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Innovating under pressure: Adopting digital technologies in social care organizations during the COVID-19 crisis

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ABSTRACT

To provide ongoing support for vulnerable groups during the COVID-19 pandemic, social care organizations had to shift abruptly to e-health solutions. Qualitative data from three cases illustrate that, more than a year into the pandemic, those adoptations of digital technologies developed differently; the current study aims to shed light on the processes that lead to such differences. Notably, the first organization resisted the large-scale use of digital technologies; the second faced intra-organizational disagreement about the role of digital technology for care provision; and the third organization struggled but managed a broader, more successful adoption of digital technology. The multiple case study findings contribute to extant literature, by (1) detailing the digital innovation process, focusing on the crucial adoption process for digital technology; (2) demonstrating that champions and a shared vision can both enable and constrain the adoption of digital technologies in crisis situations; (3) emphasizing the importance of individual members’ professional identities for determining adoption of digital technologies; and (4) reflecting on the conscious use of transformation practices, even in the ad hoc setting of adopting digital technology during a crisis.

1. Introduction

At the peak of the COVID-19 pandemic, when in-person interactions were reduced to a minimum to prevent the spread of the virus, social care organizations sought alternative ways to deliver aid and services (e.g., Doshi et al., 2020; Mahmood et al., 2020; Markowitz, 2020), especially to vulnerable groups, for whom discontinuing support was not an option. In particular, the crisis pushed digital innovation in the social care sector—often subsumed in the broader term e-health (Chen et al., 2001; Eysenbach, 2001)—with unprecedented speed and intensity (Gkeredakis et al., 2021; Huq, 2019). But even if the pandemic functioned as a necessary catalyst for such innovations, the abrupt introduction of digital technologies created substantial challenges. In most cases, digital technologies get introduced gradually or step-by-step, allowing for thorough considerations and preparations (Fichman et al., 2014; Khodadad-Saryazdi, 2021; Kohli and Melville, 2019). But the case of a crisis imposes intense time pressures, such that the adoption process differs substantially from conventional settings. Insights into this process are lacking though, which also might reflect the dominant focus in prior literature on the outcomes of digital innovation (e.g., products, services, business models), rather than the digital innovation process as such (Urbinati et al., 2021).

To clarify the overall digital innovation process, we address one of its key elements: the process of adopting digital technologies. Urbinati et al. (2021, p. 8) explicitly call for research “on how firms can manage the adoption of digital technologies in the innovation process.” Adopting digital technologies likely interacts with, or potentially challenges, existing organizational practices, structures, and identities. For example, members of social care organizations have strong beliefs about the appropriate nature, importance, and practices of their work (Purtik and Arenas, 2019), but this “occupational fabric” might be torn apart by an ad hoc adoption of a digital technology (Gkeredakis et al., 2021). Accordingly, we ask a central question: How do social care organizations adopt digital technology in a crisis situation? To answer it, we adopt qualitative, inductive methods (Gioia et al., 2013; Strauss and Corbin, 1998) in a multiple case study research design (Eisenhardt, 1989). By gathering qualitative data from three social care organizations that provide support to vulnerable groups, before and during the COVID-19 pandemic, we can detail how they approached using e-health solutions. In turn, our findings illustrate how the process of adopting digital
technology can work differently and lead to different outcomes for social care organizations, ranging from general acceptance of the digital technology to strong resistance to it.

We contribute to digital innovation literature in four main ways. First, we provide more insight into digital innovation by focusing on and delineating the crucial process associated with adopting digital technology (Urbinati et al., 2021). With our empirically grounded model, we can explain why digital technology adoption processes differ across organizations. Second, we illustrate how factors that often are promoted as important catalysts in innovation processes, such as champions and a shared vision (Day, 1994; Howell and Boies, 2004; Khodadad-Saryazdi, 2021; Perry-Smith and Mannucci, 2017), can become constraints in crisis situations. For example, organizational members might form a shared vision of the problems with the use of digital technology and dismiss it as a provisional workaround. Implementing new technologies also can provoke organizational tensions between “digital champions” and other members of the workforce. Third, we highlight the importance of individual members’ professional identities in relation to their adoption of digital technologies. The technologies tend to challenge existing practices, which may define a profession, so organizations need to align their digital innovations with their members’ professional identity. Fourth, adopting digital technology during a crisis represents a relatively ad hoc response, without much opportunity to prepare, so we note the importance of consciously applied transformation practices that help shape professional identities.

To establish these contributions, we start this article by motivating the need for further research with a review of relevant literature pertaining to digital technology adoptions and crisis situations. Next, we outline the methodology and present our findings. Finally, we discuss the implications of these findings for research into digital innovation, then offer some recommendations for structuring real-world adoptions of digital technology in crisis situations.

2. Theoretical background

2.1. Adopting digital technologies in social care organizations

Urbinati et al. (2021, p. 2) define digital innovation as both “the final result of adopting digital technologies” and “as a process” that involves the use of digital tools to innovate. Most existing literature adopts the former view, addressing digital innovation as an outcome, though a few studies provide important insights into the process of digital innovation (Ghezi and Cavallo, 2020; Marion and Fixon, 2021; Mors and Waguespack, 2021). Urbinati et al. (2021) propose different “orchestration mechanisms” for managing and coordinating digital innovation processes, one of which is the adoption of digital technologies, which can occur top-down or bottom-up, though a general consensus indicates that it requires top management support to take hold (Kohl and Melville, 2019). This adoption process depends on each adopter’s (cognitive) framing (Nelson and Irwin, 2014; Spieth et al., 2021), that is, how they perceive the challenges that digital technologies raise to their existing organizational structures and practices, by requiring or enabling different work methods and decisions (Hanelt et al., 2021; Lanzolla et al., 2020).

