes from a very different culture and I had first to learn … how he thinks, and the same applies for him. I also had the fear of being the dinosaur in the whole event… When I suddenly joined the digital transformation activities due to my very recent appointment in March, I had the impression that something is wrong, and that there are a lot of tensions and decisions that weren't taken. Therefore, I considered ways on how to find a proper setup… I really wanted it to be successful… Now, I think we have found a good basis."

In October 2017, AssetCo's CEO announced that he had signed a contract extension for additional five years. In an email to all employees, the CEO mentioned that AssetCo's digital transformation would remain one of his priorities. Given that *"…we don't know how the world will look like in the future"*, he said that AssetCo's digital transformation would be a "marathon" with no definitive end.

5. Theorizing an integrated process/activity model

In this paper we have sought to better understand how pre-digital organizations deal with the challenge of formulating and implementing a DTS. We have seen that the processes and related strategizing activities at AssetCo turned out to be highly dynamic. For example, the HDT and the DTU's team intentionally decided to parallelize activities due to the slow internal alignment and decision-making processes during initial DTS formulation, and also incrementally incorporated learnings into the DTS at later stages. While our findings confirm the relevance of the emergent strategy for explaining outcomes of IS-related strategy processes as unveiled in other recent studies (e.g., Henfridsson and Lind, 2014; Nolan, 2012; Yeow et al., 2018), we also find that digital strategy making has various particularities. We discovered that DTS is a "moving target" that seems to be continuously in the making, with no foreseeable end. As a result of our interpretive case study research at AssetCo, we therefore theorize an integrated process/activity model that characterizes DTS formulation and implementation in pre-digital organizations.

In line with the idea that a context-specific mechanism leads to a certain outcome (Pawson and Tilley, 1997), we argue that the *realized DTS* is the (mental) outcome of a highly dynamic process that comprises an indefinite number of recurring *episodes of digital strategy making*. The realized DTS is the *output* of the episodes in the past and the *input* to those in the present, similar to an ongoing feedback loop. This illustrates one aspect of structuration theory, i.e. that human agents draw on social structures in their actions, and at the same time these actions serve to produce and reproduce social structure (Jones and Karsten, 2008). Thus, we depict the realized DTS as an emerging strategy where human agents engage in episodes of digital strategy making, but these episodes are under steady influences from external and internal contexts of the organization and might also have back couplings on these *organizational contexts*. Further, actors involved in these episodes of digital strategy making rely on specific *DTS practices* for this purpose. In the following, we describe the integrated process/activity model and its elements in more detail (see Fig. 4).

Table 4

Digital transformation strategy practices at AssetCo.

Practice	Explanation and Examples
Setting up digital transformation governance structures	Specific digital transformation governance structures (HDT, DTU, digital transformation board, and a judging panel) created to steer and execute digital transformation efforts under the direct responsibility of the CEO
Meeting regularly across functional boundaries and holding workshops involving multiple organizational levels	Regular meeting formats for internal alignment and decision making with representatives from the DTU, IT, HR and top management as well as ad-hoc meetings and management workshops including top management, divisional management, middle management and in some cases lower-level employees
Outlining and communicating the DTS, using a variety of media and channels	Presentation outlining the DTS based on a leitmotif, a target picture, and two building blocks for implementation, as well as a variety of communications measures including a communications campaign using intranet postings of videos and manuals, mailings to all employees, distribution of posters or physical idea submission sheets
Working business and customer-centric as well as agile and innovation-oriented	Business and customer-centric perspective taken throughout all transformational efforts, project management of the DTU inspired by agile and innovation methods, and the digital innovation process relying on procedures from the start-up industry
Networking, collaborating, and exchanging knowledge on digital transformation	Networking and collaborating with digital transformation experts, consultants, (digital) service providers, PropTech start-ups, as well as managers from key competitors with digital transformation responsibilities

