UNDERSTANDING DIGITAL TRANSFORMATION STRATEGY FORMATION: INSIGHTS FROM EUROPE’S AUTOMOTIVE INDUSTRY

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UNDERSTANDING DIGITAL TRANSFORMATION STRATEGY FORMATION: INSIGHTS FROM EUROPE’S AUTOMOTIVE INDUSTRY

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Abstract

An increasing number of firms are responding to new opportunities and risks originating from digital technologies by introducing company-wide digital transformation strategies as a means to systematically address their digital transformation. Yet, what processes and strategizing activities affect the formation of digital transformation strategies in organizations are not well understood. We adopt a phenomenon-based approach and investigate the formation of digital transformation strategies in organizations from a process perspective. Drawing on an activity-based process model that links Mintzberg’s strategy typology with the concept of IS strategizing, we conduct a multiple-case study at three European car manufacturers. Our results indicate that digital transformation strategies are predominantly shaped by a diversity of emergent strategizing activities of separate organizational sub-communities through a bottom-up process and prior to the initiation of a holistic digital transformation strategy by top management. As a result, top management’s deliberate strategies seek to accomplish the subsequent alignment of preexisting emergent strategy contents with their intentions and to simultaneously increase the share of deliberate contents. Besides providing practical implications for the formulation and implementation of a digital transformation strategy, we contribute to the literature on digital transformation and IS strategizing.

Keywords: Digital Transformation Strategy, Strategy Formation, IS Strategizing, Automotive Industry.
1 INTRODUCTION

Firms across numerous industries experience the transformative impacts of digital technologies on their external environment, such as the competitive dynamics or the expectations of their customers, but also on their own pillars – ranging from the service and product offering as well as the associated business models to core business operations and related organizational structures (Downes and Nunes 2013; Lucas and Goh 2009; Porter and Heppelmann 2014). These changes particularly affect companies at the outset or in the middle of a digital transformation. As a reaction, these companies’ top management increasingly approaches new opportunities and risks that originate from digital technologies by introducing company-wide digital transformation strategies in order to systematically address their digital transformation.

Digital transformation strategies serve as a central concept to coordinate, prioritize, and implement a firm’s digital transformation efforts (Matt et al. 2015). They have a holistic focus, and although they cut across other strategies within a firm, they are aligned with existing functional strategies. In contrast to the prevailing understanding of information technology (IT) strategy as a functional-level strategy that must be aligned with business strategy to allow for an IT-enabled business transformation (Henderson and Venkatraman 1993; Venkatraman 1994), digital transformation strategies reflect the pervasiveness of changes induced by digital technologies throughout an organization. They also acknowledge that, unlike the provision of IT services and infrastructure, digital technologies are no longer a primary responsibility of the IT department. Further, the concept of digital transformation strategies advances the emerging concept of a digital business strategy, which is sometimes seen as a fusion between a company’s IT strategy and its business strategy (Bharadwaj et al. 2013). While digital business strategies go beyond the rather technology-centric view of the various concepts of IT as well as information systems (IS) strategies (Mocker et al. 2010; Teubner 2013), and they incorporate concepts for the exploitation of business opportunities that arise from the use of digital technologies, digital transformation strategies focus on measures to govern a firm’s journey to achieve the desired future state of being digitally transformed.

In light of increasingly widespread digital transformation strategies, the question “How do strategies form in organizations?” – raised by Mintzberg and Waters (1985, p. 257) in their influential study of strategy formation – has again become topical. This question seems relevant, since an in-depth understanding of the processes and strategizing activities that affect the formation of a digital transformation strategy in organizations helps management to identify and pull the right levers for a target-oriented and thus improved steering of a digital transformation. A literature review reveals that, to date, very few studies in IS/IT strategy research (Hackney and Little 1999; Henfridsson and Lind 2014; Walsham and Waema 1994) and few studies from other fields (Hutt et al. 1988; Mirabeau and Maguire 2014) have considered the formation process of specific strategies. Building on the common content/process dichotomy in business strategy research (Pettigrew 1992), we already know some facts about the necessary content of digital transformation strategies, but little is known about how these evolve in organizations from a process view. We address the following research question:

What processes and strategizing activities affect the formation of digital transformation strategies in organizations?

To answer this question, we apply a multiple-case study approach and investigate the formation of digital transformation strategies across Europe’s automotive industry using three European car manufacturers as examples. The automotive industry is well suited to study our research question, since it finds itself in the middle of a digital transformation and faces huge opportunities and risks owing to digitalization, with various industry-specific trends such as car connectivity and autonomous driving. Also, the automotive industry is not yet fully transformed, which allows for an in-depth investigation of strategy formation, since key processes are still reproducible. As a theoretical background we use Henfridsson and Lind’s (2014) activity-based process model, which links Mintzberg’s (1978; 1985) strategy typology with the concept of IS strategizing. Our study provides insights into the processes and...
strategizing activities as well as into the conditions and actors with an influence on digital transformation strategy formation in organizations.