For social care organizations, e-health represents an important digital innovation, but its use remains quite limited, despite its strong potential (Arsenijevic et al., 2020). In general, health and social care sectors tend to be less radically innovative than other sectors (Herzlinger, 2006; Huq, 2019), largely because the services provided in these arenas are predefined or regulated by government agencies to ensure societal benefits, such as sufficient support for vulnerable groups (Huq, 2019). Another factor that hinders innovation is the insecurity of long-term funding, due to the frequently changing prioritization of government policies (Van Ewijk, 2010). Regarding the adoption of innovative digital technology in particular, the process has consequences for many social aspects of care (Huq, 2019), such as personal relationships. Finally, a limited willingness to innovate in these care sectors may arise because it “requires the abandonment of deeply entrenched norms and practices” (Purtik and Arenas, 2019, p. 994), including work processes that ultimately can determine the health and safety of vulnerable service recipients (Khodadad-Saryazdi, 2021).

2.2. Adopting digital technology in crises situations

A crisis, such as the COVID-19 pandemic, imposes external pressures to innovate, because the unprecedented disruptions it creates already may have made traditional ways of working impossible (Faraj et al., 2021; Orlikowski and Scott, 2021; Reale, 2021). For example, social care organizations could not meet with clients in-person, so they were forced to switch quickly to digital technologies during the pandemic to continue their provision of care (Doshi et al., 2020; Markowitz, 2020). This time pressure spurred creativity and presented opportunities to enable and accelerate innovation and experimentation (Gkeredakis et al., 2021), but such acceleration meant that some stages of the innovation process likely were skipped or rushed (Perry-Smith and Mannucci, 2017). Careful preparation, timing, and planning, often cited as indispensable elements of a successful digital innovation (Candi et al., 2013; Chen et al., 2014; Kohli and Melville, 2019), were impossible.

It remains unclear whether a digital innovation process can have truly transformational effects on organizations and their members when it is forced, rapid, and ad hoc (Reale, 2021). To date, we know little about the impact of its ad hoc nature and the pressures to adopt digital technologies (Kohl and Melville, 2019; Oborn et al., 2021; Urbinati et al., 2021). Thus, we consider whether the crisis-induced adoption of digital technologies functioned like a long-needed catalyst for digital transformation or instead produced simply a temporary, provisional workaround, “doomed to fail” from the start.

3. Methodology

With an inductive study, we investigate the shift toward digital technologies by three social care organizations that provided e-health solutions during the COVID-19 pandemic. To produce more robust, parsimonious, and generalizable theory, we opted for multiple case study research design (Eisenhardt and Graebner, 2007). By comparing the insights that emerge from the three cases, which feature significant variations in how they introduced and in how far they accepted e-health, we can clarify the different concepts and practices that influence adoption processes for digital technology during crises.

3.1. Case selection and research context

We used purposeful sampling (Patton, 2002) to select three comparable, nongovernmental social care organizations with similar characteristics, in terms of the services they provide, the clients they serve, and their locations in the same Dutch city. All three nonprofit foundations are headed by dedicated boards of directors and supervisory boards. The vulnerable groups that these organization serve include people with psychiatric and addiction issues, people without secure housing, migrants without formal documentation, and sex workers; the organizations refer to service recipients as clients. Some of these vulnerable groups feature stable numbers, whereas others are expanding, due to shifts in various social issues. For example, housing issues are increasing in the Netherlands, reflecting a growing housing shortage, increasing debt problems, and budget cuts for government-provided mental health care (Petit et al., 2019). During the COVID-19 pandemic, the problem intensified due to job losses (Barbieri, 2020; Lima et al., 2020). Social care organizations had long provided creative solutions; the pandemic forced them to come up with further innovations, including allowing people who could no longer afford their mortgages to rent their homes from housing corporations, finding individual rooms to rent from other citizens, or establishing temporary housing in hostels or guest houses.
Beyond housing, social care organizations provide social and financial help, offered by professionals, such as those trained to work with people dealing with psychiatric issues. Another tactic links clients with a dedicated buddy, who provides support in the form of informal talks and advice, though usually in a volunteer role, rather than as a trained care professional. Some social care organizations help clients find jobs or adjust to changing labor markets. Furthermore, they provide walk-in spaces that provide clients with nourishment, shower facilities, and fresh clothes, as well as access to creative activities.

All three organizations in our study have strong identities as care providers, shaped by their history of activism or religious backgrounds. In addition, they all struggled with the introduction of e-health practices, due to an organizational-level lack of digital literacy and education and their dependence on in-person interactions between the care professionals and clients (Faraj et al., 2021). Other client-level challenges included cultural differences, language issues, and limited access to technology and devices (Cashen et al., 2004), all problems that were amplified by the pandemic (Faraj et al., 2021; Gkeredakis et al., 2021). But in addition to these similarities, the cases differ enough to provide a basis for contrast and theory development; they have distinct organizational structures, practices, and processes for adopting digital technologies. These variations led to different outcomes, ranging from broad acceptance of e-health options to resistance to the use of any digital technologies.

