Improvising Digital Transformation: Strategy Unfolding in Acts of Organizational Improvisation

Completed Research

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Abstract

Digitalization disrupts markets leaving organizations with unprecedented challenges in increasingly turbulent business environments. To cope, organizations engage in their digital transformations. Crafting digital transformation strategies, they seek to exploit digital technologies to leverage new business opportunities. In management circles, crafting such digital transformation strategies is portrayed as an act of advanced planning and subsequent execution. In practice, however, strategy making in an unprecedented situation coined by a turbulent business environment, rather resembles the situational, intuitive practice of improvisation. Building on an ethnographic study in a large German car manufacturer (Car Inc.) undergoing its digital transformation, we report how Car Inc.'s digital transformation strategy unfolds in acts of organizational improvisation. Car Inc.'s digital transformation strategy is not planned and executed top-down but unfolds bottom-up coordinated by a digital unit purposefully organizing a sequence of multiple acts of organizational improvisation guided by a multi-layered minimal structure.

Keywords

Digital Transformation, Strategy, Digitalization, Practice, Organizational Improvisation, Ethnography,

Introduction

Digitalization, the sociotechnical phenomena of adapting digital technologies, disrupts both markets and organizations (Legner et al. 2017). The dynamics that unfold from these phenomena constitute a turbulent environment for organizations challenging them to flexibly adapt to rapidly changing market conditions in order to remain competitive (Berghaus and Back 2017; Fitzgerald et al. 2013). To master this challenge, organizations respond in transforming themselves digitally. They craft digital transformation strategies seeking to transform their business (Chanias and Hess 2016; Matt et al. 2015; Porter and Heppelmann 2014), and to attune their internal configuration toward digital innovation (Duerr et al. 2018; Westerman and Bonnet 2005; Yoo et al. 2010). For this, IBM developed its IBM Innovation Jam™. In 2002, Sam Palmisano took over as CEO at IBM. The year after, he invited all IBM employees worldwide to engage in a 72-hours online discussion on the company's values (Barret 2012). From this bottom-up approach to strategizing and innovating emerged a new set of values and the format of the IBM Innovation Jam™. Nowadays, IBM employs this format to internally crowd-drive strategy and innovation, but also to assist customers in doing the same (Bjelland and Wood 2008; IBM n.d.).

Unlike the example of the IBM Innovation Jam™ may suggest, much of the extant research on IS and strategy discusses strategy and strategy making as occurring at the center stage of management. Strategy making is often depicted as the a priori formulation of a well-designed plan followed by its execution (Majchrzak et al. 2016; Matt et al. 2015). Majchrzak et al. (2016), however, argue that in the digital world this traditional view loses in accuracy. Instead, conceptions of social theory, emergence and complexity replace concepts as structure, hierarchies, goals and boundaries. In this vein, Chanias and Hess (2016) found that digital transformation strategies are shaped by emergent bottom-up strategizing which exists prior to an organization wide digital transformation strategy. Similarly, Berghaus and Back (2017) argue that prior to the initiation of a digital transformation program, that is, in the transformation's early stages, organizations' digital transformation is characterized by experimenting with opportunities. They conclude

that *"since no "ideal" approach exists, managers tend to decide intuitively depending on their situational context"* (p. 14).

Intuition and experimenting in a situational context are two aspects characterizing improvisation. Improvisation follows the notion of planning conceived and unfolding in action. As a theory, organizational improvisation (OI) draws on art metaphors (e.g., jazz music) to develop concepts for situations in which OI occurs and for conditions supporting its occurrence (Barrett et al. 2018; Cunha et al. 1999; Weick 1998). In Jazz, such situations are termed jam sessions. Leaning on this term, the earlier mentioned IBM Innovation Jam™ is an example for such a session in an organization (Barret 2012). Proposing the ability of flexibly responding to the environment, with whatever resources at hand and in a speedy manner, OI, in theory, seems to offer mechanisms to survive in turbulent environments such as digitalization (Cunha et al. 1999, 2014). Further, it seems to resemble actual practice of intuition and experimenting that shape organizations' digital transformation strategy (cf. Berghaus and Back 2017). Therefore, and given that research on OI in the context of digital transformation strategy is scarce, we seek to explore and understand *how an organization's digital transformation strategy unfolds in acts of organizational improvisation?*

For empirical material, we build on an ethnographic study in a large German car manufacturer (hereafter Car Inc.; a pseudonym). With the automotive industry being disrupted by new market entries (e.g., Tesla), technological advancements (e.g., autonomous driving) and changing market dynamics (e.g., sharing economy), Car Inc., to remain competitive, perceived the need to digitally transform itself. For this, it established a digital unit reporting directly to Car Inc.'s CEO. As a central strategy unit, it initiates and orchestrates digital transformation efforts at Car Inc. It drives strategy, however, not by strictly executing a defined plan but by organizing acts of improvisation that jointly constitute a process of strategizing.