The remainder of this research paper is structured as follows: Initially (Section 2), we clarify the concept of IS strategizing and introduce the activity-based process model. Next (Section 3), we describe our research approach – the selected methodology, the compilation of our sample, and the data collection process. Further (Section 4), we present the findings per case. Then (Section 5), we discuss the results of the cross-case analysis. Finally (Section 6), we conclude with theoretical as well as practical implications, address the study limitations, and suggest further research options.

2 THEORETICAL BACKGROUND

2.1 IS Strategizing as an Anchor Point

From a theoretical perspective, our study falls under the IS strategizing research stream. IS strategizing is a school of thought that constitutes a practice turn in IS/IT strategy research and, simultaneously, a shift in interest from strategy content to strategy process (Galliers 2009; Henfridsson and Lind 2014; Pettigrew 1992). IS strategizing is largely influenced by the strategy-as-practice school of the strategic management field, which understands strategy development as a social practice (Peppard et al. 2014; Teubner 2013; Whittington 1996). The strategy-as-practice literature focuses on the operational reality of the firm (the informal planning activities as well as the involved actors) and investigates strategizing activities at the micro-level (Jarzabkowski 2005; Johnson et al. 2003). Strategy-as-practice “[…] emphasizes the actual day-to-day activities, contexts, processes and content that relate to strategic outcomes” (Peppard et al. 2014, p. 1). Following this highly practice-oriented research stream, IS strategizing is understood 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 strategies based on IS in organizations (Henfridsson and Lind 2014). We use IS strategizing as an anchor point and follow its fundamental idea, yet transfer it to a different object, namely strategizing activities related to the digital transformation of companies.

2.2 The Activity-based Process Model

Henfridsson and Lind’s (2014) activity-based process model is well known to study IS strategizing in organizations and related strategic outcomes. We applied this approach to understand the formation of digital transformation strategies in organizations. The model reflects Mintzberg’s (1978) work on the complexity and variety of strategy formation processes, which emphasizes the necessity to study the interplay between intended and realized strategies. It therefore utilizes Mintzberg and Waters’ (1985) widespread strategy typology with regard to deliberate and emergent strategies, which represent two ends on a continuum along which a realized strategy lies. The realized strategy itself should be viewed as the result of a pattern in a stream of actions that were taken in line with, despite, or owing to the absence of management intentions. In contrast to the planning school, which treats strategy as an intended top-down process by the top management, the emergent school regards strategy as a complex bottom-up process that is shaped across the organization under the influence of various actors (Paroutis et al. 2013). The activity-based process model therefore incorporates Jarzabkowski’s (2005) strategy-as-practice perspective and focuses on the activities within the overall organizational community, particularly by its sub-communities representing the variety of actors shaping an organization’s emergent strategy. These organizational sub-communities are understood as “[…] a group of actors who share interests in a particular domain of activity in an organization […]” (Henfridsson and Lind 2014, p. 24) and that contribute certain strategy contents through micro-strategizing based on their specific practices. Figure 1 depicts the activity-based process model, which consists of three phases that are characterized as follows:

**Contextual conditions:** As a starting point of the strategy formation process, the model assumes that an event – originating from conditions of an organization’s internal or external context – triggers the
initiation of strategic activities. While external conditions address a firm’s external environment, internal conditions refer to its inner environment – the overall organizational community. A strategy is generally initiated and formulated deliberately by top management, and is either prospective or reactive.

**Activity-based production of strategy contents:** The organizational community, comprising a variety of coexisting sub-communities with heterogeneous backgrounds, perceives the initial strategy formulation by top management as a call to enact the strategy. Organizational sub-communities therefore approach top management’s deliberate strategy and intend to develop the strategy further by producing strategy contents through their emergent strategizing activities. While producing strategy contents, sub-communities draw on their local technology-mediated practices, which “[…] represent the dynamic pattern of activity that is enacted as to realize a coherent set of intentions” (Henfridsson and Lind 2014, pp. 24-25) and that can facilitate or hinder action. Such contents initially become emergent candidates rooted in the sub-communities’ technology-mediated practices, which then can materialize as contents of the emergent strategy – if they receive the necessary support from the overall organizational community. But also if the emergent candidates are not realized as contents of the emergent strategy, they create a basis for further activities, since learnings will be incorporated in the future practices of the respective sub-community, based on a feedback loop. Furthermore, the development of an emergent candidate may unveil practices that were not familiar to the other sub-communities prior to the strategy initiation, and which can therefore create common ground for future collaborations.

**Strategy outcome:** In the final phase of the strategy formation process, the strategic outcome is represented by the realized strategy, which integrates both the deliberate and the emergent strategy, in which the latter was mainly shaped by the strategizing activities of existing organizational sub-communities.