5.1. Organizational contexts

Influences from *organizational contexts* (i.e. the internal and the external contexts of the organization) trigger and continuously drive digital strategy making (see arrow a. in Fig. 4). At AssetCo, the impression that other pre-digital industries were more advanced in digital transformation, and especially those that are born-digital, strongly influenced the CEO's vision for AssetCo to become the "first digital asset manager" in the financial services industry. He decided to create the HDT role and a separated DTU, as well as the contents of the DTS and its implementation building blocks. While AssetCo did not actually experience any form of external pressure to initiate digital transformation (Hess et al., 2016; Lucas and Goh, 2009), AssetCo's CEO decided to embark on a DTS so as to gain first mover advantage in the industry. The CEO wanted to pursue digital transformation in order to ensure the organization's future viability and to protect its competitive position – by making use of the financially comfortable position that AssetCo had acquired due to a booming real estate market in the meantime.

We found that digital strategy making has continuous back couplings on organizational contexts as well (arrow b.) (Pettigrew, 1987). For instance, in the case of AssetCo, we saw that the organization quickly profited from an innovative image within its industry owing to its digital transformation intentions. Top management regarded this positive public perception as a confirmation of the decision to formulate and implement a DTS – which reinforced top-down transformational efforts (arrow a.).

In terms of structuration theory, we see that the social actors at AssetCo were highly knowledgeable about what they did, even though they were not sure of the eventual outcome. Also, the CEO's actions were driven by the wider context of digital transformation in other industries and the desire for AssetCo to be seen as a leader within the financial services industry. The process of digital strategy making thus reflects a duality of reflexive individual actors on the one hand, with their actions taking place, on the other, within a particular social context and industry structure. Structure and agency were mutually constitutive (Jones and Karsten, 2008).

5.2. Episodes of digital strategy making

Episodes of digital strategy making are at the center of our model and represent the activity perspective. These episodes comprise deliberate strategizing activities addressing digital transformation by involved actors (Burgelman et al., 2018). In our case study we saw that digital strategy making turned out to be a learning process for AssetCo. Therefore, DTS formulation and implementation activities were alternating or even took place in parallel. Accordingly, in our model, we depict episodes of digital strategy making as recurring, indefinite in their number, and varying in their duration. The actors involved in digital strategy making can be spread across the organization (i.e. almost all management levels and functions), but also can be extra-organizational (e.g. consultants and service providers).

According to Whittington (2006, p. 626), "… effective praxis relies heavily on practitioners' capacity to access and deploy prevailing strategy practices." At AssetCo, we identified a set of DTS practices (see Table 4) that facilitated DTS formulation and implementation activities, and which were mostly compiled and harnessed by top management and the DTU team (arrow c.). These micro-practices built on prevailing practices at AssetCo (e.g. regular meetings or strategy workshops), but also on proven extra-organizational practices (e.g. best practices from born-digital organizations). Thus, almost all DTS practices had a recursive orientation (since they were somewhat recurrent, habitual, and routinized) and were supposed to break down DTS formulation and implementation into executable and controllable steps (Jarzabkowski, 2004). Adaptive approaches (i.e. approaches to strategy making that are open and creative) were therefore mostly seen within predefined settings, such as cross-functional discussions or networking meetings. Here, involved actors had freedom in making sense of what AssetCo's DTS means for them (Mantere, 2005). Overall, during episodes of digital strategy making, we saw that involved actors not only relied on DTS practices (arrow d.), but also

further refined or enhanced these (arrow c.).

Yet, not all episodes shape the realized DTS in an intended fashion (Burgelman et al., 2018). At AssetCo, we saw that effective praxis within several episodes of digital strategy making was hindered due to slow decision making and internal political tensions (Lee and Myers, 2004; Marabelli and Galliers, 2017). This observation especially applies to the progress of top-down strategizing activities and the related building block of the DTS. Instead, episodes of bottom-up strategizing as part of the digital innovation process turned out to be more effective in driving AssetCo's digital transformation. Bottom-up strategizing also fostered and enabled the cultural transformation that was required, contributing to changing the prevailing styles of leadership and working.

