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Accelerated Digital Transformation: The Case of The Online University Caused By Covid-19

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ACCELERATED DIGITAL TRANSFORMATION: THE CASE OF THE ONLINE UNIVERSITY CAUSED BY COVID-19

Research Paper

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ABSTRACT

In this article, we propose the concept of accelerated digital transformation. The Covid-19 pandemic constitutes an appealing case for this endeavor since it has caused organizations to undergo unexpected, fast-paced transformation to cope with the extraordinary situation. While current literature tends to illustrate the digital transformation journey based on high-profile cases such as Netflix and Amazon, we turn to more mundane organizational settings with an empirical focus on higher education. Based on a qualitative case study of how a social science faculty at a Danish university changed from analog to full digital teaching overnight, we identify three salient themes that capture how accelerated digital transformation became possible. We observed how the faculty (1) leveraged existing resources rather than disruptive technologies, (2) intensified informal knowledge sharing in combination with supportive top-down communication, and (3) re-organized core activities through experimentation rather than based on strategic plans. Major changes enabled by digital technologies are typically associated with a long-term change process through certain stages. Our conceptualization focuses on how the initial stage of the digital transformation process can be accelerated.

Keywords: COVID-19, Digital transformation, Accelerate, Case study, Higher Education.

1 Introduction

Digitalization of the organization is by no means a new phenomenon (Markus, 1983; Zuboff, 1988; Nielsen et al., 2018) but is receiving increased attention in research and practice, particularly centered around the contemporary concept of digital transformation (Vial, 2019; Wessel et al., 2020). Definitions abound, but it is common in the literature to distinguish between on the one hand, digitalization, which refers to the use of IT to make analog processes and function areas more efficient, and on the other hand, digital transformation, which refers to large-scale change that fundamentally impacts how the organization uses IT to conducts its business, create value, and meet changing business and market requirements (Carruthers & Jackson, 2019). Thus, digitalization supports current operations, while digital transformation radically changes how the organization operates.

Digital transformation is typically associated with long-term change processes through certain stages (Valdez-de-Leon, 2016; Baiyere et al., 2020). Some scholars suggest that digitalization of existing processes is a necessary development stage towards digital transformation based on advanced

technologies, such as big data, robots, artificial intelligence, internet of things, blockchain, etc. (Lanzolla et al., 2018). This is typically profiled through spectacular cases such as Netflix, Apple, and Amazon. In contrast, we propose the concept of *accelerated digital transformation*, stressing rapid changes, where existing work practices become thoroughly entangled with available digital technologies due to circumstances which necessitate significant change to maintain a reasonably functioning organization (Andriole, 2017). This may represent a more realistic blueprint for *initiating* the digital transformation process than the abovementioned high-profile cases.

The Covid-19 pandemic constitutes an interesting occasion for exploring accelerated change afforded by digital technology since the pandemic has caused many organizations to undergo fast-paced digital transformation to cope with the extraordinary situation. This has certainly been the case for many universities around the world, where the societal measures implemented to curb the spread of Covid-19—including the temporary lockdown of physical facilities—have forced them to radically rethink how to deliver teaching in a situation where the traditional face-to-face approach unexpectedly became impossible.

Most universities have long since digitalized their internal and student-facing administrative processes for efficiency gains and digital technologies have been predicted to disrupt higher education for decades; yet, universities have been slow to change their core activities: educational services (Budhwar & Cumming, 2020). In a 2019 survey among higher education IT leaders, respondents reported that their institutions were currently not engaged in digital transformation, but they were preparing to start their digital transformation journey (Brooks & McCormack, 2020). However, the Covid-19 pandemic has forced universities to undergo a rapid shift from physical to digital teaching.