We use pseudonyms to refer to all three organizations. UrbanCare is the smallest, with 228 employees and 1200 volunteers as of 2020, according to its annual report. It operates in one Dutch city, with 22 service locations, including walk-in houses, workplaces, shelters, an animal farm, a restaurant, a computer store, and a residential building for clients. Reflecting its informal, bottom-up way of working, UrbanCare encourages employees and volunteers to take initiative and develop their own projects, such that “We are really an adhocracy, anticipating what currently matters … We get really happy when there are acute problems that require an effective response” (UrbanCare Manager 4). With this approach, clients can decide individually what kind of services to receive. This substantial flexibility is possible due to the flat structure of the organization, which also enabled individual employees to decide whether to provide in-person or digital care during the pandemic.

TownCare is the largest organization, with 6855 paid employees and 8500 volunteers in 2020, according to its annual report. It operates in the same city, with 14 locations that consist of a community house, clothing store, work center, shelters, churches, probation support center, and some residential buildings; TownCare also operates throughout the Netherlands and internationally. Its strong hierarchical structure specifies distinct units and departments, though individual staff members can suggest new solutions, and the organization proudly notes its flexibility in adopting small-scale, temporary, or improvised solutions.

In terms of size, CityCare falls in the middle, with 1459 employees and 49 volunteers, according to its 2020 annual report. It operates mostly in the same Dutch city, with 52 different locations to provide care; some are walk-in houses, but it mostly maintains shelters and residential buildings, where clients live independently or under supervision. CityCare also operates in some smaller towns near the focal city. It has a clear hierarchical structure, but within their task domains, individual employees have freedom to design their work.

During the COVID-19 pandemic, due to government-imposed lockdown and distancing measures, these social care organizations had no choice but to adjust their support provision. In the Netherlands, the first wave of COVID-19, which we designate “start of COVID-19” for the purposes of this study, began with a first confirmed case on February 27, 2020; by March 15, an “intelligent” lockdown sought to limit in-person contact by closing restaurants, schools, and offices. Any physical interactions in care facilities were limited to urgent cases. To enable people without secure housing to shelter at home, additional emergency shelters were made available. The second wave, which we call “one year into COVID-19,” hit the Netherlands in October 2020. On October 14, a “partial” lockdown was announced, and then from December 15, 2020, until June 2021, a full lockdown was in place, with severe restrictions on physical contact.

3.2. Data collection

Interviews provide the main source of data for our analysis, complemented by various documents (e.g., published articles, internal company reports, popular media) and in-person observations (e.g., office locations, shelters), to triangulate the emergent findings (Jick, 1979). The interview protocol (see Appendix 1) involves gathering the background of each interviewee and organization, the influence of the pandemic on their organizational practices and uses of e-health solutions, and the influence on clients. The interview questions reflect insights from extant literature on adopting digital technologies, particularly in crises.

We conducted semi-structured interviews with 42 representatives of the three organizations between September 2020 and July 2021. The interviews lasted 30–120 min, depending on how knowledgeable and talkative the respondent was. For greater generalizability, we interviewed different groups of respondents, whom we identify by their role. That is, for social care professionals, such as social workers and nurses, responsible for coordinating care plans that help clients reach their goals and improve their lives, as well as providing for clients’ medical health and hygiene needs, we use the identifier “Professional.” Organizational “Staff” refers to respondents responsible for policy, research, consulting, and technology. Finally, “Managers” have some management responsibilities, though at different levels.

The timing of the interviews suggests we can capture their experiences since March 2020 (first wave), up until roughly one year into Covid-19 (second wave). In some cases, follow-up interviews helped us capture further changes. Each interview involved two or three researchers, which facilitated our efforts to seek in-depth understanding of interviewees’ perspectives and also establish a shared understanding of their responses among the research team. Lockdown requirements meant that we could conduct only roughly half of the interviews in-person; the other half relied on video calls (Zoom/Teams). All interviews were recorded and transcribed verbatim. Table 1 provides an overview of the respondents and the data collected.

3.3. Data analysis

Following recommendations for theory building based on multiple cases (Eisenhardt and Graebner, 2007), we conduct both within- and cross-case analyses. We first developed individual case accounts (Eisenhardt, 1989) by reconstructing events on the basis of the individual narratives provided by respondents from each organization. To conceptualize how the members perceived and dealt with digital technology adoption, we apply grounded theory procedures (Strauss and Corbin, 1998), which support the open exploration of relevant themes. We also rely on prior knowledge as a starting point, which helps validate the findings by establishing that the newly collected data fit with general theoretical perspectives on the phenomenon (Charmaz, 2006). For this study, we therefore acknowledge research into the adoption process for new (digital) technologies, even as we seek to move beyond such known insights to explore novel, theoretically interesting aspects.

The analysis started with open coding of the interview transcripts; the four research team members who performed this coding aimed for an overview of organizational backgrounds, informant profiles, and key practices, as well as salient changes in organizational practices due to COVID-19 and employees’ and clients’ reactions to the changes. In this first stage, we frequently exchanged thoughts about important concepts and themes but did not yet define them. Next, having coded 20 interviews, we discussed the more than 500 codes we had identified, to integrate and cluster them into first-order concepts. After the initial first-order coding, we searched for relationships across the concepts and
began assembling related concepts into a set of relevant, second-order themes. For example, if respondents referred to the past and longed for a return to close, interpersonal contacts with clients, we included them in a “feelings of nostalgia” code. If respondents indicated that they continued to provide in-person care (sometimes in contradiction of national COVID-19 rules), we coded a “resistance” entry. The triangulated data also helped us distill patterns. For example, the company documents indicated the presence of a “formalized e-health policy.” With these themes, we checked for similarities and differences, such that we could collapse the themes into overarching dimensions that captured our emergent theorizing at a more general level (Gioia et al., 2013). Thus, we established a data structure, which we used to continue coding the remaining interviews. After finishing the coding effort for all interviews, we reviewed the data structure again, in discussions with the entire research team. Fig. 1 contains the final data structure.