![Figure 1. The activity-based process model (adapted from Henfridsson and Lind (2014)).](image-url)

The activity-based process model was developed to study the formation of emerging IS/IT strategies that build on local technology-mediated practices by focusing on the dynamics by which multiple organizational sub-communities can realize strategy contents. For our application of the model in the context of digital transformation strategies, as a describing framework, we used the elements triggering event, strategy initiation, deliberate strategy, emergent strategy, and realized strategy. The element emergent strategy aggregates considerations concerning organizational sub-communities, technology-mediated practices, and emergent candidates (see the dotted line in Figure 1). This aggregation was necessary, since our study was designed to examine digital transformation strategy formation based on a comparison of several firms and thus did not focus on the strategizing activities of specific organizational sub-communities at the analyzed companies.
3  \hspace{1em} \textbf{METHOD}

3.1  \hspace{1em} \textbf{Case Study Research}

To examine the formation of digital transformation strategies in organizations, we adopted a phenomenon-based research methodology and employed a positivist case study approach, which enables us to study the phenomenon within its real-life context (Paré 2004; von Krogh et al. 2012; Yin 2013). Positivist case studies assume the existence of fixed relationships within a certain phenomenon that can be objectively analyzed (Dubé and Paré 2003), allowing one to capture the knowledge of practitioners in new topic areas and to generate novel theory from this (Benbasat et al. 1987; Eisenhardt 1989). In accordance with Benbasat et al.’s (1987) four key prerequisites, the case method is an appropriate method to study our research question, since the phenomenon of interest (1) cannot be investigated outside its natural setting, (2) focuses on contemporary events, (3) requires neither control nor manipulation of subjects or events, and (4) does not have the benefits of an established theoretical base.

Case study research can be based either on single or multiple cases (Yin 2013). For this research, we chose a multiple-case design. The primary reason for this choice was the possibility of a cross-case analysis and thus for a matching of findings across cases in order to derive more general conclusions. To meet both the call for higher methodological rigor in positivist IS case research (Dubé and Paré 2003) and concerns regarding this method’s validity, we stuck to the procedures and quality criteria proposed by Benbasat et al. (1987), Dubé and Paré (2003), Paré (2004), and Yin (2013).

3.2  \hspace{1em} \textbf{Case Selection and Sample Description}

We examined the formation of digital transformation strategies in companies of an industry that is not yet fully transformed, allowing for an in-depth study of the strategy formation, since key processes are still reproducible. For this reason, we chose the automotive industry, which — being a traditional manufacturing industry – finds itself in the middle of an industry-wide digital transformation. The automotive industry faces massive opportunities and risks owing to digitalization, with industry-specific trends such as multichannel sales, car connectivity, mobility services and car-sharing, electric mobility, and autonomous driving. Furthermore, it can be observed that especially manufacturers of passenger cars are increasingly transforming their business models, from a business-to-business focus based on a multistage distribution model, which depends on independent dealerships, to a business-to-customer focus, via digital technologies. In addition, important characteristics of car manufacturing companies such as a strict functional organization, a strong international orientation, and a specific configuration of the value chain that relies on external suppliers opens numerous opportunities for the extensive use of digital technologies so as to leverage efficiency potentials.

To achieve generalizability of our findings across the automotive industry, we decided to investigate the phenomenon on a broad empirical basis by including in our sample several car manufacturers that differ in size as well as in their positioning as \textit{premium} or \textit{volume} manufacturers. We selected three multinational car manufacturer groups (Car Groups A, B, and C) with headquarters in Europe and that are regarded as important industry players (for an overview of our sample, see Table 1). Furthermore, key selection criteria was the prerequisite that the car manufacturer had started or had intensified its digital transformation efforts during the past five years and had already introduced a company-wide digital transformation strategy. Although the chosen car manufacturers were also active in different areas such as commercial vehicles, our main research focus was the companies’ passenger car business, which in all cases accounted for most of the generated revenues and profits. Owing to the selected companies’ strict confidentiality requirements, we refrained from mentioning more concrete facts such as brand names, business figures, or the exact locations of headquarters.
3.3 Data Collection and Analysis

The data collection took place between July and December 2015, and was based on semi-structured interviews. Interview partners were senior management representatives with relevant backgrounds in digital business activities and in positions related to corporate strategic planning or in charge of selected digital initiatives, for instance connected car initiatives in the sales or the R&D function (for an overview of the participants and their positions, see Table 1). The interview partners were mainly recruited via our professional network. Interviews were conducted face-to-face (mostly at the companies’ sites) and via telephone with one participant at a time; to establish confidence among participants, selected interviews were carried out by two interviewers, of which one was a senior researcher. Overall, the interview duration was between 30 and 60 minutes. Acknowledging the widespread critical discussions concerning sample size in qualitative research, we conducted three interviews for each case, which resulted in nine interviews (nine respondents). This number of interviews allowed us to achieve a sufficient information level in all three cases, since our interviewees had detailed knowledge on the companies’ present and past digital transformation efforts at both top management level and the levels of organizational sub-communities in the various functions.