In this paper, we present a case study of how a social science faculty at a Danish university quickly moved all teaching activities online, effactully creating the online university overnight. The rapid change due to the Covid-19 pandemic was described by our informants as something that "under normal circumstances would have taken forever" and "a transformation that surpassed my wildest imagination". Thus, the case setting provides an opportunity to study an organization's accelerated digital response to an external change in the environment. Our guiding research question reads: *How can organizations cope with accelerated digital transformation triggered by external changes in the environment?*

Extreme cases are useful for developing new perspectives and theories because the dynamics under study are more visible than they would be in other settings (Eisenhardt, 1989; Flyvbjerg, 2006). Our research is inductive as the unique situation that the case organization finds itself in due to the Covid-19 pandemic promises to shed new light on how digitally enabled change processes can be accelerated. However, for framing our research and developing the conceptualization of accelerated digital transformation, we pay attention to the literature on organizational change management (Diefenbach, 2007; Kotter, 1996, 2012a) and digital transformation (Vial, 2019; Wessel et al., 2020). Both streams of literature provide important insight for understanding how an organization may cope with major change where digital technology is a central driver. Yet, we highlight some shortcomings of these literatures. In particular we show that while there is much focus on the need for organizations to keep up with accelerated change in their external environments, there is a paucity of research that investigates how the internal transformative change process can be accelerated. Therefore, we use the case of the online university triggered by Covid-19 to identify the characteristics of accelerated digital transformation and to delineate its defining elements in a conceptual model.

2 Background

Despite the novelty of the Covid-19 situation, the need and process for organizations to undergo major change as a response to significant events in the external environment is not new; rather it has been extensively researched in the well-established literature base on organizational change management (Lewin, 1951; Kotter, 1995, 2012a). More recently, the term digital transformation has become *the* contemporary term, in both research and practice, for describing and prescribing how and why organizations can, or should, take advantage of digital technologies to survive and prosper in an

increasingly competitive market place (Vial, 2019; Tomat & Trkman, 2019). Below, we briefly review these literatures to position our research and orient the reader toward our empirical findings.

2.1   Change management

Organizations need to change for a variety of reasons, such as changing societal and business conditions, competition, laws and regulations, and customer requirements. To this end, the change management literature offers advice on how organizations can accomplish change covering different types of changes (e.g., organizational restructuring, downsizing, or the implementation of new IT systems). Moreover, it explains why it is difficult for particularly incumbent firms and public sector institutions to transform themselves (Eggers & Park, 2018).

The literature on change management can roughly be divided into two major research streams that address episodic change and continuous change, respectively (Weick and Quinn, 1999). *Episodic change* refers to distinct periods in time, where the organization changes significantly from one state to another, while *continuous change* emphasizes the subtle shifts in meanings, practices, and IT usage that occur as organizational actors go about their day-to-day work. The Covid-19 pandemic constitutes an external trigger that has thrown organizations into unexpected, episodic change and, therefore, we concentrate on this type of change.

The literature on episodic change typically focuses on top-management initiated, intentional change covering planned, strategic interventions that aim to improve organizational performance to better match the requirements of the environment. Numerous models and methods exist that can help managers and change agents (Caldwell, 2003) accomplish this type of change. Lewin's (1951) three stages to unfreeze, change, and refreeze as well as Kotter's (1996, 2012a) eight steps of change remain the most prevailing. Inherent to this line of thinking is that organizational change is difficult and time-consuming, for several reasons (Weick & Quinn, 1999).

First, large-scale, episodic change has a wide scope, requiring many people to change how they think, work, and interact (Koutsikouri et al., 2020). Second, it is not easy for people to change how they work, nor to be willing to do so, especially, when change is 'done' to them because of major management driven change programs (Ford et al., 2008). Thus, change is likely to be met with resistance (Del Val & Fuentes, 2003), which must be overcome, among other things, by repeatedly and persuasively communicating that the change is necessary. Third, it takes time to prepare the organization for radical change. This in turn means that it takes time before people reach the stage in which they alter their behavior (i.e. the change stage) and that people reach it in different tempi (Weick & Quinn, 1999).

Even though managers can plan and drive rapid transformation using Kotter's eight steps when the sense of urgency is high (Wheeler & Holmes, 2017) or glean inspiration from Kotter's accelerators (Kotter, 2012b), in general, the change management literature is preoccupied with the inability of organizations to change as fast as the environment (Besson & Rowe, 2012; Weick and Quin, 1999). Thus, change management research covers useful concepts for understanding and managing the challenges of change in organizations but does not offer much advice on how to accelerate large-scale organizational change processes.