In the next section, we discuss extant research on digital transformation strategy and provide an overview on the theory of OI. Subsequently, we describe our research approach including data collection and analysis as well as a description of the empirical site. The findings section reports our observations of Car Inc. and reflects them against the theory of OI. The article closes with a joint section on discussion and conclusion.

Theoretical Background

Digital Transformation Strategies Unfolding in Practice

Digital transformation strategies receive increasing attention. In scope, they span across internal process optimization and product transformations. For organizations responding to digitalization, digital transformation strategies provide a blueprint for digitally transforming both their value offering and internal processes (Matt et al. 2015; Sebastian et al. 2017). Given their scope and purpose, digital transformation strategies differ from IT strategy (Teubner 2013) and digital business strategy (Bharadwaj et al. 2013). While IT strategies set plans for operationalizing IT in firms, digital business strategies seek to reconcile business and IT strategy into one strategy addressing the issue of IT and business alignment. Digital transformation strategies, however, focus on an organization's transformation process.

Extant research on digital transformation strategies can be divided into two streams. Research in the first stream conceives strategies as an object of study. It identifies components constituting digital transformation strategies and from this, deduces guidelines for their formulation (e.g., Matt et al. 2015; Ross et al. 2017; Sebastian et al. 2017). Research in the second stream follows the practice-turn in strategy research (Whittington 2006) and seeks to understand how digital transformation strategies emerge from strategizing (e.g., Berghaus and Back 2017; Chanias and Hess 2016). Turning attention to strategizing, scholars study strategy making, that is, the content and process of strategizing. Reflecting the focus on practices, they use verbs rather than nouns to express their findings (Arvidsson and Holmström 2017; Whittington 2006). Strategizing is *"[…] something people do with stuff that comes from outside as well as within organizations, and with effects that permeate through whole societies."* (Whittington 2006, p. 627). In regard to digitalization, organizational members strategize on how to best exploit internal and external digital technologies. In this vein, Arvidsson and Holmström (2017) propose to understand and study digitalization as a strategy practice.

Following the practice stream, Chanias and Hess (2016) found, in a study of three automotive companies in Europe, that digital transformation strategies emerge through a bottom-up process driven by several sub-communities. They conclude highlighting that these emergent strategies have great influence on the digital transformation strategies initiated organization-wide. Similarly, Berghaus and Back (2017) investigated the early stages of organizations' digital transformation. They identified a set of nine typical activities organizations perform and which shape their digital transformation strategy. Berghaus and Back argue that in this early phase, organizations' activities are coined by experimenting and that management decisions are based on intuition and situational context. In this study, we conceive digital transformation strategy as unfolding in acts of OI that constitute a process of strategizing.

Acts of Organizational Improvisation: Room for Practicing Improvisation

The theory of OI draws on metaphors borrowed from art. In its early stages, researchers studied jazz musicians to explore and discover aspects of improvisation in jazz (Cunha et al. 1999; Weick 1998). Moving beyond the jazz metaphor, researchers turned to improvisational theatre, Indian music, music therapy, role theory and improvisation in organizations to complement the insights developed from jazz (Bernstein and Barrett 2011; Kamoche et al. 2003; Vera and Crossan 2004). Over time, scholars outlined various definitions of OI, however, all share the notion of OI being planning as it unfolds in action under the pressure of urgency and with whatever resources at hand (Cunha et al. 1999). Following this notion, *"an organization improvises when it faces an occurrence it perceives as unexpected, for which it does not possess any kind of preplanned course of action and which is perceived as requiring fast action."* (Cunha et al. 1999, p. 314).