<table>
<thead>
<tr>
<th>Size</th>
<th>Car Group A</th>
<th>Car Group B</th>
<th>Car Group C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positioning</td>
<td>Premium</td>
<td>Premium</td>
<td>Volume/Premium</td>
</tr>
<tr>
<td>Number of interviews¹</td>
<td>3 (3/0)</td>
<td>3 (2/1)</td>
<td>3 (1/2)</td>
</tr>
<tr>
<td>Participants by position²</td>
<td>Director: Corporate Strategy</td>
<td>Vice President: R&amp;D</td>
<td>Director: Sales and Digital Strategy</td>
</tr>
<tr>
<td></td>
<td>Vice President: R&amp;D</td>
<td>Senior Manager: R&amp;D</td>
<td>Director: Corporate Strategy</td>
</tr>
<tr>
<td></td>
<td>Senior Manager: Corporate Strategy</td>
<td>Vice President: Digital Strategy (within Sales)</td>
<td>Senior Manager: Business Innovation and Mobility Services (within Sales)</td>
</tr>
</tbody>
</table>

Table 1. Sample and participant overview.

We assumed that broadly discussing each company’s digital transformation strategy would be a helpful approach to developing an in-depth understanding of its processes and strategizing activities as well as the conditions and actors that affected its formation. Thus, the interview guide consisted of six parts, with open questions to address general aspects of the respective digital transformation strategy, covering the phases and elements of the activity-based process model as well as further characteristics, which were subdivided in the categories technology, value creation, organizational aspects, and financial aspects.

The interviews were tape-recorded and transcribed verbatim; two interviews had to be conducted informally without recording and were documented by doing written memos directly after the discussions. Furthermore, we collected secondary data from the companies’ websites, official media releases, annual reports, and media coverage, for a triangulation of our findings (Yin 2013). The triangulation also comprised efforts to contextualize the research setting at each case by tracing historical events mentioned to us during the interviews. To gather and code our primary and secondary data, we used the software ATLAS.ti, with which we created a comprehensive case study database. We developed a descriptive coding scheme based on the phases and elements of the activity-based process model, and refined it during the analysis process. In accordance with Benbasat et al.’s (1987) recommendations, a second researcher was involved in the coding process, to ensure data analysis quality. Based on the coded data, we prepared detailed descriptions of each case (see Section 4) and carried out a cross-case analysis (see Section 5).

¹ Ratio face-to-face/via telephone in parentheses.
² In chronological order (by case) owing to the date of the first interview.
4 WITHIN-CASE RESULTS

Here, we separately present the findings for the investigated Car Groups A, B, and C by applying the elements of the activity-based process model as a framework.

4.1 Case 1: Car Group A

Triggering event: The interviewees at Car Group A highlighted changing external conditions as the primary trigger to initiate a group-wide digital transformation strategy. These mainly addressed new customer needs as well as recent actions by existing competitors, but also by new entrants from other industries. According to our interview partners’ opinions, customers were increasingly demanding new digital offers and services. These demands were again driven by new usage behaviors that customers developed from the utilization of consumer electronics as well as corresponding applications, but also by other changing preferences such as a diminishing importance of car ownership in certain Car Group A markets. Concerning competitor moves, the participants mentioned activities by both incumbents in the automotive industry and new entrants with a background in the Internet industry or in consumer electronics. Examples were new offers concerning mobility services, car connectivity, electric mobility, or autonomous driving. From the perspectives of our interviewees, these developments accelerated the competitive dynamics within the automotive industry and increased the pressure to act in terms of intensifying Car Group A’s digital transformation efforts. Also, some internal needs were stressed, such as the necessity to move beyond the fairly old-fashioned corporate culture and to create a digital mindset in the group, and the requirement to align the internal product development cycles with the fast-paced technological environment. However, external conditions were seen as the primary driver for the group’s digital transformation efforts during our interviews with Car Group A.

Strategy initiation: All interview partners underlined that digitalization had become a key priority for Car Group A’s top management during 2014 and 2015, also motivated by the outcomes of a trend analysis performed and presented by the corporate strategy department, a staff unit to the chief executive officer (CEO). As a result, top management decided on the introduction of a group-wide digital transformation strategy in 2015.

Deliberate strategy: The digital transformation strategy at Car Group A had two major components: First, it included a group-wide target picture for the firm’s digital transformation efforts that mainly summarized top management’s vision and intentions, but also reflected existing digital initiatives at Car Group A. Second, it comprised several operational measures to assure that existing and future initiatives will be aligned with the overall vision, but also to enhance transparency about and coordinate ongoing digital transformation efforts for all relevant stakeholders. For this purpose, a new cross-functional digital transformation unit was installed in the corporate strategy department; it reported to the CEO as well as counterparts across the functions. This measure sought to set up an internal network between top management and various existing organizational sub-communities. At the time we conducted our study, top management also intended to initiate and sponsor cross-functional digital initiatives that would be steered centrally by the new digital transformation unit. The unit had a broad range of tasks, and combined a focus on strategy, governance, and implementation.