2.2   Digital transformation

The question of how organizations can change radically to leverage the potential of digital technologies has become a central theme in many research fields such as information systems, healthcare, and management and organization studies. This is now often referred to by the term digital transformation (Bohnsack et al. 2018; Sebastian et al. 2017; Vial 2019; Wessel et al., 2020). The literature on digital transformation owns much to the intellectual legacy and insights from the literature on episodic change management likewise stressing that digital transformation is a challenging process that changes the organization from one state of operating to another. In this paper, we view digital transformation as a type of episodic change, where digital technologies play a key role.

However, the role of digital technologies is contentious as they both constitute a trigger for change and a driver of the transformation process (Vial, 2019). A main theme in the literature is that emerging and disruptive technologies represent both threat and opportunity for organizations (Skog et al., 2018), warranting organizations to develop dynamic capabilities to be able to sense, seize, and transform in accordance with technology trends and developments in the marketplace (Orlandi, 2016; Pandza & Thorpe, 2009; Warner & Wäger, 2019). In this paper, we concur with the view that digital technologies are an important component of digital transformation but we take the position that it matters less what type of technologies that are involved (Andriole 2017) but rather how they are leveraged.

In addition to digital technologies, the literature highlights strategic change management as an enabler for digital transformation, stressing the importance of top management for strategizing (Bharadwaj et al., 2013; Hess et al., 2016), driving the digital transformation journey (Weill & Woerner, 2013; Singh & Hess 2017), and fostering an experimental mindset in the entire organization (Kane, 2019); the difficulty of managing transformative change processes in large organizations including the likelihood of resistance to change (Karimi & Walther, 2015; Selander & Jarvenpaa, 2016; Wessel et. al., 2020), and planning the process by taking the stages of digital transformation into account (Valdez-de-Leon, 2016). However, research shows that many organizations fail with their digital transformation initiatives, because it is difficult for the organizational actors to let go of existing structures, practices, values, and identities (Klaus & Blanton, 2010; Svahn et. al., 2017; Bhattacherjee et.al., 2018).

The digital transformation literature does not cover clear research streams in the same way as the literature on change management. Yet, important perspectives on digital transformation in organizations can be discerned, covering maturity, strategy, and change (see table 1).

	Maturity models	**Strategies**	**Changes**
Conceptual focus	Certain development stages	Fusion between IT and business strategies, as well as development and implementation of digital transformation strategies	Altering organizational structure, culture, and processes
Proces	Long-term process through progressive stages (i.e., initiating, enabling, integration, optimizing, and pioneering digital initiatives)	Long-term process to generate value from strategies	Long-term process to change identity, including values, ways of interacting and modes of engagement
Resistance to change	Recognized but not in focus	Recognized but not in focus	Unavoidable part of the transformation process
Key Sources	Valdez-de-Leon, (2016)	Bharadwaj et al., (2013); Hess et al., (2016)	Karimi & Walther, (2015); Selander & Jarvenpaa (2016)

Table 1.   Perspectives on digital transformation in organizations.

Extant digital transformation research emphasizes digital technologies as an important component for undergoing intentional, strategic, and lengthy organizational change processes (Bunduchi et al., 2019). Yet, in this paper, we are interested in accelerated digital transformation triggered by an unexpected external event requiring immediate action. As such, we contribute with a complementary perspective that focuses on how organizations can kickstart their digital transformation journey.

3   Research Method

To examine accelerated digital transformation triggered by the Covid-19 pandemic, we conducted an explorative case study (Yin, 2014) at Aalborg University (AAU) in Denmark. AAU is a public university with five faculties and more than 23.000 students. We focus on the faculty of social sciences, which moved all teaching activities online by medio March 2020 and for the rest of the semester due to the

Covid-19 situation. Faculty management consists of the dean, the associate dean for research, the associate dean for education and the heads of the four departments at the faculty: Department of Sociology and Social Work, Department of Politics and Society, Department of Business and Management, and Department of Law. We concentrate on the first two departments at they are similar in budget and size, with approximately 100 scholars at each department.