From the perspective of structuration theory, this illustrates the point that, even though the social actors were highly knowledgeable (as mentioned above), sometimes there were unintended consequences of their actions (Jones and Karsten, 2008). Also, all people, including those employees further down the reporting line, are highly knowledgeable actors. Fortunately, top management realized soon enough that an organization-wide cultural transformation could not be imposed from above, but rather, all employees had to actively and reflexively embrace change.

5.3. Realized digital transformation strategy

The *realized DTS* is the overall process outcome of DTS formulation and implementation (Mintzberg and Waters, 1985). In our model, the realized DTS represents a mental snapshot of what the organization has achieved in terms of digital strategy making at a certain point in time. Not only is it the output of digital strategy making (arrow e.), the realized DTS also serves as the input (arrow f.) for future strategizing activities. Therefore, the realized DTS is continuously extended and the overall strategy process can be compared to an ongoing feedback loop (interplay of arrows e. and f.). In our case study we showed that it was only through this process that AssetCo learnt that it needs to iteratively elaborate on the fundamentals of the DTS. From a theoretical perspective, the described feedback loop underlines that the realized DTS represents a socially accomplished structure that is reproduced through social action, i.e. digital strategy making relying on distinct DTS practices (Giddens, 1984).

At AssetCo, the initially formulated DTS consisted of a target picture and two building blocks, and had an emphasis on methodology but did not specify tangible strategic initiatives to be pursued. AssetCo's top management chose to adopt an organization-wide approach to implementing and enhancing the DTS by simultaneously embracing top-down and bottom-up strategizing activities. These activities led to the realized DTS at later stages, based on the outcomes of the digital innovation process. Mintzberg (1987) calls this approach to strategy formation "deliberately emergent", meaning that top management focuses solely on broad guidelines, but leaves the specifics to others in the organization. Thus, in the case of AssetCo, the DTS is supposed to emerge "en route" based on the guidelines given by the two DTS building blocks. This approach also has overlaps with the recent idea of pursuing an "open strategy" approach (Morton et al., 2017; Tavakoli et al., 2017).

We can see, therefore, as structuration theory would suggest, that the realized DTS was a product of highly knowledgeable agents, but at a certain point in time it represented the new social structure – the rules and resources enabling new business processes (Jones and Karsten, 2008). This new social structure then served as the basis for further action (during another episode of digital strategy making), leading to yet another version of the DTS. It would seem that, for pre-digital organizations wanting to implement a DTS, the structural properties of the organization are not stable, but continually in a state of flux.

6. Discussion and conclusions

Digital transformation has become a key concern for many pre-digital organizations, but how a DTS can be developed remains an open question. In this paper, we have provided one answer by showing an example of DTS formulation and implementation at a mid-sized European financial services provider.

6.1. Theoretical contributions

We have proposed an integrated process/activity perspective on DTS development in the context of pre-digital organizations (Bharadwaj et al., 2013; Yeow et al., 2018). Our study has focused on the overall process of strategy making (e.g., Auer and Reponen, 1997; Ciborra, 1991; Hackney and Little, 1999; Waema and Walsham, 1990; Walsham and Han, 1993; Walsham and Waema, 1994) as well as the underlying activity (e.g., Henfridsson and Lind, 2014). We found that the crafting of a DTS is a highly dynamic process involving iterating between learning *and* doing in terms of digital strategy making.

By building on theory from IS strategizing and strategy-as-practice literature (that was informed by structuration theory), our case study shows how human agents had to continually work at transforming the social structure at AssetCo (the rules and resources) as the DTS developed (Jones and Karsten, 2008; Orlikowski and Robey, 1991). But no sooner was a new episode of digital strategy making completed – thus enabling new business processes – that this same transformation was seen as constraining. Yet another episode of digital strategy making was required. Hence, our case illuminates the actual practice of digital strategy making where a DTS has to be continually reinvented (Peppard et al., 2014; Whittington, 2014). Our study also extends our understanding of micro-practices in the context of IS, and how IS and digital strategies are *strategized* in practice (Marabelli and Galliers, 2017).