We continued with a cross-case analysis (Eisenhardt and Graebner, 2007) and a more detailed and axial coding of the themes (see Gehman et al., 2018). We structured the cases according to the digital technology outcomes of the three organizations at the end of our data analysis, that is, one year into COVID-19. In detail, UrbanCare featured strong resistance to a broader use of digital technologies for the provision of care; TownCare showed ambivalence throughout the organization; and in CityCare, the use of digital technologies had transformed existing work practices toward e-health, suggesting a potential long-term solution.

As a final step, and a recommended outcome of inductive research (Berends and Deken, 2021; Gioia et al., 2013), we built a conceptual model to depict the relationships among our concepts. The model provides an overview of social care organizations’ processes for adopting digital technology under pandemic pressure. We explicitly aimed to establish a model that not only could meaningfully depict the relationships but also apply to all three cases, to ensure the applicability and transferability of our emergent findings.

4. Findings I: introducing e-health in social care organizations during COVID-19

As we noted, differences emerged in how the three social care organizations adopted digital technologies during the crisis. UrbanCare members mostly resisted them, and the organization did not plan any permanent e-health operations. TownCare tried to leverage the pandemic to embrace e-health solutions, with mixed results. CityCare used the sudden shift to transform its social care during the pandemic. In all three cases though, the adoption of digital technologies represented a crucial element of their digital innovation processes.

4.1. UrbanCare

4.1.1. Pre-COVID-19

Prior to the pandemic, UrbanCare did not have a vision or strategy for working systematically with e-health solutions. When the lockdown

Table 1
Data and respondents by organization.

| Organization | Organization Documents | Interviews | Respondent Identifier | Function | Age | Education Level |
|--------------|-------------------------|------------|-----------------------|----------|-----|-----------------|
| UrbanCare    | News messages: 29       | 11         | UrbanCare Manager1   | Program coordinator | 45-55 | University      |
| Vision and mission: 4 |             |            | UrbanCare Professional 1 | Coordinator | 30-40 | College         |
| Organization structure: 1 |             |            | UrbanCare Professional3 | Coordinator | 35-45 | University      |
| Annual reports: 10 |             |            | UrbanCare Professional2 | Team leader | 35-45 | University      |
| Other: 4     |             |            | UrbanCare Manager6   | Head of location | 45-55 | College         |
| UrbanCare Manager5 |             |            | Regional manager | 45-55 | University | 50 min          |
| UrbanCare Manager4 |             |            | Regional manager | 35-45 | College | 65 min          |
| UrbanCare Manager2 |             |            | Director | 55-65 | University | 84 min          |
| UrbanCare Professional4 |             |            | Coach | 55-65 | College | 43 min          |
| UrbanCare Manager6 |             |            | Head of location | 45-55 | College | 37 min          |
| UrbanCare Manager5 |             |            | Regional manager | 45-55 | University | 49 min          |
| TownCare     | News messages: 11       | 15         | TownCare Professional3 | Social worker | 30-40 | College | 60 min         |
| Vision and mission: 2 |             |            | TownCare Professional6 | Social worker | 30-40 | College | 48 min         |
| Organization structure: 1 |             |            | TownCare Professional2 | Social worker | 30-40 | College | 53 min         |
| Annual reports: 10 |             |            | TownCare Manager10  | Case manager | 50-60 | College | 35 min         |
| Other: 20    |             |            | TownCare Manager8   | Case manager | 30-40 | College | 77 min         |
| TownCare Manager4 |             |            | Team leader | 35-45 | University | 87 min          |
| TownCare Manager2 |             |            | Team leader | 35-45 | College | 77 min          |
| TownCare Manager1 |             |            | Business Unit Manager | 40-50 | University | 121 min         |
| TownCare Manager6 |             |            | Director | 55-65 | University | 77 min          |
| TownCare Manager3 |             |            | Director | 55-65 | University | 56 min          |
| TownCare Professional4 |             |            | Homecare | 20-30 | College | 58 min          |
| TownCare Manager2 |             |            | Team leader | 35-45 | College | 51 min          |
| TownCare Staff1 |             |            | Senior policy officer | 40-50 | University | 76 min          |
| TownCare Manager7 |             |            | Business Unit Manager | 45-55 | College | 32 min          |
| TownCare Manager10 |             |            | Case manager | 50-60 | College | 52 min          |
| CityCare     | News messages: 47       | 16         | CityCare Professional5 | Personal coach | 30-40 | College | 38 min         |
| Vision and mission: 5 |             |            | CityCare Professional3 | Personal coach | 20-30 | College | 77 min         |
| Organization structure: 1 |             |            | CityCare Professional1 | Personal coach | 20-30 | College | 66 min         |
| Annual reports: 12 |             |            | CityCare Manager11 | Senior researcher | 35-45 | University | 96 min         |
| Other: 4     |             |            | CityCare Manager7   | Project leader | 35-45 | College | 53 min         |
| CityCare Manager3 |             |            | Team leader | 40-50 | University | 59 min          |
| CityCare Staff5 |             |            | Policy advisor | 50-60 | College | 65 min          |
| CityCare Professional4 |             |            | Personal coach | 25-35 | College | 58 min          |
| CityCare Manager6 |             |            | Team manager | 35-45 | College | 96 min          |
| CityCare Staff2 |             |            | Chairman | 40-50 | College | 75 min          |
| CityCare Manager1 |             |            | Team manager | 40-50 | College | 52 min          |
| CityCare Manager5 |             |            | Team manager | 40-50 | College | 74 min          |
| CityCare Professional5 |             |            | Personal coach | 30-40 | College | 39 min          |
| CityCare Manager3 |             |            | Personal coach | 20-30 | College | 46 min          |
| CityCare Manager2 |             |            | Project leader | 35-45 | College | 37 min          |
| CityCare Manager3 |             |            | Team leader | 40-50 | University | 56 min          |
Fig. 1. Data structure.
started and in-person activities were restricted, managers and employees suddenly had to consider unfamiliar digital technologies.