In jazz, musicians improvise in the moment of performing with others; their band (Barrett et al. 2018). In improvisation theatre, actors improvise responding to each other and to cues from the audience (Vera and Crossan 2004). Thus, in both settings, improvising is a practice happening extemporaneously, in response to a cue or stimuli of the surrounding and with an urgency to act without extensive thinking. Similarly, in an act of OI, organizational members respond to their turbulent environment and each other's actions in an extemporaneous and spontaneous way. In this vein, OI is supported by a leadership style of taking turns. That is, as responding to action's requires listening, organizational members take turns in listening and responding to each other's actions. By this, they take turns in leadership (Barret 2012):

> *"In an improvisational system, multiple members together produce direction through the way they develop action. They make spontaneous, original contributions; interpret their own and each other's offers retrospectively; and build on each other's ideas."* (Barrett et al. 2018, p. 686)

This involves engaging in a joint process of sense-making and acting into it in the moment (Barrett et al. 2018). Although OI is coined as being extemporaneous and spontaneous action, it does not fully oppose structure (Cunha et al. 1999). In fact, a minimal structure balancing limitations and autonomy may support OI (Barrett et al. 2018; Bernstein and Barrett 2011). While sufficient limitations may improve coordination, freedom and flexibility may increase creativity (Bernstein and Barrett 2011). A minimal structure can be a mission statement, credo or slogan that provides cues but leaves room for embellishment (Barret 2012). To enable OI, organizations need to create room within their structures; room similar to jam sessions in jazz (Barrett et al. 2018). IBM, for example, created such a room with the IBM Innovation Jam™ (Barret 2012). Building on this notion, we conceive acts of OI in the context of this study as purposefully organized sessions enabling organizational members to jointly engage in the practice of improvising.

In IS research, scholars applied the theory of OI in studies on crisis response (Adrot and Robey 2008), IS development (Molnar et al. 2017), technology change and organizational transformation (Orlikowski 1996) as well as capability and strategy research (Levallet and Chan 2013, 2016). In this study, we draw on OI to explore and understand how Car Inc.'s digital transformation strategy unfolds in acts of OI guided by a minimal structure. Next, we turn to this study's research approach before presenting our empirical material.

Research Approach

In this study, we take an ethnographic approach. Ethnography is an in-depth research method requiring the researcher to spend an extensive time in the field (Van Maanen 2011a; Myers 1999). Given the

extensive time spend in the field, ethnography allows researchers to accumulate a vast body of empirical materials. Conducting ethnography, researchers go to *"where the action is"* studying what people do rather than what they say they do (Myers 1999, p. 5). Hence, it is most suitable for studying organizational members' strategizing and how strategy unfolds in acts of OI. Being a single-site research approach, ethnography is not suited for producing statistical generalizations. Instead it aims for plausibility, authenticity and truthfulness in thick-description of the phenomena under study (Golden-Biddle and Locke 1993; Klein and Myers 1999; Van Maanen 2011a).

Empirical Material and Analysis

Access to the field was gained by a research contract with Car Inc.'s internal organizational development unit. I entered the field in July 2017 but started structured data collection after a 4-months period of familiarization. During these 4-months, I acquainted myself with my work obligations and responsibilities. While my contract allowed me access to Car Inc. for research, it also involved observing responsibilities similar to my colleagues at the internal organizational development unit. These responsibilities included consulting internal units and managers against the backdrop of organizational development. Through this, and by participating in informal arrangements (e.g., lunch breaks, coffee breaks, department or team meetings), I was able to immerse in the field and build strong rapport with my colleagues and employees in various units (Van Maanen 2011b). I collected empirical material not on a specific unit's digital transformation but on Car Inc.'s organizational transformation and strategizing process. At the time of writing, I still remain in the field continuing data collection (February 2019).