Emergent strategy: We found that particularly organizational sub-communities originating from the departments sales, financial services, production, and R&D contributed important emergent strategy contents based on digital initiatives that they had been pursuing for more than 10 years in certain cases. An important development for the group-wide digital transformation strategy at Car Group A was the introduction of a connected car initiative around 2011, which was brought forward by a sub-community of the sales function, and which later became a cross-functional project. Even though it was not the initiating sub-communities’ original intention, the referenced connected car project turned into the precursor of the emergent development of an even broader multichannel distribution strategy for Car Group A’s passenger car business. This distribution strategy was mainly focused on digital elements and relied strongly on the use of digital technologies. The strategy also consolidated other existing
initiatives in the sales department which, again, were started by emergent strategizing activities of different sub-communities. We also found comparable developments in the departments financial services, production, and R&D, where numerous initiatives by various sub-communities related to topic areas such as mobility services, the digital factory, or infotainment had been in place years before the group-wide digital transformation strategy was introduced. Also, a specific team of Car Group A’s corporate strategy department turned out to be another important sub-community; it had been pursuing a digital change management initiative for almost three years prior to the introduction of a group-wide digital transformation strategy. The referenced initiative was designed to achieve the desired mindset shift within the organization and focused on communication measures as well as the organization of employee events. In turn, this must be seen as another important contribution to the emergent strategy development at Car Group A.

**Realized strategy:** According to our interview partners, the introduction of the group-wide digital transformation strategy marked a turning point in terms of a much more holistic and cross-functional perspective on Car Group A’s digital transformation efforts. However, from a content perspective, Car Group A’s realized strategy mainly consisted of the emergent contents produced through the several organizational sub-communities’ strategizing activities, with low guidance by top management, before the group-wide digital transformation strategy was defined and established – such as the referenced connected car initiative in the sales function or the digital change management initiative in the corporate strategy department. Therefore, Car Group A’s new digital transformation strategy reflected that numerous initiatives had already been started prior to its introduction, and sought to increase the share of deliberate strategy contents, mostly by means of the governance function and the digital transformation efforts of the new digital transformation unit.

### 4.2 Case 2: Car Group B

**Triggering event:** Our interview partners at Car Group B were highly influenced by the impression of enhanced competitive dynamics owing to new entrants into the automotive industry with a background in the Internet industry or in consumer electronics. The participants highlighted the risks of losing direct links to the customers (the car drivers) and control over relevant customer interfaces. Even further, they saw the threat of being commoditized as pure hardware manufacturers – mainly owing to the new entrants, who sought to transfer their Internet-based ecosystems to a car, which they viewed as another device (such as smartphones, wearables, or smart homes). However, the activities of existing competitors were not perceived as an impetus for strategic action, because the interviewees perceived Car Group B to be in a leading competitive position in terms of the scope and maturity of its present digital initiatives. Internally, potential efficiency gains from the use of digital technologies to enhance the information flow and cross-linkages between the sales levels (dealerships to market branches to headquarters), which has been fairly fragmented in the automotive industry, were also seen as an important trigger by our interview partners.

**Strategy initiation:** During 2014 and 2015, several strategy discussions concerning Car Group B’s digital transformation efforts were held at the board level. These discussions were mainly initiated by a management board member in charge of selected activities related to sales. As digitalization had become a top priority for the complete management board, these discussions resulted in the decision to establish a digital transformation unit in 2015.

**Deliberate strategy:** The newly founded digital transformation unit was supposed to develop a target picture for Car Group B’s group-wide digital transformation strategy, which was not fully defined at the time of the unit’s establishment. This assignment by the board also comprised the responsibility for the definition and implementation of new business models concerning digital offers throughout the group. Thus, the digital transformation unit focused on strategy and implementation and, for this purpose, was equipped with the necessary financial and human resources. In the year of its introduction, it concentrated on the conception and development of new car connectivity features that would be independent of the vehicle development cycles. Even though the unit reported to its main advocate (the
board member who initiated the discussion at top management level), it was formally not a part of Car Group B’s sales function, and therefore operated with a cross-functional focus.

*Emergent strategy:* The interview results and secondary data showed an extensive track record by Car Group B regarding digital initiatives that in certain cases could be traced back to 2000. Important contributors of emergent strategy contents had been organizational sub-communities in the functions sales, production, and R&D. Key projects were the launch of a global connected car initiative (first by R&D, then jointly with the sales department), the initiation of a mobility services initiative that also included venturing activities, and various comprehensive transformation projects in the sales and production functions. The transformation project in sales sought to renew the existing sales formats and approaches, as well as to introduce new digital elements in Car Group B’s retail outlets; another transformation project pursued by sub-communities of the production function focused on digitalization within production processes.

*Realized strategy:* Car Group B’s realized digital transformation strategy was mostly shaped by the emergent strategy contents produced by organizational sub-communities in the functions sales, production, and R&D. Further, those contents arose prior to top management’s decision to establish a group-wide digital transformation strategy. While the new digital transformation unit already had various ongoing projects, its deliberate strategizing efforts had no significant impacts on Car Group B’s realized strategy at the time of our study. Further, we observed that the unit suffered from low acceptance by the sub-communities in charge of the existing digital initiatives and to which the unit was supposed to contribute deliberate contents. For this reason, the overall contribution of strategy contents by the new digital transformation unit was fairly low at the time of our study. Thus, we found that the formation of the digital transformation strategy at Car Group B was mostly a bottom-up process based on the emergent strategizing activities by organizational sub-communities within the referenced functions. Even though these projects had received top management approval at the time of their initiation, owing to formal requirements of the budget allocation process, they must be viewed as emergent strategy contents guided by the intentions of middle managers within the organizational sub-communities.