4.1.2. Start of COVID-19
UrbanCare demonstrated its existing ad hoc mentality and aptitude for improvising, “as a kind of social thunderbirds” (UrbanCare Manager1) by organizing additional shelters for people without secure housing and introducing phone buddies, such that “Clients can contact care professionals and volunteers over phone if they want to. That’s something which arose and continues to exist” (UrbanCare Manager1). The care professionals also occasionally used chats and video calls. In addition, some members tried to adopt digital technologies that were not immediately related to e-health solutions:

We decided that … people were not allowed to participate in daytime activities. Normally that means they are not entitled to an allowance. Then again, money is important to people, so now we’re going to pay those people three half days a week, regardless of how much they normally work …. Halfway through the process we thought, “well you know what, let’s do this cashless.” All of a sudden, we started a, some kind of, technological innovation in the middle of that process. (UrbanCare Manager4)

However, this solution proved very difficult, such that the same care manager concluded: “This turned into a mess, which really cost me a lot of time and energy” before the program was halted.

UrbanCare’s clients and employees strongly missed physical contact during the lockdown, whereas “When the lockdown was over [summer 2020] and we could see each other face to face again, we had to cry. It felt so good” (UrbanCare Professional2). The care professionals actively sought to meet with clients: “We all live in [city] and it [physical meeting] is so urgently needed. We just see each other quickly and then leave, taking into account all restrictions” (UrbanCare Professional1). Overall, UrbanCare members regarded e-health solutions, such as phone and video consultations, as inadequate for their clients:

Many clients contacted me: “I am not [video] calling anymore.” When I asked them for a reason, they often indicated that they simply feel better when someone is physically present. Seeing someone on a screen feels like watching television, and they are already doing that the entire day. (UrbanCare Professional1)

4.1.3. One year into COVID-19
UrbanCare’s members decided to return to in-person contact as much as possible; e-health solutions were limited to the new phone buddies, because “We have seen that it is of utmost importance to physically meet each other. We did not change in that respect, because we noticed that providing online care doesn’t work. We simply cannot help them” (the clients in this way) (UrbanCare Professional3). This basic e-health solution provided a workaround if in-person care was not possible, but instead of seeking expanded e-health solutions, many respondents, at all levels in the organization, focused on finding ways to return to physical contact and resisted broader uses of e-health or other digital solutions.

4.2. TownCare

4.2.1. Pre-COVID-19
Some of TownCare’s staff already expressed desires to adopt an advanced e-health system, before the pandemic. But the digital innovation processes proved cumbersome, such that moving past a pilot study stage required approval at different levels, which had a demotivating effect. Even approved projects seemed unable to bring about the expected transformation: “It’s frustrating, absolutely. For video calling, we have a national project running…. Unfortunately, it hasn’t been a great success” (TownCare Staff1). Similarly, before e-health systems could be implemented, TownCare management first had to provide digital equipment to everyone, which involved a long and difficult process:

It’s related to a number of issues, particularly financial ones; who will pay for it [devices]? … Of course, you have to think about it together … So in that sense it’s complicated. I think we should work on this properly, how are we going to organize that? But yes, I expect a year or two, three [before implementation]. (TownCare Manager7)

4.2.2. Start of COVID-19
The pandemic triggered TownCare to start using e-health on a larger scale: “This has really been a catalyst. It felt like an opening, something I wanted for a long time. Due to COVID-19, digital care was not just an option anymore, but something that urgently required attention” (TownCare Staff1). However, because TownCare just started using digital technologies, the switch to e-health faced many technical challenges:

We worked with an unfinished product. Through some small adaptations, we could turn it into a “video call-application.” However, the result was that we faced all kinds of network problems and connections did not work … You imagine that you are onto something but then it turns out that innovation is difficult and takes time and effort. (TownCare Staff1)

Even as some members proposed a new vision of e-health and its role in their profession, the majority of the organization did not perceive the benefits of adopting digital technologies:

The biggest issue is the care professionals themselves. The whole process of providing care needs to change. The interesting question is “how can we do that?” Do we need to think differently about providing care to our clients? The old-fashioned thinking is still that a care professional visits the client, and they talk and solve problems together. But this isn’t enough. Moreover, it’s not efficient anymore. Nowadays, we can do so much more. (TownCare Manager2)

In particular, older care professionals appeared to resist e-health solutions and struggle to keep pace with the digital transformation: “You can see that it is often the older group, so employees who have been with us for a longer time. Younger people naturally have less of a barrier in this” (TownCare Manager7).