Following the tradition of ethnographic research, I collected empirical data by conducting participant observations (Ingold 2014). Observing both research and work obligations, I spent five days a week at the research site but performed participant observations on an ad-hoc basis. This means, in lieu of fixed dates for conducting observations (e.g., certain three days in a week), I vigilantly observed my surroundings ready to pounce and whenever something intrigued me, struck me as surprising or was related to the phenomena of interest, I pounced composing a field note. In these moments, I started by writing jottings, that is, brief notes acting as cues to be elaborated shortly afterwards (Jarzabkowski et al. 2014; Myers 1999). For elaborating my field notes, I developed and applied certain conventions to distinguish verbatim speech (set in quotation marks) and direct interpretations (formatted in italic font style) from observations. Over time, I accumulated a vast body of field notes constructing the empirical data capturing my observations at Car Inc. (Emerson et al. 2001; Van Maanen 2011a). Building on my strong rapport and immersion in the field, I additionally captured other employees' thoughts, impressions and observations of the phenomena of interest shared with me in informal interviews. Furthermore, I collected documents dating back to 2015 (e.g., strategy and annual reports, posts on internal and external websites).

Analysis of the empirical data was informed by qualitative data analysis methods (Silverman 2014). Writing analytical notes, I commenced data analysis already in the field. Simultaneously, I studied extant literature to improve my comprehension of my observations. These insights from literature study fed-back to my focus in data collection. In other words, data analysis followed an iterative process constituted by on-the-fly analysis, literature study, capturing emergent ideas and further collection of empirical data (cf. Cecez-Kecmanovic et al. 2014). Drawing on the theory of OI, I conceived Car Inc.'s digital transformation strategy as unfolding in acts of OI.

Empirical Site

The empirical site for our ethnographic study was Car Inc. (pseudonym). Car Inc. is a large German car manufacturer operating globally in the premium segment. Across four business fields, Car Inc. employs more than 289,000 employees. Being a traditional manufacturing firm, Car Inc.'s structure is dominated by strong hierarchies, a top-down approach toward leadership and a good deal of bureaucracy. At the same time, its company history – its founding fathers added crucially to the invention of today's automobile – fuels a belief and enthusiasm to continuously re-invent mobility. In response to digitalization and to drive this re-invention, Car Inc. founded a digital unit in 2011.

> *"Digitalization has become an indispensable part of our daily lives. With the [new digital unit] we are actively shaping the digital innovation culture for the future of mobility at [Car Inc.]. [...]. Our*

goal is to integrate the digital into the working environment of our employees and into the lives of our customers." – Internal document

The digital unit operates as a strategy unit reporting directly to Car Inc.'s CEO. Its foundation marks the kick-off of Car Inc.'s digital transformation strategy process. Prior to the digital unit's foundation, Car Inc. did not have a strategy focusing on transforming its organizational life, its employees' and its customers' lives digitally. In relation to Car Inc.'s organizational size, the digital unit is rather small comprising not more than 30 employees. To increase their influence, it developed settings and formats for sessions enabling OI to produce ideas and by this, direction for Car Inc.'s digital transformation strategy. Thus, we consider Car Inc. and its digital unit orchestrating Car Inc.'s digital transformation efforts suitable for studying how digital transformation strategy unfolds in acts of OI.

Acts of Organizational Improvisation at Car Inc.

The First Act: Car Inc. Initializing its Digital Unit

Recognizing the indispensability of digitalization for people's daily life including their mobility, Car Inc. introduced its digitalization initiative in 2011. Car Inc. intended to build this initiative on *"the rules of Web 2.0"* (Internal document). To comply with its understanding of these rules, the car manufacturer called for applications to participate in an OpenSpace. The call for applications requires employees to submit either an idea or outline their expertise in relation to the challenge posed at an OpenSpace. After a selection process, 100 employees from different business fields, functions and across all hierarchal levels are invited to an OpenSpace (Field notes). The concept of an OpenSpace:

> *"Freed from agendas, structure or hierarchies, a group of employees take a day to work on a focus topic. The ten best ideas generated out of the on that day participating group are put on [Car Inc.'s] Crowd Ideation Platform — if their originators approve."* – Internal document