4.3 Case 3: Car Group C

*Triggering event:* The main triggers for Car Group C were both external and internal. Assessing the situation within the external environment, both the group and its divisional top management felt pressure to intensify and consolidate the group’s digital transformation efforts owing to the growing number of digital initiatives by important competitors in areas such as car connectivity or autonomous driving. An even higher pressure and risk were seen to derive from new entrants from the Internet industry or with a background in consumer electronics who sought to transfer their data-driven and agile approaches to the automotive industry. Furthermore, customer-centricity – placing the customer at the center of all activities – became a key topic for Car Group C over time and was a reaction to increased customer requirements concerning service quality; digital services, for instance for sales and after-sales processes, were considered a key measure in this context. From an internal perspective, Car Group C’s management recognized various potentials arising from the usage of digital technologies. These comprised opportunities such as the creation of new business models based on connected car offers or the leverage of efficiency potentials based on big data use cases.

*Strategy initiation:* In 2015, Car Group C’s top management prioritized the group’s current and future digital transformation efforts. For this reason, the board signed off a group-wide digital transformation strategy. Prior to this top management decision, an extensive alignment and strategy phase took place at Car Group C, which was initiated by the group’s sales department and was performed in collaboration with selected divisional functions.

*Deliberate strategy:* During the aforementioned alignment and strategy phase, an initial target picture was derived that included the specification of the main pillars and use cases of Car Group C’s digital transformation strategy. This target picture built on the existing digital transformation efforts at Car Group C and reflected that selected divisions were already more advanced and had even started to work
on their divisional digital transformation strategies, for instance in reaction to a systematical trend analysis conducted within the division. Furthermore, work packages as well as coordination mechanisms were defined in order to accomplish a joint work between the existing organizational sub-communities within the group. This decision reflected the circumstance that most of the prevailing initiatives were not aligned with the overall target picture and top management intentions. Thus, a key measure of the deliberate strategy was the creation of a new digital transformation unit that directly reported to the CEO and had a cross-functional focus. Besides the elaboration on the group-wide digital transformation strategy based on the given target picture, a key objective of this newly founded unit was the execution of the coordination and collaboration function. Thus, the unit combined a focus on strategy work and governance of existing digital initiatives.

Emergent strategy: Numerous organizational sub-communities in selected group and divisional functions of Car Group C such as sales, production, or R&D had been contributing emergent strategy contents by pursuing separate digital initiatives, in certain cases for more than 10 years prior to the strategy initiation by top management. Examples were projects concerning car connectivity, mobility services, digital sales formats, big data, or smart factory solutions. As mentioned, particularly the strategizing activities of a specific organizational sub-community from group sales played an important role in Car Group C’s digital transformation strategy formation. This organizational sub-community was actively pushing digital transformation efforts within its own function and organized the first workshop in 2015, which was supposed to bring together all project leaders of existing digital initiatives related to sales and after-sales. The workshop also involved the IT department as an important business partner, particularly concerning implementation requirements. According to our findings, this meeting was an important tipping point because, for the first time, it created real transparency for all relevant stakeholders about ongoing digital transformation efforts in the group and led to regular subsequent exchanges. Again, this regular exchange was the basis for the development of a group-wide digital transformation strategy and the foundation of the new digital transformation unit that had started its work by the time of our study.

Realized strategy: Although Car Group C’s digital transformation strategy and the establishment of the new digital transformation unit had been decided by the board during 2015, the maturity of the deliberate activities was still in an early stage. Overall, the contribution of deliberate strategy contents, following top management intentions, to Car Group C’s realized strategy had been very low at the time of our study. Car Group C’s realized strategy mainly comprised the existing strategy contents, which were produced via a bottom-up process through emergent strategizing activities of various organizational sub-communities in the group and the divisional functions.

5 CROSS-CASE ANALYSIS AND DISCUSSION

In this section, we discuss the cross-case analysis results based on our research framework. Table 2 summarizes the analysis’ results.

Triggering event: We identified a fairly homogeneous set of triggers for the initiation of a group-wide digital transformation strategy at Car Groups A, B, and C. Thus, the digital transformation efforts in our three cases were reactions to similar external and internal conditions that were changing owing to the advent of digital technologies. The primary external driver we identified was pressure from the enhanced competitive dynamics within the automotive industry, driven by actions of both incumbents in the automotive industry and new entrants with a background in the Internet industry or consumer electronics. In this context, particularly interviewees at Car Group B stressed the threat of being commoditized as a pure hardware manufacturer by the new entrants. Also, changing customer needs such as new attitudes towards car ownership or higher service quality expectations played important roles in the initiation of digital transformation efforts at Car Groups A and C. Crucial internal triggers were a desired change in the company culture (Car Group A) and desired efficiency gains owing to an optimized exchange as well as data use (Car Groups B and C) or the possibility to create new business models (Car Group C).
Strategy initiation: Motivated by these events and conditions, digitalization had become a key priority for the top management representatives at Car Groups A, B, and C. In all three cases, the top management made key decisions during 2015 in order to set up a company-wide digital transformation strategy. At Car Group A, it was the corporate strategy department that initiated the process to develop a group-wide digital transformation strategy. The strategy initiation at Car Group B was mainly driven by a board member. At Car Group C, it was the group sales department, which started a strategy process that resulted in a board decision to establish a group-wide digital transformation strategy.