4.2.3. One year into COVID-19
Although no existing e-health team resided within TownCare, some members strongly believed in these solutions and were willing to sacrifice personal time to advocate for e-health. They also adopted different methods to win others to their cause and spread the message of the importance of digital technology. A key strategy was the use of champions: “You need to hire people who have some affinity with it [digital care]. Then you need to give them a stage. If we really want to innovate, we need to have people who dare to experiment” (TownCare Staff1). Yet we observed some ambivalence, because most employees did not support this transformation of their work: “What we’ve seen amongst our staff is that there are actually some employees who don’t like it [e-health], within all teams” (TownCare Manager7). In turn, only a few care professionals, who had positive experiences with them, used the new e-health systems. At the end of our observation period, most TownCare members considered e-health an add-on, used only if needed, though a few wanted to go further and apply e-health in more transformative ways.

4.3. CityCare

4.3.1. Pre-COVID-19
CityCare had started introducing e-health a couple of years before the pandemic, with an established, targeted, e-health team that was
designated the task of educating employees and clients through frequent “Digi-Workshops.” However, similar to the other social care organizations, it remained normative for CityCare employees to provide in-person care, and not all care professionals embraced digital options. Having experienced e-health practices before COVID-19, some of them argued that e-health could not be the sole solution, and physical contact remained important:

We love being together [laughs]. We really like that! [laughs] … My work is about contact! I just have to see someone for a moment and look in the eye, or touch … I think that is also very human, but our organization embraces it extra, that people enjoy being together. (CityCare Manager2)

4.3.2. Start of COVID-19

The e-health team received higher priority and a new name: “Digital Journey,” which sought to develop a portal that could provide comprehensive care and training. The pandemic intensified the perceived importance of CityCare’s existing e-health activities: “We also have a [Digi-Workshop] and they [the e-health team] have also started collecting old smartphones, so that we can facilitate that for the people.” (CityCare Professional1). Physical events, such as the Digi-Workshop, had to stop, so CityCare’s e-health team worked to digitalize the events. Other new ideas emerged for reaching clients:

We made video clips of all the experiments we are currently doing. We also included some interviews, and it looks really nice and professional. We distribute this via our Facebook page. We also made a few digital flyers, which we share through smartphone messages. In this way, we can also remain in contact with our clients. (CityCare Manager3)

Thus, COVID-19 provided an opportunity to expand existing while also adopting new forms of digitalization.

4.3.3. One year into COVID-19

Unlike the other two social care organizations, CityCare applied e-health solutions throughout the organization, across all departments: “We did it massively … and although the whole world is collapsing, by using digital tools we can still do a lot as a social care organization. I expect that our management will continue to use this in the future” (CityCare Staff2). The e-health team received more resources, and managers acknowledged the need for continued investments: “I think we need to make another step before we can call it digital care” (CityCare Manager3). It was helpful though that some digital technologies had been established as useful tools before the crisis, and employees were familiar with their advantages: “I also implemented video calling before COVID-19 and, in particular for clients under 50 years old, it’s not a huge transition” (CityCare Staff1). A survey conducted by CityCare revealed that employees’ and clients’ reactions were moderately positive to positive. When CityCare had to stop all home visits in March, a manager recalled, “Everything had to be done via Skype and Teams but it turned out to work surprisingly well” (CityCare Manager1). In line with these positive experiences, an internal, survey-based evaluation conducted in July 2020 concluded that meetings could remain online after COVID-19, to save (travel) time that in turn could be devoted to providing more care (CityCare Internal Document1). CityCare also aimed to continue with various online services for clients, such as support groups. Emphasizing its progress with e-health, the other two social care organizations often referred to CityCare in aspirational terms, as the organization with the most advanced e-health capabilities, such as “If you look at CityCare, they have an e-health program manager. We don’t have that” (TownCare Manager2).

5. Findings II: adopting digital technology in crisis situations

In this section, we elucidate how the crisis of COVID-19 affected the adoption of digital technology, in accordance with Fig. 2, our conceptual model displaying the relationships between the emerging concepts (i.e., professional identity, shared vision, championing, and transformation practices).

The abrupt transition from providing in-person care to e-health solutions challenged organizational members’ existing professional identities, which in some cases led to the development of a shared vision of digital technology, whether positive and embracing or negative and nostalgic. Furthermore, the lack of a shared vision reciprocally influenced members’ professional identity, by either strengthening its existing core or shifting that identity to include digital technology as an essential element. The introduction of new digital technologies triggered some members’ championing behaviors, in favor or against their adoption. These champions encouraged a shared vision of digital technology and altered employees’ professional identities, through transformation practices (e.g., learning about digital technology, including peers and clients, and coupling technology with professional identity).

As we detail in the following sections, these four factors produced three different outcomes. First, if the shared vision embraces digital technology and champions are successful, digital technology is accepted as a new way of working. Second, if most organizational members do not share a vision and champions remain lone advocates, ambivalence arises, and digital technology appears as an add-on to existing work practices. Third, organizational members might develop a shared vision that opposes the digital technology and prioritizes an in-person care identity, without creating any champions of the digital technology, such that resistance to any broader adoption of digital technology, beyond leveraging it as a temporary workaround dominates.