At the start of an OpenSpace, moderators welcome all participants and re-introduce the challenge. Subsequently, they outline the agenda. Since an OpenSpace lasts only a day, time is precious. An OpenSpace is split in three time slots in which participants discuss their ideas. Yet, not all ideas submitted are allocated to a time slot. For an idea to be discussed in one of these slots, participants who are *"bold enough"* (Field note) have to propose their idea in a pitch to all participants. After their pitch, they stick a note with their idea's title to one of the three time slots available. Once the pitching closes, participants write their names on the sticky notes of the ideas to which they seek to contribute. Next, the first time slot for developing the proposed ideas further starts. For this, each participant who proposed an idea (idea owner) is provided a space with an idea board, writing materials (e.g., felt pens, highlighters, etc.) and sticky notes. Arriving at their idea board, idea owners quickly start screening their surroundings. With whatever materials at hand (e.g., felt pens, sticky notes, highlighter, etc.), they start preparing their idea board. The interaction in the three time slots follows four mantras *"Whoever comes are the right people; Whenever it starts is the right time; Whatever happens is the only thing that could have; Rule of two feet"* (Field note). Following these mantras, participants buzz around the idea boards. That is, they join, leave, re-join or move on to the next idea. Sometimes they remain at an idea board for an entire slot. Sometimes they listen in briefly to instantly move on. This creates a flow of improvised actions coined by experimenting with whatever resources at hand. That is, with whoever joins an idea board and with whatever expertise this person can contribute, the group at an idea board develops this idea in a process of joint sense making; they act into the moment. After the three time slots, all participants are given eight stickers to vote for their favorite ideas. This means, for voting, participants can walk around the event space freely, study each idea, and allocate their eight stickers to their favorite ideas. Afterwards, moderators count the stickers allocated to each idea identifying the top ten ideas that unfolded in this act of OI.

In 2011, organizing such an OpenSpace was unprecedented at Car Inc. For the invited employees, the OpenSpace created room within Car Inc.'s established structures to interact unbureaucratically and to jointly make sense of what is happening inside and outside the organization in regard to digitalization. On this note, the challenge of this OpenSpace – its minimal structure – was to find a suitable approach for Car Inc.'s digitalization. It constitutes the first act of OI and marks the upbringing of Car Inc.'s digital unit formulating its mission as:

> *"[The digital unit] brings together ideas and people, makes innovations visible, and drives their implementation forward. It does this in ways that are international, interdisciplinary, and outside all organizational structures."* – Internal document

For the digital unit's actions, participants of this first act also outlined four strategic topic areas. These constitute a minimal structure within which the digital unit purposefully organizes acts of OI. From these acts, which jointly compose an emergent play, unfold ideas and further action for Car Inc.'s digital transformation (Whittington 2006).

The Digital Unit's Minimal Structure for Organizing Acts of Improvisation

The digital unit's minimal structure comprises four topic areas. While at the start the pillars grasped what the digital unit sought to achieve in these four topic areas (e.g., *"Work Environment – innovative working environment and optimization of communication processes; Customer and Product – securing market and target group connectivity with innovative applications; [...]."* – Internal document), today's pillars of *"Transform, Ideate, Collaborate and Change"* (Internal document) focus on the digital unit's actions (see Table 1). The digital unit's internal structure reflects these four pillars as each pillar is represented and driven by one of its teams. Within its responsible pillar, each team organizes acts of OI producing direction for Car Inc.'s digital transformation.

Four Pillars	Excerpts from Internal Documents
Transform	• *"We design the strategy and its alignment with digital topics at [Car Inc.]. That means that we don't just combine a couple of synergies for current trends when it suits us. Instead, we constantly and categorically drive forward the digitalization process."* • *"The strategy team #transform ensures that people learn from each other. In practice, it means that representatives of every division meet together every six weeks and bring one another up to date. This helps us to recognize synergies early on."*
Ideate	• *"Not everyone can write code. But anyone can have an idea that helps [Car Inc.]. Exploiting this pool of creativity within the Group is the aim of #ideate."* • *"Our overall process leads from the generation of ideas through various formats (such as hackathons and OpenSpaces) to the selection of the best ideas, their evaluation by all of our employees, and the subsequent implementation of the top ideas."*
Collaborate	• *"A company with 289.000 employees is at the same time always a 'social network': to empower communication and collaboration with digital tools is the primary goal of the team #collaborate."* • *"Because 'change' isn't something you can command. We want to empower people to explore new ways to improve their work-experience."*
Change	• *"All of the innovations sketched out here change the way we work together — our corporate culture. So it's especially important that we bring all of our employees with us on the way to the digital transformation."* • *"At 'Fail'n'Learn Nights' managers report on projects that didn't run too well at some point — and what they've learned from the experience. That's how we strengthen our — completely non-digital — culture of learning from mistakes."*

Table 1: The Four Pillars Constituting the Digital Unit's Minimal Structure

Given its relatively small size, the digital unit cannot single-handedly transform an organization of Car Inc.'s proportions. It thus builds on a process of joint sense making. That is, it invites Car Inc.'s employees to different events relating to the four pillars of its minimal structure to jointly make sense of the digitalization and the opportunities it offers for people's mobility and Car Inc. as an organization. In these events, the digital unit and the invited employees produce direction for Car Inc.'s digital transformation. In other words, within its minimal structure, the digital unit organizes acts of OI enabling Car Inc.'s employees to engage in a joint process of strategizing digitalization. From this process of strategizing, Car Inc.'s digital transformation strategy ongoingly unfolds.