Our findings substantiate the idea that digital strategies have a few distinguishing characteristics from IS strategies (Chen et al., 2010). First, a DTS is business-centric and customer-oriented in its perspective, rather than technology-centric. IT are mostly regarded as an enabling prerequisite in a DTS. Second, almost all parts of the organization are affected by changes resulting from a DTS. Third, a DTS is developed by different stakeholders within the organization (in our case under the direct responsibility of the CEO and with

strong representation from marketing and sales), and might even be crafted "bottom-up" by opening strategy processes up to the entire organization (Tavakoli et al., 2017). Fourth, the development of a DTS requires distinct governance structures, in AssetCo's case comprising a HDT and a DTU. Fifth, a DTS is never "finished", but has to be continually reinvented. Overall, these characteristics suggest that a DTS has more wide-ranging implications for the entire organization compared with traditional IS strategies.

Likewise, we find that digital strategy making has particularities that not only represent a break with the conventions of upfront strategic IS planning (Teubner, 2013), but also advances one of the IS strategizing school's central ideas. Compared to earlier research on IS strategy formulation, a major contribution of IS strategizing has been the argument that (IS) strategy can be equally a deliberate and therefore planned undertaking, yet that it can also emerge on an iterative basis without being formally planned in advance (Chen et al., 2010; Galliers, 2007; Marabelli and Galliers, 2017). While this is now a largely accepted and still valid perspective, digital strategy making stands for a new extreme in this regard, located at the very end of the emergent side of the strategy formation continuum described by Mintzberg and Waters (1985). Our empirical findings and the accordingly theorized integrated process/activity model demonstrate that deliberate intentions might initiate a digital strategy and drive related strategizing episodes, but that from an overall perspective the deliberate is being absorbed by the emergent. This characteristic, again, requires and justifies that researchers must put an emphasis on informal aspects when studying digital strategy making. Therefore, we regard it as both an overall implication and imperative for IS strategizing research in the digital strategy context – or rather *digital* strategizing research – to achieve a rich understanding of the informal dynamics within organizations to fully capture related strategic outcomes which (paradoxically) represent something increasingly transient in the light of digital transformation.

6.2. Practical implications

This study makes what was previously the vague phenomenon of DTS making tangible by providing a first-hand account of how a pre-digital organization dealt with it in practice. There are several practical implications of our findings. First, our study shows that a DTS is always in the making, with no foreseeable end. It is always a moving target. A DTS needs to be continually revised and reworked by incorporating new learnings and insights from ongoing implementation efforts. This implies that new approaches and practices might be needed for its development. For example, an agile approach building on "trial and error" is better than an analytical upfront planning process.

Second, the development of a DTS requires a mix of top-down and bottom-up strategizing. Although there was strong support from the CEO, we discovered that bottom-up (i.e. informal) strategizing was a more productive source of digital transformation, given that top-down (i.e. formal) strategizing tended to be hindered by politics. In consequence, while digital transformation needs to be envisioned, championed, and guided from the top-down, top management must not be in full control in every respect. Top management needs to allow and indeed encourage emergent bottom-up strategizing activities.

Third, new forms of governance are required for digital transformation. In AssetCo's case, a DTU was established along with a new HDT position who reported directly to the CEO. In addition, a cross-functional digital transformation board was created and various meeting and workshops were held with representatives from across the business. If a DTS is driven out of silos, the danger is that any digital transformation efforts will be thwarted by internal politics.

Fourth, the IT department cannot necessarily take a leading role in the formulation and implementation of a DTS. Although the IT department is obviously an essential stakeholder, we suggest that it cannot sit in the driver seat of digital transformation, since a DTS is business-oriented, customer-centric and involves the entire organization.

6.3. Limitations and further research

We acknowledge that we have discussed just one case study of a pre-digital organization in this paper, hence our conclusions may not apply to other organizations, especially born-digital ones. However, we believe that the lessons we have learnt may be useful for pre-digital organizations seeking to embark on a DTS. We also acknowledge that, while we have documented the formulation and implementation of AssetCo's DTS, there is no guarantee that AssetCo will continue to achieve the sought-after digital transformation. Since a DTS is always in the making, by definition the future is uncertain. Therefore, we call for further studies that investigate questions relating to the process, success, risks, and failures of digital transformation. We do not yet know how to evaluate the progress of a digital transformation and whether, if and when the digital transformation of a pre-digital organization can be regarded as being a "success".