5.1. Professional identity

Professional identity is based on the notion that institutionalized sets of values are foundational for people’s sense of self (Fagermoen, 1997). For our study context, we understand it as a “relatively stable and enduring constellation of attributes, beliefs, values, motives, and experiences” that people use to “define themselves in a professional role” (Ibarra, 1999, p.764). A sudden demand that they use digital technology at work can challenge these professional identities, by questioning the methods and understanding of how care professionals should provide care. At UrbanCare, employees strongly believed that their professional identity involved their physical links with colleagues and clients. This persistent, reinforced belief in turn led to resistance against digital technology:

There … is a type of employee who often needs to see each other, to support others as well … That is why I would say: in other organizations, it is much easier for someone to withdraw and sit behind the computer at home, but that just doesn’t suit us. (UrbanCare Manager1)

At TownCare, most members similarly strongly preferred in-person contact:

I know that there is a group somewhere that is working well on e-learning [as part of e-health]. But I have a bit of a strong personal opinion about that, because I think that just by being there, has much more added value than e-learning [as part of e-health]. So, it could never replace the home visits. (TownCare Manager10)

Compared with these case examples, CityCare integrated e-health more closely into the existing practices of its care professionals, even before the start of the COVID-19 pandemic: “All our families [clients], they actually already had devices with which you could do that [e-health]” (CityCare Manager1). Even if CityCare employees still
preferred in-person meetings at the start of the COVID-19 pandemic, they already had begun to integrate e-health into their professional identities.

5.2. Shared vision of e-health

A shared vision implies mutual agreement about some desired result or higher-level goal (West and Anderson, 1996); it also relates to how organizational members maintain shared goals and hopes for organizational improvements (Larwood et al., 1995). A strong shared vision can enable innovation (Perry-Smith and Mannucci, 2017). However, our findings indicate that a shared vision also might constrain the adoption of digital technology and hinder digital innovation. For example, reflecting its members’ professional identity, UrbanCare developed a shared vision of resistance to e-health. This vision indicated that the organization did not need a broader application of e-health systems, which would not meet clients’ needs. It also ignored any positive aspects of e-health, such as increased time to devote to clients when travel time diminished. Instead of embracing e-health solutions, UrbanCare members searched for novel ways to return to in-person contact:

You remain in some kind of bubble while talking to a device … According to the measures, people are allowed to visit each other. So, that is what we have now agreed upon very clearly, and that is quite ingrained. I always check with everyone “how are you doing, do you like to go to someone’s [client’s] home?” We always make sure that the space is big enough, or that it can be ventilated, and we are looking for alternatives. If it can’t be done in someone’s home, then maybe in the library? We have seen that it is important to meet up in-person. (UrbanCare Professional3)

At TownCare, we find different versions of e-health adoption, without any shared vision. At the start of their digital innovation journey, employees had entered a learning process that produced different visions during our observation period. In the first few months of the pandemic, a common view perceived e-health as an add-on service. Furthermore, instead of acknowledging the long-term, ongoing nature of the innovation process, many managers and employees imagined a simple task that could be crossed off a checklist: “E-health has been part of our policy plans for a few years now. Apparently, I had not seen enough urgency in this. Now it’s implemented in a few weeks. So, never waste a good crisis. We can now at least cross off e-health from our workplan” (TownCare Manager2). But the e-health champions in the organization encouraged a different vision, in which caregiving could transform into an entirely digital profession: “Why wouldn’t we sit on the couch at someone’s home as a hologram in the future? In elderly care you can also see that people can bond with a seal or a robot” (TownCare Manager2). This vision did not resonate with most care professionals or clients though.

CityCare had already developed a positive vision of e-health, in which digital technology was a basic element of modern life, which meant it had to be part of professional care practices. As its survey noted, “Most responses from employees and clients to video-calling are (moderately) positive” (CityCare Internal Document1), and a manager agreed:

There are quite a few who say that they want to keep on holding on to certain parts [of e-health], even after the corona time. And flexibility, that they really appreciated that and much less travel time, that employees really do have spare time. But also for clients, that you can make short calls more often, instead of the standard an hour a week. (CityCare Manager3)

5.3. Champions

Using their influence and enthusiasm, based on their expertise, knowledge, or hierarchical position (Day, 1994), champions can help organizations achieve their goals; this “charismatic individual … throws his or her weight behind an innovation, thus overcoming indifference or resistance that the new idea may provoke in an organization” (Stuart et al., 2009, p. 734). At UrbanCare though, no such advocates for e-health or extended uses of digital technologies emerged. Rather than encouraging expanded uses, people sought to go “back to normal,” including increased physical contact with clients to the extent possible. In a sense, they became reverse champions, calling for resistance to digital technologies and arguing explicitly that helping vulnerable groups required physical contact, an essential view that the pandemic would not change.

The champions at TownCare exerted concerted efforts but still were unable to raise e-health to the next level and implement it throughout the organization. Their peers and clients seemingly felt less included in the digital transformation process; they sensed they were not ready for the broader and more structural adoption of e-health that the champions called for:

It [e-health] would be a great solution but we are not yet ready to say “let’s all switch to video consulting.” No, we lack the equipment, and proper processes have not been installed yet. We all have our own ideas about it [e-health], but we are in an experimentation phase. We are not ready yet. (TownCare Manager2)
Because the crisis demanded the adoption of digital technologies, the barriers between e-health champions rooting for more, and the majority of organizational members who yearned for less and a return to “normal,” grew particularly high. Finally, CityCare’s e-health champions were able to convince many peers and clients to join the digital transformation process. An internal survey (July 2020) illustrated that 83% of employees provided digital care to their clients, and 78% regarded digital support as valuable (CityCare Internal Document1).

In both CityCare and TownCare, champions enthused about the adoption of e-health technology, and they had means to implement these digital technologies on smaller or larger scales. Thus, they tried to convince others to adopt. Furthermore, we note a key characteristic of the champions: They have a unique ability to see their profession in a novel light, which embraces technology. The reverse champions shared parallel, opposing convictions: Their main reason to reject e-health is their belief that caregivers should provide in-person care instead of digital care, which would not achieve the same quality or value.