The Emergent Play: Acts of Improvisation within the Minimal Structure

Within the minimal structure (see Table 1), the digital unit organizes acts of OI. In the ideate pillar, for sourcing ideas internally, these acts follow the same format that led to the digital unit's upbringing; the format of an OpenSpace. An OpenSpace is either hosted solely by the digital unit or jointly with a business function. That is, the digital unit listens and responses to business function's needs in regard to their digital transformation. They then organize an OpenSpace – an act of OI – providing direction for Car Inc.'s or a business function's transformation. In this way, Car Inc.'s Human Resources (HR) function and the digital unit hosted the first HR OpenSpace kick-starting the HR function's digital transformation in March 2018. In this act of OI, 100 HR employees developed more than 50 ideas for transforming internal HR routines at Car Inc. At the end of the HR OpenSpace, participants selected their top ten ideas by votes.

Subsequent to an OpenSpace, the digital unit presents the top ten ideas to the crowd. In each of these instances, the crowd is a different sub-group of Car Inc.'s employees (e.g., all employees in a function co-hosting an OpenSpace). Once the crowd selected the best idea by votes, the digital unit facilitates its implementation. Following this process, past acts of OI produced strategic direction for transforming both Car Inc.'s internal processes and its value offering. Table 2 provides empirical examples of ideas that unfolded in acts of OI at Car Inc. and which were afterwards implemented. Implementing these ideas, the digital unit, which facilitates implementation, and idea owners jointly shape and execute Car Inc.'s digital transformation strategy (Whittington 2006).

Developed ideas	Excerpts from Internal Documents and Field Notes
Car Inc. API (pseudonym)	*"[Car Inc. API] has successfully made the transition from [an Open Space] via the Crowd Ideation Platform to implementation "in line". Launched as an "Open API", it is an interface between [Car Inc.] and independent developers. Innovators, start-ups and established companies worldwide gain access to [Car] data - for the benefit of all participants, but above all our customers'. It is already live."*
CarIncTranslate (pseudonym)	CarIncTranslate is an app facilitating meetings between employees at Car Inc. It not only supports translation of different languages' basic vocabulary (e.g., Chinese to German and vice versa) but also Car Inc. specific terms. That is, Car Inc. uses terms beyond business standards which default translators fail to translate correctly.
ChargeMe (pseudonym)	*"[ChargeMe] is a platform for charging station providers. The focus is on e-mobility in rural areas. Gastronomes, hoteliers or farmers can easily share their charging stations with other electric drivers via [ChargeMe]. The idea was brought to practical maturity together with [Car Inc.'s incubator]. At the moment, the pilot phase is running in [a certain region], suppliers can already register."*

Table 2: Ideas that Unfolded in Past Acts of Organizational Improvisation

Discussion and Conclusion

At the outset of this article, we posed the question of '*how an organization's digital transformation strategy unfolds in acts of organizational improvisation?*'. This study was motivated by our observation that instead of executing a pre-planned digital transformation strategy, Car Inc. kick-started its digital transformation with an act of OI; its first act. That is, Car Inc.'s management did not respond to digitalization in strategy workshops or announcing a task force to craft and execute a strategy top-down. Instead, inviting employees across all functions and all hierarchy levels to join a shared process of sense-making, it said *"yes to the mess"* (Barret 2012). From this process unfolded the digital unit and a minimal structure within which the digital unit organizes acts of OI. These acts constitute a bottom-up process of strategizing driving Car Inc.'s transformation. Thence, Car Inc.'s first act of OI marks the initiation of a sequence of multiple acts.