3.1 Research context

During the past five years, digital teaching has become increasingly important at the Faculty of Social Sciences. In the wake of AAU's current digitalization strategy (2016 – 2021), a range of initiatives have started at the faculty level, including employment of a digital learning consultant in 2019, and launching a process towards development of a digital transformation strategy for the faculty. The strategy process was planned with first an experimental phase and then a broader implementation phase. During the first phase a smaller group of teachers could experiment with digital teaching and help disseminate knowledge and learning points through a voluntary and mostly bottom-up change process. During the second phase, lessons learnt would serve as foundation for a top-down process to formalize the integration of digital technologies and digital teaching methods into all study programs and their curricula. The Dean explained how this process moved slowly forward, loaded with intense discussions and resistance to change among some employee groups as well as from student representatives. He further explained how the unexpected Covid-19 situation forced a digital transformation of teaching activities, which surpassed his *"wildest imagination"*.

3.2 Data Collection

We follow the recommendation from Yin (2014) to include multiple sources of data in our case study, as summarized in Table 2. We conducted 60 semi-structured interviews (Kvale, 2008) with key stakeholder groups including managers, professors, digitalization staff and students distributed equally across the two departments. The interviews were held in two rounds. A first interview round took place during the first weeks of the Covid-19 lockdown in March/April 2020 (30 interviews) and follow-up interviews with the same participants took place at the end of the semester in June/July 2020 (30 interviews).

We held all interviews online (Lo Iacono et al., 2016) using Microsoft Teams or Skype for Business. Interviews lasted one hour on average. The interview guide was adapted to the four stakeholder groups, but all guides covered three broad questions concerning how the faculty coped with accelerated digital transformation: (a) which online teaching activities have been initiated during the Covid-19 period and why? (b) how do key stakeholders experience online teaching—its suddenness, benefits, disadvantages, and unintended consequences? (c) how is the rapid transformation of university teaching supported by the management team? These interview focus areas were inspired by the literature on digital transformation and change management. All interviews were recorded and subsequently transcribed verbatim by a group of student assistants aided by Konch's online Speech-to-Text platform.

Second, we included a range of documents. Due to the extreme situation, management produced several formal announcements, procedure descriptions, and guidelines on online teaching for employees and students. We also had access to Microsoft Teams forums where managers, digitalization staff and professors across the entire faculty participated in discussions concerning online teaching.

All interview material, i.e. recordings and transcriptions, as well as all collected documents have been treated and stored in accordance with GDPR regulations.

Interviews			
The mentioned informants have been interviewed twice			
Actor Group	*#*	*Description*	*Insight*
Managers	Dean (1) Associate Dean (1)	Entire top management team	How management responded to the Covid-19

	Head of Depart. (2) Vice Head of Depart. (2)		situation and how they communicated to professors and students.
Professors	Full Professors (3) Associate Professors (4) Assistant Professors (3)	Professors with online teaching during Covid-19 period. Equally divided across the two departments. Five females and five males.	Online teaching activities during Covid-19; its benefits, disadvantages, and consequences.
Digitalization Staff	Digitalization consultants (4)	Key digitalization staff at the Faculty of Social Sciences	The technical aspect of online teaching.
Students	Bachelor level (6) Master level (4)	Equally divided across the two departments. Five females and five males	How online teaching is experienced from a student perspective.
Documents			
	#	*Description*	*Insight*
	E-mail communication Digitalization strategies PowerPoint presentations Meeting minutes Student evaluations Student survey MS Teams discussion forums	122 e-mails with Covid-19 communication to professors and students from managers (11th March to early July 2020). 23 documents (423 pages). 207 individual posts over 41 distinct threads.	Background information on digitalization strategy prior to Covid-19 and communicative response during the Covid-19 lockdown.

Table 2.   Data Sources.

The authors of this paper are all affiliated with the faculty of social science, providing us with timely access to key actors (Schwartz-Shea et.al., 2013). However, studying our organization does not come without the risk of bias (Coghlan & Brannick, 2014), and we have therefore designed our data collection to take a faculty-wide perspective and cover different organizational roles (see Table 2). Moreover, we have strived to negate the potential for bias as much as possible during every step of our data analysis.

3.3   Data Analysis

We applied Braun and Clarke's (2006) phases of thematic analysis to move from raw data to theoretical insight. The approach was used to analyze the data without using an initial, a priori, coding template, since our goal is to open-mindedly explore accelerated digital transformation rather than test a certain theoretical point of view. First, we read the transcribed interviews and available documents taking notes throughout, familiarizing ourselves with the overall dataset.