Appendix A

See Table 5.

Table 5

Application of the seven principles for interpretive field research (adapted from Klein and Myers (1999)).

Principle	Application of the Principle
(1) The Fundamental Principle of the Hermeneutic Circle: This principle suggests that all human understanding is achieved by iterating between considering the interdependent meaning of parts and the whole that they form. This principle of human understanding is fundamental to all the other principles	The principle of the hermeneutic cycle is reflected in the way we collected our data by successively requesting additional interview partners and collecting archival data. Also, during our data analysis, we continuously iterated between the empirical data, theoretical conceptions from (IS) strategizing literature, and insights from the initial narrative analysis – especially regarding the seven main phases that represent the "whole" of the DTS formulation and implementation process at AssetCo during the research period
(2) The Principle of Contextualization: Requires critical reflection of the social and historical background of the research setting, so that the intended audience can see how the current situation under investigation emerged	We collected internal documents and public archival data to establish the organizational context at AssetCo. This helped us to trace the overall timeline and key events of DTS formulation and implementation at AssetCo. We also discussed various contextual aspects with our interviewees
(3) The Principle of Interaction Between the Researchers and the Subjects: Requires critical reflection on how the research materials (or "data") were socially constructed through the interaction between the researchers and participants	We have described how we collected and analyzed the data e.g. we discussed our consensual approach to coding between the field researcher and a second researcher
(4) The Principle of Abstraction and Generalization: Requires relating the idiographic details revealed by the data interpretation through the application of Principles 1 and 2 to theoretical, general concepts that describe the nature of human understanding and social action	Based on our data analysis process comprising narrative analysis and coding in parallel, we developed a set of abstractions that are linked to both the underlying theoretical background and the empirical findings
(5) The Principle of Dialogical Reasoning: Requires sensitivity to possible contradictions between the theoretical preconceptions guiding the research design and actual findings ("the story which the data tell") with subsequent cycles of revision	We critically reflected the theoretical background of the study building on the IS strategizing literature. Our theorizing has continually evolved and involved several cycles of revision to better understand our empirical findings
6) The Principle of Multiple Interpretations: Requires sensitivity to possible differences in interpretations among the participants as are typically expressed in multiple narratives or stories of the same sequence of events under study. Similar to multiple witness accounts even if all tell it as they saw it	We intentionally interviewed a variety of stakeholders from various areas of AssetCo. These people included those directly involved in the DTS process, such as the CEO, HDT and Head of Marketing, and those who were not directly involved in DTS formulation and implementation (such as employees)
7) The Principle of Suspicion: Requires sensitivity to possible "biases" and systematic "distortions" in the narratives collected from the participants	In order to sustain a critical attitude towards the narratives collected from individual interviewees, we continuously crosschecked their interpretations with our archival data, but also the narratives from the other interviewees

Appendix B. Supplementary material

Supplementary data associated with this article can be found, in the online version, at https://doi.org/10.1016/j.jsis.2018.11.003.

References

Arvidsson, V., Holmström, J., Lyytinen, K., 2014. Information systems use as strategy practice: a multi-dimensional view of strategic information system implementation and use. J. Strateg. Inf. Syst. 23 (1), 45–61.

Auer, T., Reponen, T., 1997. Information systems strategy formation embedded into a continuous organizational learning process. Inf. Resour. Manage. J. 10 (2), 32–43.

Besson, P., Rowe, F., 2012. Strategizing information systems-enabled organizational transformation: a transdisciplinary review and new directions. J. Strateg. Inf. Syst. 21 (2), 103–124.

Bharadwaj, A., El Sawy, O.A., Pavlou, P.A., Venkatraman, N.V., 2013. Digital business strategy: toward a next generation of insights. MIS Q. 37 (2), 471–482.

Burgelman, R.A., Floyd, S.W., Laamanen, T., Mantere, S., Vaara, E., Whittington, R., 2018. Strategy processes and practices: dialogues and intersections. Strateg. Manage. J. 39 (3), 531–558.