Deliberate strategy: In the cases of Car Groups A, B, and C, the various top management decisions comprised the introduction of dedicated and cross-functional digital transformation units as independent departments that were supposed to elaborate on the groups’ digital transformation strategy. While a holistic target picture for a company-wide digital transformation strategy was already predefined when top management decided to establish a company-wide digital transformation strategy at Car Groups A and C, a target picture was still missing in the case of Car Group B. Also, we found these deliberate activities to reflect the fact that numerous initiatives had been started prior to the introduction of a group-wide approach. Thus, particularly the deliberate activities at Car Groups A and C sought to govern the preexisting – and in many cases separate – digital initiatives in order to align the initiatives’ objectives with the predefined target picture and thus top management intentions. Furthermore, top management sought – particularly at Car Groups A and B – to increase the share of deliberate contents by sponsoring and implementing further digital transformation efforts. In all three cases, the responsibilities for governance (Car Groups A and C) and implementation (Car Groups A and B) were also assigned to the digital transformation units. Thus, the establishment of the digital transformation units represented a measure by top management to create the basis for the continuous yet mediated involvement and reflection of its intentions in the ongoing digital strategizing activities throughout the organization.

Emergent strategy: At Car Groups A, B, and C, we found numerous separate digital initiatives that had started several – in certain cases more than 10 – years before a group-wide digital transformation strategy was established by top management. From a chronological perspective, we observed that the emergent strategy developed much earlier than the deliberate digital transformation strategy. Furthermore, the initiation of the emergent strategy did not take place at top management level, but was the result of decisions by the middle managers in the organizational sub-communities. Hence, organizational sub-communities and the responsible middle managers took action prior to the definition and implementation of a company-wide digital transformation strategy by top management. Overall, the number of organizational sub-communities from different backgrounds involved was astonishingly high, demonstrating the pervasiveness of changes induced by digital technologies throughout the investigated organizations. The most influential organizational sub-communities originated from the departments sales, R&D, and production – departments that are inherently very close to current external developments, either from a market or a technology perspective. However, in all three cases, the IT departments seemed to play a minor role in promoting digital transformation efforts.

Realized strategy: Even though Car Groups A, B, and C had introduced dedicated digital transformation units to elaborate on a group-wide digital transformation strategy during 2015, the groups’ realized strategies were – at the time of our study – predominantly shaped by a diversity of emergent strategizing activities by separate organizational sub-communities throughout the organization, based on a bottom-up process. This observation is associated with the insight that the contribution of deliberate strategy contents by the newly established digital transformation units to date had been very low so far – mainly owing to the early stages in which they found themselves. Thus, the overall share of emergent strategy contents produced by organizational sub-communities of the car groups’ realized strategies was remarkably high – a finding that also seems to be independent of each manufacturer’s size as well as its premium or volume positioning. Yet, it must be acknowledged that such a situation is somewhat inevitable in companies with strict functional organizations, because top management is not deeply involved in the production of strategy contents in the functions. However, in the cases of the examined digital transformation strategies at Car Groups A, B, and C, we found the particular situation that the emergent strategy contents arose almost without any guidance by a group-wide target picture and a
systematic steering from top management. The uncoordinated proceedings by the various organizational sub-communities therefore led to inefficiencies and a lack of transparency about ongoing digital transformation efforts from the perspective of the whole organization. In reaction, the chronologically delayed deliberate strategies by top management emphasized on measures to steer preexisting emergent strategy contents produced by the sub-communities, and thus to achieve a subsequent alignment of those emergent contents with top management intentions. Furthermore, and primarily to create synergies for the whole company, the deliberate strategies were supposed to improve the collaboration and to enhance cross-links between each company’s digital initiatives. In addition, the deliberate activities sought to guide future digital transformation efforts and to increase the share of deliberate strategy contents.