Next, during the initial data analysis, we strived to adhere faithfully to informant terms and expressions (Gioia et al., 2013) and to code the data according to these. Initial codes covered: 'management decisions', 'management communication', 'technology use', 'didactic considerations', 'student experiences', 'challenges', 'surprises', 'situation prior to Covid-19', 'sharing', 'reflections', among others. To ensure the quality of the data analysis at this stage, we independently coded the data, and subsequently discussed and corroborated our findings.

We started to see that the organization already possessed a high level of readiness for digital transformation since suitable technologies were in place, and many professors and students had enough familiarity with the technologies to use them for online teaching straight away. We used these insights to infer digital infrastructure (technical readiness) and digital maturity (human readiness) as important features for coping with accelerated digital transformation, which we boiled down to the aggregate theme: *leveraging existing resources*. Second, we observed an explosion in communication at the Faculty of Social Sciences around the Covid-19 lockdown. This communication response included both

formal information dissemination from senior managers and management teams as well as informal knowledge sharing among organizational stakeholders on how to teach online in practice, which we turned into the more general theme: *intensified communication*. Third, we saw immediate action in terms of delivering online teaching "from day one" which included experimentation and a change towards a highly innovative atmosphere with a strong sense of shared focus which we summarized as *re-organizing core activities*.

As such, the whole data set was grouped together under similar codes and sorted into three distinct themes that we propose are crucial for accelerated digital transformation. We iteratively reviewed and refined the themes and used 'member checking' with our key contacts at the faculty. At this point, we visualized the themes in a model that captures relevant key concepts, illustrating how organizations can cope with accelerated digital transformation (see Table 3 for an overview of our thematic analysis and Figure 1 in the discussion for the resulting conceptual model).

Empirical themes	Conceptual themes	Aggregated themes
• Relevant digital technologies exist • Existing digital technologies used to limited degree	*Digital infrastructure*	**Leveraging existing resources**
• Professors had relevant digital experience • Students had relevant digital experience	*Digital maturity*	
• Frequent management communication • Empathy and encouragement	*Information dissemination*	**Intensified communication**
• Extraordinary willingness to help each other • Frequent informal feedback	*Knowledge sharing*	
• Existing practices translated to digital platforms • Technical aspects easier than expected	*Experimentation*	**Re-organizing core activities**
• Continuous reflection on what does/does not work • All employees dedicated to same problem situation	*Shared focus*	

Table 3.   Data analysis

4   Case study

On Wednesday, the 11th March 2020 in the evening, the Danish government announced that all non-critical public sector institutions, such as universities, would be locked down to stop the spread of the coronavirus. This created a sharp *before* and *after* in the social science faculty's approach to teaching. Thus, immediately after the Covid-19 lockdown, it was decided at faculty level to avoid disrupting existing teaching schedules by transitioning to digital teaching. All staff and students were informed that they had one day, i.e. Thursday the 12th March 2020, to collect their belongings from the university buildings and that online teaching was to start officially from Friday the 13th March 2020. Faculty and department managers reported being apprehensive about this decision as, prior to the Covid-19 situation, initiatives towards increased online teaching had been met with significant resistance. The resistance stems from a culture where problem-based learning and dialogue with the students are highly valued and constitutive of the organizational identity. Moreover, it is commonly assumed that mediated interaction with students is pedagogically and didactically inferior to direct, face-to-face, interaction.

> *There has been a lot of resistance towards online teaching. There is a tendency for professors to become attached to the traditional lecture format, and once this happens, they have a hard time letting it go.* (Department manager)

However, management chose to push for rapid digitalization to avoid creating a backlog of lectures and exams, which it would be difficult to catch up with later. To the managers relief—and surprise—this strategy worked well. Below, we unpack how it was possible for the social science faculty to become an online university from one day to another.

4.1   Leveraging existing resources

The social science faculty was able to shift from physical to online teaching overnight by leveraging existing digital technologies and knowledge resources. The university already had several relevant technologies such as the organization's learning management system Moodle, Skype-for-Business, MS Teams, Panopto, etc. However, before the Covid-19 lockdown period, these technologies primarily supported physical teaching and professors and students only used basic functionality (e.g., course lists, calendars, and file sharing). Yet, a **digital infrastructure** for online teaching was in place.