Chakravarthy, B.S., Doz, Y., 1992. Strategy process research: focusing on corporate self-renewal. Strateg. Manage. J. 13 (S2), 5–14.

Chen, D.Q., Mocker, M., Preston, D.S., Teubner, A., 2010. Information systems strategy: reconceptualization, measurement, and implications. MIS Q. 34 (2), 233–A238.

Ciborra, C.U., 1991. From thinking to tinkering: the grassroots of strategic information systems. Twelfth International Conference on Information Systems (ICIS), New York: USA.

Cohen, M., Kahn, D., Steeves, R., 2000. How to analyze the data. In: Cohen, M., Kahn, D., Steeves, R. (Eds.), Hermeneutic Phenomenological Research: A Practical Guide for Nurse Researchers. SAGE Publications, Thousand Oaks, California, pp. 71–83.

Concannon, M., Nordberg, D., 2018. Boards strategizing in liminal spaces: process and practice, formal and informal. Eur. Manage. J. 36 (1), 71–82.

Crowston, K., Myers, M.D., 2004. Information technology and the transformation of industries: three research perspectives. J. Strateg. Inf. Syst. 13 (1), 5–28.

Fichman, R.G., Dos Santos, B.L., Zheng, Z.E., 2014. Digital innovation as a fundamental and powerful concept in the information systems curriculum. MIS Q. 38 (2), 329–353.

Galliers, R.D., 2007. Strategizing for agility: confronting information systems inflexibility in dynamic environments. In: Desouza, K.C. (Ed.), Agile Information Systems.

Conceptualization, Construction, and Management. Butterworth-Heinemann, Burlington and Oxford, pp. 1–15.

Galliers, R.D., 2009. Conceptual developments in information systems strategy – reflections on information systems strategizing. In: Galliers, R.D., Leidner, D.E. (Eds.), Strategic Information Management: Challenges and Strategies in Managing Information Systems, fourth ed. Taylor & Francis, New York and London, pp. 5–33.

Galliers, R.D., 2011. Further developments in information systems strategizing: unpacking the concept. In: Galliers, R.D., Currie, W. (Eds.), The Oxford Handbook of Management Information Systems: Critical Perspectives and New Directions. Oxford University Press, New York, pp. 329–345.

Giddens, A., 1984. The Constitution of Society: Outline of the Theory of Structuration. University of California Press, Berkeley.

Hackney, R., Little, S., 1999. Opportunistic strategy formulation for IS/IT planning. Eur. J. Inf. Syst. 8 (2), 119–126.

Henfridsson, O., Bygstad, B., 2013. The generative mechanisms of digital infrastructure evolution. MIS Q. 37 (3), 907–931.

Henfridsson, O., Lind, M., 2014. Information systems strategizing, organizational sub-communities, and the emergence of a sustainability strategy. J. Strateg. Inf. Syst. 23 (1), 11–28.

Hess, T., Matt, C., Benlian, A., Wiesböck, F., 2016. Options for formulating a digital transformation strategy. MIS Q. Executive 15 (2), 123–139.

Huang, J., Newell, S., Huang, J., Pan, S.-L., 2014. Site-shifting as the source of ambidexterity: empirical insights from the field of ticketing. J. Strateg. Inf. Syst. 23 (1), 29–44.

Jarzabkowski, P., 2004. Strategy as practice: recursiveness, adaptation, and practices-in-use. Organization Stud. 25 (4), 529–560.

Jarzabkowski, P., 2005. Strategy as Practice: An Activity-Based Approach. SAGE Publications, Thousand Oaks, California.

Johnson, G., Melin, L., Whittington, R., 2003. Micro strategy and strategizing: towards an activity-based view. J. Manage. Stud. 40 (1), 3–22.

Jones, M.R., Karsten, H., 2008. Giddens's structuration theory and information systems research. MIS Q. 32 (1), 127–157.

Kane, G.C., Palmer, D., Phillips, A.N., Kiron, D., Buckley, N., 2015. Strategy, not technology, drives digital transformation. MIT Sloan Manage. Rev. Deloitte Univ. Press 14, 1–25.