Similar to IBM's Innovation Jam™ (Barret 2012; Bjelland and Wood 2008), Car Inc.'s OpenSpace format creates a room within Car Inc.'s organizational structures enabling employees to engage in OI. As our findings portray, Car Inc.'s OpenSpaces are purposefully organized sessions in which invited participants engage in the practice of improvising. They allow actions to unfold unbureaucratically. They pose a

challenge demanding action. They create time pressure by allowing participants only a day to develop their proposed ideas. They demand participants to experiment with the resources available. Participants at an OpenSpace experiment with the idea board, provided writing materials, sticky notes but also with each other's contributions. These contributions are the expertise and ideas each participant extemporaneously and unexpectedly contributes in the moment. Listening, responding and building on these contributions, participants experiment with whatever contribution unfolds. Our findings show that ideas which unfolded in these sessions produced direction for digitally transforming both Car Inc.'s value offering and its internal processes (see Table 2). Yet, Car Inc.'s digital transformation is not built on a single idea but many. Our findings suggest that Car Inc.'s digital transformation strategy did not unfold in one act of OI but unfolds in a sequence of multiple acts. This sequence composes an emergent play; an *"improvisational system"* (Barrett et al. 2018, p. 686) in which multiple actors (e.g., Car Inc.'s management, its digital unit, business functions and employees) jointly produce direction for Car Inc.'s digital transformation (Barret 2012). This emergent play constitutes a process of strategizing extending the activities of experimenting that led to Car Inc.'s digital unit and its minimal structure beyond the early stages of its digital transformation (Berghaus and Back 2017). Accordingly, Car Inc.'s digital transformation strategy emerges bottom-up beyond its initialization of its digital unit (Chanias and Hess 2016). As our findings suggest, this emergent play is guided and supported by a multi-layered minimal structure.

Minimal structures provide guidance for action and by this, support OI (Barret 2012; Cunha et al. 1999). In this study, we observe a multi-layered minimal structure guiding on a first layer, the composition of the emergent play (i.e., the emergent process of strategizing), and on a second layer, the actual acts of OI. At Car Inc., the first layer is constituted by the digital unit's minimal structure; the four strategic pillars within which it organizes acts of OI (see Table 1). The first layer of the observed minimal structure provides guidance in organizing acts of OI such that these produce directions of strategic relevance. For this, the first layer outlines a set of themes (i.e., the four strategic pillars) which Car Inc. deems crucial for its digital transformation. The second layer is constituted by the challenge against which an act of OI is organized. An act's challenge guides action unfolding in this act of OI. Linking these challenges to the first layer, the digital unit ensures that an act produces direction for a strategically relevant theme. Combined, the two layers of minimal structure, thus, allow the digital unit to purposefully organize acts of OI enabling employees to jointly make sense of the posed challenge and to produce direction for Car Inc.'s digital transformation (Barrett et al. 2018; Whittington 2006). While the conception of a multi-layered minimal structure is based on a single site, we see much potential in understanding the interdependencies of an organization's digital strategy practices (Arvidsson and Holmström 2017) beyond the studied site. Digitalization poses a strategy challenge to many organizations. A challenge that is intensified by the phenomenon's volatility. As our findings suggest, tackling this challenge with a multi-layered minimal structure providing guidance but allowing for creativity may provide organizations with the flexibility required to respond to this volatility (Duerr et al. 2018).

For practice, our findings encourage organizations to embrace the mess of improvising for strategizing digitalization. As this study shows, not having a pre-defined strategy but trusting organizational members to improvise may be a fruitful approach for organizations facing unprecedented but strategically relevant situations. Although this is a single sited study not allowing for generalized claims, our observations indicate that in the context of digitalization taking direction from employees' ideas is an adequate way to respond to this phenomenon. Therefore, practitioners may find inspiration and guidance in this study for establishing a digital initiative that builds on improvisation. Further, Chanias and Hess (2016) propose to find balance between intentions of management and employees. Our findings suggest that purposefully organizing acts of OI can support finding this balance.

Building on an ethnographic approach, this study has limitations in regard to statistical generalizations. Yet, we urge to not perceive this as diminishing its findings. In lieu of statistical generalizations, this study seeks to contribute to theory development by relating its findings to theoretical constructs (Lee and Baskerville 2003). Thence, this study adds to the discussion on how organizations' digital transformation strategies unfold when viewed through the lens of OI.

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