> *Many of the digital tools have been available for quite a while...but you only really notice them when you are forced to seek them out. (Professor)*

After the lockdown, the professors were forced to explore and use the functionality of these technologies to a much larger extent, i.e. for live-streaming of lectures, video-recorded lectures, PowerPoint slides with voice-over, online chat-sessions between professors and students, for project supervision meetings as well as quizzes, tests, and online oral exams, including PhD defenses. Paramount for enabling full online teaching was that the students could be counted on to have their own computers as well as good internet connections, thereby creating a strong infrastructure on both the university and student side.

In addition to the digital infrastructure, all organizational actors, from managers to students, possessed a high degree of **digital maturity** that could be leveraged for online teaching and learning.

> *We have been at it for many years and most employees use digital communication tools in all sorts of ways as part of their research and communication.* (Professor)

However, the interviewees report that they did not necessarily realize this before the Covid-19 period, because their digital skills stemmed from other areas. For example, many researchers, particularly the more senior researchers, have experience using digital technologies such as Skype-for-Business to collaborate with and maintain relations to international and/or distributed research groups. Most were able to take advantage of this experience when delivering online teaching and student supervision. In addition, most junior researchers have (recently) participated in mandatory university pedagogy programs, where at least one course focuses on applying digital technologies in education. The junior researchers state that knowing they had some skill with online teaching removed much of the trepidation they would otherwise feel having to adopt unfamiliar digital technologies very rapidly. Similarly, the students have acquired digital skills from many areas of life, including from navigating numerous administrative and educational systems and platforms required by their university programs, and from collaborating with peers.

> *For project work we have been digital for a long time…we have a routine where we have one physical meeting per week and the other four days we work from home and collaborate online via Discord. We simply get more done this way.* (Student)

In summary, the organization already possessed a high level of readiness towards online teaching. Despite this, it was unrecognized by most actors prior to the Covid-19 lockdown. When an immediate response became necessary the accumulated knowledge compounded within this existing readiness could be effectively leveraged for accelerated transformation.

4.2   Intensified communication

After the Danish government's lockdown announcement, managers and professors started to communicate about what had just happened and how to respond to the situation. Over the next weeks, there was an unprecedented amount of **information dissemination** at all organizational levels. A department manager described the immediate response as: *"99 percent communication and 1 percent decision making"* to support professors and students during the shift to a new digital reality.

Our document study shows that the communication was frequent, with several emails sent each day. Moreover, emergency response teams were established, with daily/frequent meetings among IT staff and managers. One of the response teams were tasked with creating support websites, instruction videos, and online tutorials.

> *When the university was locked down [Thursday March 12th.] I became part of the emergency response team. We were asked to work through the weekend preparing guides and instructional material and building a new website specifically to aid the professors switch to digital teaching. In the days up to the lockdown I had guessed what was coming and had already begun writing guides and tutorials which I uploaded to a faculty Moodle page. I wanted to let people know that they were not alone, and we were doing everything we could to help them through this.* (Digitalization consultant)

In addition, there was much informal **knowledge sharing** of tips and tricks about "the do's and don'ts" of digital teaching via emails, rapidly created Moodle-sites, or Teams in MS Teams. In general, the willingness to share knowledge and help colleagues that felt uncertain on how to get started with digital teaching or how to perform a specific task was enormous. As one professor stated: *"The most important thing has actually been the sharing of knowledge and help from colleagues"*.

The knowledge sharing also covered a hyper awareness of material, for example from social media channels, that might be relevant for oneself, one's colleagues and/or students. Similarly, there were many informal question-and-answer threads between colleagues across the entire faculty taking place in MS Teams. The following example spawned 23 answers and sub-discussions over the course of 1 hour and 28 minutes with the first response occurring 12 minutes after the following question was uploaded by a professor:

> *Anyone with experience organizing exercises online? Most advice and links seem to be about lectures which is fine, but what about exercises?* (Question posed in MS teams)

In general, managers and emergency response team members served primarily as a support function for professors and students. Moreover, managers, professors and students showed extraordinary patience and emphatic understanding for each other's situations, as well as a willingness to share experiences, suggestions, and tips and tricks with each other.

4.3   Re-organizing core activities

All professors threw themselves headlong into the new situation, in effect turning the faculty into one big **experiment** in online teaching. Very few teaching activities were cancelled or postponed as almost all professors began using available digital technologies immediately, apparently shedding previous inhibitions or reservations. Management explains that under normal circumstances it would have taken years to get everybody on board and to gain the level of hands-on experiences that staff now achieved within a few weeks.