Karpovsky, A., Hallanoro, M., Galliers, R.D., 2014. Process of information systems strategizing: review and synthesis. In: Topi, H., Tucker, A. (Eds.), Computing Handbook, Third Edition: Information Systems and Information Technology. Chapman & Hall/CRC, pp. 1–28 (66).

Klein, H.K., Myers, M.D., 1999. A set of principles for conducting and evaluating interpretive field studies in information systems. MIS Q. 23 (1), 67–93.

Lee, J.C., Myers, M.D., 2004. Dominant actors, political agendas, and strategic shifts over time: a critical ethnography of an enterprise systems implementation. J. Strateg. Inf. Syst. 13 (4), 355–374.

Leonard, J., Higson, H., 2014. A strategic activity model of Enterprise System implementation and use: Scaffolding fluidity. J. Strateg. Inf. Syst. 23 (1), 62–86.

Lucas, H.C., Agarwal, R., Clemons, E.K., El Sawy, O.A., Weber, B.W., 2013. Impactful research on transformational information technology: an opportunity to inform new audiences. MIS Q. 37 (2), 371–382.

Lucas, H.C., Goh, J.M., 2009. Disruptive technology: how Kodak missed the digital photography revolution. J. Strateg. Inf. Syst. 18 (1), 46–55.

Mantere, S., 2005. Strategic practices as enablers and disablers of championing activity. Strateg. Organization 3 (2), 157–184.

Marabelli, M., Galliers, R.D., 2017. A reflection on information systems strategizing: the role of power and everyday practices. Inf. Syst. J. 27 (3), 347–366.

Matt, C., Hess, T., Benlian, A., 2015. Digital transformation strategies. Bus. Inf. Syst. Eng. 57 (5), 339–343.

Mintzberg, H., 1978. Patterns in strategy formation. Manage. Sci. 24 (9), 934–948.

Mintzberg, H., 1987. Crafting strategy. Harvard Bus. Rev. 65 (5), 66–75.

Mintzberg, H., Waters, J.A., 1985. Of strategies, deliberate and emergent. Strateg. Manage. J. 6 (3), 257–272.

Mirabeau, L., Maguire, S., 2014. From autonomous strategic behavior to emergent strategy. Strateg. Manage. J. 35 (8), 1202–1229.

Mithas, S., Tafti, A., Mitchell, W., 2013. How a firm's competitive environment and digital strategic posture influence digital business strategy. MIS Q. 37 (2), 511–536.

Morton, J., Wilson, A.D., Galliers, R.D., Marabelli, M., 2017. Open strategy and IT: a review and research agenda. 33rd EGOS Colloquium, Copenhagen, Denmark.

Myers, M.D., 2013. Qualitative Research in Business and Management, second ed. SAGE Publications, Thousand Oaks, California.

Myers, M.D., Newman, M., 2007. The qualitative interview in IS research: examining the craft. Inf. Organ. 17 (1), 2–26.

Nolan, R.L., 2012. Ubiquitous IT: the case of the Boeing 787 and implications for strategic IT research. J. Strateg. Inf. Syst. 21 (2), 91–102.

Orlikowski, W.J., Robey, D., 1991. Information technology and the structuring of organizations. Inf. Syst. Res. 2 (2), 143–169.

Paroutis, S., Pettigrew, A., 2007. Strategizing in the multi-business firm: strategy teams at multiple levels and over time. Hum. Relat. 60 (1), 99–135.

Pawson, R., Tilley, N., 1997. An introduction to scientific realist evaluation. In: Pawson, R., Tilley, N. (Eds.), Evaluation for the 21st Century: A Handbook. SAGE Publications, Thousand Oaks, California, pp. 405–418.

Peppard, J., Galliers, R.D., Thorogood, A., 2014. Information systems strategy as practice: micro strategy and strategizing for IS. J. Strateg. Inf. Syst. 23 (1), 1–10.

Pettigrew, A.M., 1987. Context and action in the transformation of the firm. J. Manage. Stud. 24 (6), 649–670.