<table>
<thead>
<tr>
<th>Triggering event</th>
<th>Car Group A</th>
<th>Car Group B</th>
<th>Car Group C</th>
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</table>
| Event            | **External**: Competitor pressure (by incumbents and new entrants) and changing customer needs  
                    **Internal**: Desired cultural change | **External**: Competitor pressure (mainly by new entrants) and the threat of commoditization  
                    **Internal**: Desired efficiency gains | **External**: Competitor pressure (by incumbents and new entrants) and changing customer needs  
                    **Internal**: Desired efficiency gains and novel business models |
| Strategy initiation | In 2014/5: Strategy process initiated by the corporate strategy department | In 2014/5: Strategy discussions at board level initiated by a board member (related to sales) | In 2015: Strategy process initiated by the group sales department |
| Deliberate strategy | Definition of a group-wide target picture and the establishment of a digital transformation unit (reporting to the CEO) with a focus on strategy, governance, and implementation | Establishment of a digital transformation unit (reporting to a selected board member related to sales) with a focus on strategy and implementation | Definition of a group-wide target picture and the establishment of a digital transformation unit (reporting to the CEO) with a focus on strategy and governance |
| Emergent strategy | Various separate digital initiatives by sub-communities in the functions sales, R&D, production, and financial services – started before strategy initiation | Various separate digital initiatives by sub-communities in the functions sales, R&D, and production – started before strategy initiation | Various separate digital initiatives by sub-communities in the functions sales, R&D, and production (group and divisional level) – started before strategy initiation |
| Realized strategy | Predominantly shaped by emergent strategizing activities via a bottom-up process | Predominantly shaped by emergent strategizing activities via a bottom-up process | Predominantly shaped by emergent strategizing activities via a bottom-up process |

Table 2. Results of the cross-case analysis.

6 CONCLUSION

6.1 Theoretical and Practical Implications

In view of our research question – What processes and strategizing activities affect the formation of digital transformation strategies in organizations? – we found the unexpected and counter-intuitive result that the examined realized strategies at the three studied Car Groups were predominantly shaped by a diversity of emergent strategizing activities by separate organizational sub-communities through a bottom-up process and prior to the initiation of a holistic digital transformation strategy by top management. These chronologically delayed deliberate strategies sought to align preexisting emergent strategy contents with top management intentions and, simultaneously, to increase the share of deliberate contents. The deliberate strategy was mostly brought about by a target picture for the firms’ digital transformation efforts that integrated both top management intentions and the involved sub-communities’ intentions. Furthermore, dedicated and cross-functional digital transformation units were established as
the basis for the continuous yet mediated involvement and reflection of top management intentions in the ongoing digital strategizing activities throughout the organization. By contributing this new process perspective on digital transformation strategy formation in organizations based on the activity-based process model, our paper complements the literature on both digital transformation and IS strategizing. We also present one of the first studies to examine this phenomenon on a broad empirical basis.

Concerning the challenging tasks of formulating and implementing a digital transformation strategy (Hansen and Sia 2015), our findings have several practical implications for management representatives of companies at the outset or in the middle of a digital transformation. Our results highlight the great influence of emergent strategies and related strategizing activities on the realized digital transformation strategy. Thus, when formulating a digital transformation strategy, management representatives require a clear overview of the ongoing digital transformation efforts and an understanding of the intentions behind the actions that led to the initiation of such efforts. On this basis, a target picture for a digital transformation strategy should balance top management intentions and the intentions of the overall organizational community. Further, our results imply that the implementation of digital transformation strategies require the definition and creation of governance and collaboration mechanisms throughout an organization in order to achieve joint proceedings between top management and the organizational sub-communities, but also among the sub-communities. In this context, it might be advisable for firms in a digital transformation process to establish dedicated departments with a cross-functional focus, as well as strong links to both top management and existing sub-communities – such as the digital transformation units we found at the three studied Car Groups. These departments could act as a mediator for top management and might fulfill several functions, such as elaborating on the digital transformation strategy, coordinating and controlling the various ongoing emergent strategizing activities, and collaboratively implementing own deliberate strategy contents.

6.2 Limitations and Suggestions for Further Research

We acknowledge limitations in this research paper. Concerning the generalization of findings, qualitative research is often called into question (Myers 2013). We addressed this limitation by taking several measures to counteract potential doubts concerning our results. Thus, this study is based on a multiple-case approach (Yin 2013) and includes three European car manufacturers that differ in size as well as in their positioning as premium or volume manufacturers; again, we conducted three interviews at each case, to achieve a sufficient information level and to ensure the validity of the generated insights. We also triangulated our findings by using secondary data from other sources, since our participants might have imperfectly recalled important events, sequences, or activities.

Our study investigated the formation of digital transformation strategies in three companies with a strict functional organization from one specific industry and region. Thus, we recommend that further research examines whether our findings also apply to companies with different characteristics such as size, organizational structure, industry affiliation, or regional background. Still, we acknowledge that our data only covers parts of the strategizing activities at the investigated car manufacturers. As we studied ongoing formation processes in all three cases, it remains to be seen whether the sought digital transformation will be accomplished and whether the processes will change until this state is reached. For this reason, we see the need to conduct longitudinal case studies based on methods related to interpretive field research (Klein and Myers 1999). Such research settings allow one to develop an ever deeper understanding of the processes and strategizing activities that affect digital transformation strategy formation (Henfridsson and Lind 2014; Peppard et al. 2014). Following this approach, a specific adaption of the activity-based process model describing the formation of digital transformation strategies in organizations could be developed, since we found indications that the formation of these highly technology-driven strategies has a different process flow than postulated by the generic model. Another interesting research direction would be to examine digital transformation management practices such as the identified governance and collaboration mechanisms, which seem to be – at least in our cases from the automotive industry – a key element of digital transformation strategies, and to study details of their design as well as their overall influence on a firm’s digital transformation process.
References