> *Under normal circumstances, when we work with digitalization, we usually appoint a team to test various solutions. At some point they present their findings to a group of managers and staff. On that basis it is decided which solution to implement and so on… It takes an awfully long time! This was something that needed to happen quickly, so we adopted a 'trial and error' approach instead.* (Department head)

Initially professors experimented on a lecture-to-lecture basis. The professors started out by trying to emulate their existing practices on digital platforms. This was generally a lot easier than they had expected. Therefore, focus quickly shifted towards translation of practices for digital delivery.

> *In fact, it has less to do with the technology itself and more to do with digital didactics. Being willing to push the boundaries of the traditional, comfortable role as lecturer and turn it into something more experimental.* (Professor)

The mechanics of using digital tools turned out to be less of an issue than most had dared hope for. It also become clear to the professors that complicated and advanced technical solutions did not necessarily lead to better teaching and learning outcomes. Consequently, the emergent tendency was for professors to settle on simpler technical solutions (e.g., livestreaming a lecture in Microsoft Teams or Zoom) and prioritize didactical experimentation within the boundaries these solutions provide. The shift in interest towards digital didactics occurred with a speed, which stands in stark contrast to the more moderate pace of previous digital teaching initiatives.

> *It happened very quickly, much faster and painlessly than I had expected. On the Thursday, when I had to make a series of decisions regarding the lockdown and figure out how to implement them, I thought to myself: 'this is going to be difficult'. It was not! It was hard work, but it was never difficult.* (Department manager)

As all actors, from managers to students, were engaged in the same types of collective experimentation, this meant that online teaching—and what was and was not working—moved to the forefront of everybody's attention, creating a **shared focus** in an innovative atmosphere of continuous reflection and dialogue about online teaching. The Social Science Faculty is typically characterized by numerous actors participating in many different unrelated research projects and teaching activities, and therefore the normal conditions for alignment of activities and shared learning are less than optimal. However, the Covid-19 lockdown put everybody on the same page.

Professors continuously reflected on which online teaching formats worked for them as well as the contextual factors that had to be considered, e.g., the types and availability of physical workspaces, access to high-quality IT equipment, reliable high-speed internet connections, and IT-Support. Moreover, students frequently expressed their gratitude for the professors efforts, described that digital teaching generally worked well, and in a survey, they reported "very positive" or "positive" experiences with online supervision (60%), livestream lectures (54%), recorded lectures (48%), and online group work (42%).

In summary, the Covid-19 lockdown constructed an open space, where the professors could overcome their reservations by experimenting with the available technologies in a supportive environment and jointly reflect on the importance of digital didactics and contextual factors for creating positive learning experiences.

5 Discussion and Conclusion

The Covid-19 pandemic has greatly accelerated the initial stage of the intended digital transformation as the social science faculty unexpectedly had to undergo radical change from one operating model to another. This was perceived as a dramatic change, a crisis even, by the involved organizational actors. The organization managed to cope with this situation, pushing all organizational actors immediately to the change stage where they altered their teaching practices for online delivery. Moreover, there are indications in our empirical data that the organization will be able to progress to the next stage of the digital transformation process (Valdez-de-Leon, 2016) by integrating and normalizing digital teaching after the lockdown. Thus, both students and teachers report relatively positive experiences with digital technologies and an increased interest in digital didactics. Moreover, management has decided that from next semester 25% of all teaching activities will be digital, encouraging a blended approach (Bates, 2019). Having kickstarted the digital transformation journey, the *university* after *Covid-19* is unlikely to return to *the university* that was, but it is of course far away from reaching a high level of transformation maturity through ground-breaking digital initiatives.