Pettigrew, A.M., 2012. Context and action in the transformation of the firm: a reprise. J. Manage. Stud. 49 (7), 1304–1328.

Ross, J.W., Sebastian, I., Beath, C., Mocker, M., Moloney, K., Fonstad, N., 2016. Designing and executing digital strategies. Thirty-Seventh International Conference on Information Systems (ICIS), Dublin, Ireland.

SAP, 2017. SAP Study Reveals Four Key Traits of a Digital Transformation Leader, < https://news.sap.com/sap-study-reveals-four-key-traits-digital-transformation-leader/ > (11/05/2018).

Schultze, U., 2000. A confessional account of an ethnography about knowledge work. MIS Q. 24 (1), 3–41.

Sebastian, I.M., Ross, J.W., Beath, C., Mocker, M., Moloney, K.G., Fonstad, N.O., 2017. How big old companies navigate digital transformation. MIS Q. Executive 16 (3), 197–213.

Singh, A., Hess, T., 2017. How chief digital officers promote the digital transformation of their companies. MIS Q. Executive 16 (1), 1–17.

Sminia, H., 2009. Process research in strategy formation: theory, methodology and relevance. Int. J. Manage. Rev. 11 (1), 97–125.

Tavakoli, A., Schlagwein, D., Schoder, D., 2017. Open strategy: literature review, re-analysis of cases and conceptualisation as a practice. J. Strateg. Inf. Syst. 26 (3), 163–184.

Teubner, R.A., 2013. Information systems strategy. Bus. Inf. Syst. Eng. 5 (4), 243–257.

Tumbas, S., Berente, N., vom Brocke, J., 2017a. Born digital: growth trajectories of entrepreneurial organizations spanning institutional fields. Thirty-Eighth International Conference on Information Systems (ICIS), South Korea, Seoul.

Tumbas, S., Berente, N., vom Brocke, J., 2017b. Three types of chief digital officers and the reasons organizations adopt the role. MIS Q. Executive 16 (2), 121–134.

Vaara, E., Whittington, R., 2012. Strategy-as-practice: taking social practices seriously. Acad. Manage. Ann. 6 (1), 285–336.

van de Ven, A.H., 1992. Suggestions for studying strategy process: a research note. Strateg. Manage. J. 13 (S1), 169–188.

Venkatraman, N.V., 1994. IT-enabled business transformation: from automation to business scope redefinition. Sloan Manage. Rev. 35 (2), 73–87.

Waema, T.M., Walsham, G., 1990. Information systems strategy formulation. Inf. Manage. 18 (1), 29–39.

Walsham, G., 1993. Interpreting Information Systems in Organizations. John Wiley & Sons, Hoboken, New Jersey.

Walsham, G., 1995. Interpretive case studies in IS research: nature and method. Eur. J. Inf. Syst. 4 (2), 74–81.

Walsham, G., 2002. Cross-cultural software production and use: a structurational analysis. MIS Q. 26 (3), 359–380.

Walsham, G., Han, C.K., 1993. Information systems strategy formation and implementation: the case of a central government agency. Accounting Manage. Inf. Technol. 3 (3), 191–209.

Walsham, G., Waema, T.M., 1994. Information systems strategy and implementation: a case study of a building society. ACM Trans. Inf. Syst. 12 (2), 150–173.

Whittington, R., 1996. Strategy as practice. Long Range Plan. 29 (5), 731–735.

Whittington, R., 2006. Completing the practice turn in strategy research. Organization Stud. 27 (5), 613–634.

Whittington, R., 2014. Information systems strategy and strategy-as-practice: a joint agenda. J. Strateg. Inf. Syst. 23 (1), 87–91.

Yeow, A., Soh, C., Hansen, R., 2018. Aligning with new digital strategy: a dynamic capabilities approach. J. Strateg. Inf. Syst. 27 (1), 43–58.

Yoo, Y., Boland Jr., R.J., Lyytinen, K., Majchrzak, A., 2012. Organizing for innovation in the digitized world. Organ. Sci. 23 (5), 1398–1408.