What we see in this case is that the organization was able to cope with the external event of the Covid-19 pandemic due to management's decision to transition to digital teaching and that the organization coped with this decision by leveraging existing resources, engaging in intensified communication, and re-organizing its teaching activities for online delivery. Figure 1 summarizes the three empirically identified themes, and associated sub-themes, which we put forward in answer to the question of how organizations can cope with accelerated digital transformation triggered by external changes in the environment. The model shows that the key themes are *both* distinct, as they highlight different organizational efforts of relevance for accelerated digital transformation, *and* interrelated, as these efforts occur simultaneously through many organizational members' actions and interactions. As such, we contribute to digital transformation research with a conceptual model that delineates essential elements of accelerated digital transformation. Our model complements extant research by concentrating on *the initial stage* of digital transformation at the *organizational level* triggered by external circumstances.
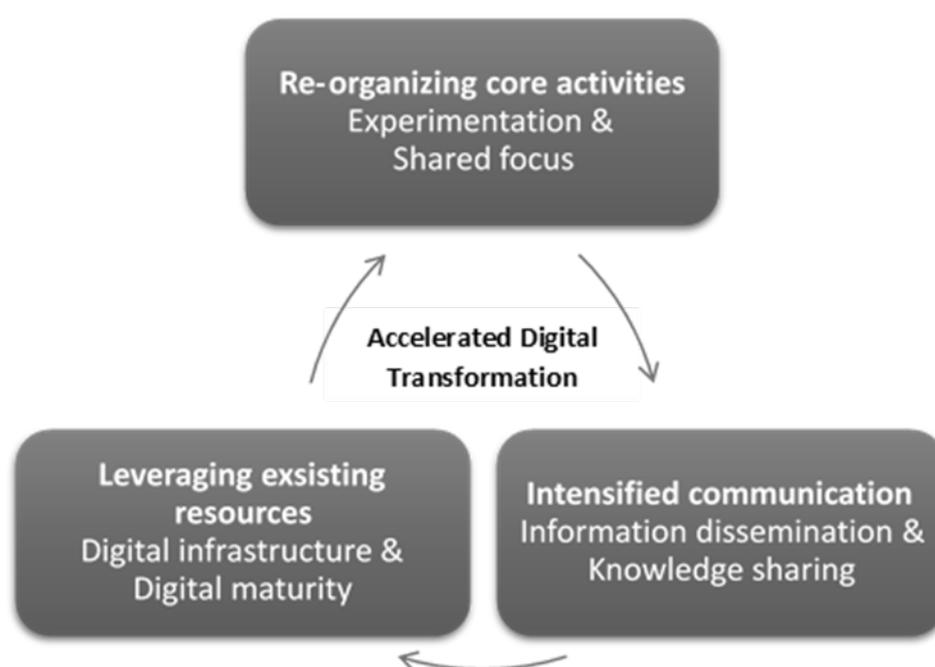

Figure 1.   Essential elements of accelerated digital transformation

The Covid-19 situation is unusual, and our empirical findings and conceptualizations of accelerated digital transformation are therefore derived from extraordinary circumstances. However, it could become increasingly relevant for organizations to be able to kickstart their digital transformation process as the world is becoming more and more volatile (Axson, 2010; Owusu-Ampomah, 2015). Thus, insights into both the practicalities and theoretical aspects of accelerating digital transformation are relevant across sectors and industries as a means of stimulating digital innovation in organizations, in general and to cope with the Covid-19 pandemic. To this end, this study offers the following insights:

- Organizations may have a higher readiness (Weiner, 2009) for digital transformation than expected. However, organizational actors can fail to realize this due to assumptions about technical and organizational challenges associated with digital transformation.
- Organizations could be able to leverage their existing digital technologies to initiate the transformation of their core activities immediately. Thus, organizations do not necessarily need to

invest in new and disruptive digital technologies to start the transformation journey (Furr & Shipilov, 2019).

- Organizations could be able to reduce initial trepidation regarding digital initiatives by ensuring that all operational actors get extensive hands-on experience in an encouraging real-world setting; thereby, perhaps allowing actors to quickly move beyond the technology in itself and towards its potential for customer-oriented value creation (Kane, 2019).

In this paper, we have focused on the immediate organizational response to the Covid-19 pandemic, resulting in acceleration of the initial stage of the digital transformation process. Future research is needed to look at the long-term learning that can be generated based on this rare event, such as what the long-term effects for the university sector, digital teaching, and digital didactics are. Moreover, future research might be able to translate the unique circumstances created by the Covid-19 crisis into new theoretical ideas and practical insights on how to create change processes that overcome the management-employees divide, reduce resistance to change, and capitalize on the shared focus and experiences of all involved actors to accelerate change.

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