5.4. Transformation practices

Finally, we observed different transformation practices applied in the three social care organizations. First, educating members about digital technologies took place in all three organizations. Clients lacked the skills and technical means to access e-health, so they needed to be equipped with technological devices, the right applications, and basic knowledge of how to use them—a difficult task in any setting, but especially during a crisis. UrbanCare provided training to clients, but also to employees and volunteers, regarding how to conduct the service interaction digitally: “What we’ve also done is provide more online training for volunteers on how to give online education” (UrbanCare Manager2). At TownCare, care professionals conducted the digital training:

The personal supporter [care professional] can do that [providing digital training] very well. There are also people who do it in groups. That depends a bit on the vulnerable groups, but most of our clients live in their own home. (TownCare Manager3)

TownCare and CityCare eventually collaborated to provide clients with training as soon as they received the devices:

They [TownCare] have really developed a good training program. Before that, they [clients] didn’t get those [devices and/or training] because of the speed involved. And from now on, they’ll get the phone and laptop together, in combination with the training. (CityCare Manager3)

CityCare also went a step further to make sure that clients had opportunities to enhance their digital skills, such as by providing “digi-coaches” who could answer clients’ questions:

That is really the baseline in which we provide clients with devices, that could be a laptop or a phone. And at the same time, what we ask from them in return is that they follow training in digital skills and media literacy. Digi-coaches could also be connected, in case they want to learn more than only the basic knowledge. So, that is aligned with the implementation of a client portal. (CityCare Manager3)

Through CityCare’s Digital Journey portal, clients can view their case and guidance plan, which establishes greater autonomy and “more control in the care process” (CityCare Manager3).

Another transformation practice involves the inclusion of employees and clients in the digital innovation process. At TownCare, even as a few champions tried to push the digital transformation process, the majority of employees were not ready to transform. Eventually, a year into COVID-19, TownCare noted that including employees’ and clients’ input during the transformation is important:

We now want to let the clients be in control … So yes, we notice that much more is needed to have a real conversation about it [e-health]. And therefore, we don’t expect that with a few training sessions, we will get it right. So, I think that actually it takes more time than we initially estimated. (TownCare Manager7)

This awareness also acknowledged the important role of champions and their position within the organization: “And there are more people who are actually very enthusiastic about this. I think we should especially connect with them” (TownCare Staff1). For CityCare, involving peers and clients also was crucial: “We actually try to test all the applications together with clients. So, it’s really co-creation” (CityCare Manager5). A few years before the pandemic, CityCare started its Digi-Workshops, to inform and include employees and clients in the digital innovation trajectory, so “Then we have robots walking around, you can put on VR glasses, try out different apps, and ask questions. We offer different workshops, mainly to reduce the fear people have” (CityCare Manager3). During COVID-19, these workshops continued online.

Third, for CityCare alone, we find a transformation practice in which the organization consciously worked to couple the professional identity of its members with digital technologies, with the goal of helping employees overcome their fear of change, such that they could embrace e-health as something that would make them better care professionals. The organization’s leaders considered a new e-health slogan: “I would like to frame it [the slogan] more towards ‘e-health with heart’ … so that you have more time for real contact. When you put it differently, you run less against resistance” (CityCare Manager3). It also worked actively to familiarize employees with how technology enables their professions:

There is also the question of how the development of e-health … can be continued in a way that supports the profession of providing care. How do we train care providers in this? (CityCare Internal Document1)

One year into the pandemic, the coupling of digital technology with employees’ professional identity had entered into CityCare’s emergent policy:

We see it [e-health] much more as part of a big movement, we also call it Restart 2.0. So, it’s really very much about the new way of working in that outpatient area, [... ] “making yourself [care providers] redundant” is the goal now, and e-health is part of that. (CityCare Manager3)

In summary, all three social care organizations took at least initial steps toward educating employees and clients about digital technologies. At first, only champions in CityCare, though but later also at TownCare, sought to include their clients and peers in the innovation process. It is not surprising that UrbanCare did not follow this path; for its members, embracing an extensive use of e-health was never an option, due to their shared vision against it, which led to a nostalgic recentering of their professional identity. Finally, CityCare was the only organization that consciously engaged in the transformation practice that we describe as coupling. It approached members’ fear of losing touch with their professional identity by explaining how the use of digital technologies could help them provide compassionate care (“e-health with heart”) or even improve their caregiving, by making clients more independent and autonomous (“Restart 2.0”). Table 2 summarizes our main findings.

6. Discussion

Our multiple case study outlines the digital technology adoption processes exhibited by social care organizations during the COVID-19 pandemic. Depending on how organizations embark on the process, they achieve different outcomes: acceptance of digital technology as a new way of working, being ambivalent and using digital technology as an add-on, or resisting extensive adoption of digital technology and limiting it to a provisional workaround. As we outline, these outcomes...
Summary of main findings.

Table 2

| Concepts          | Definitions                                                                 | Influence on Digital Technology Adoption |
|-------------------|----------------------------------------------------------------------------|------------------------------------------|
| Professional identity | A “relatively stable and enduring constellation of attributes, beliefs, values, motives, and experiences, in terms of which people define themselves in a professional role” (Baarr, 1996, p. 764). | At UrbanCare, digital technologies had no part in professional identities; employees prioritized in-person contact with colleagues and clients. The crisis led to resistance to adopting digital technologies. At TownCare, some people were enthusiastic about e-health, but a large group strongly preferred in-person contact as part of their profession. At CityCare, e-health is integrated into the practices and identity of care professionals. UrbanCare developed a shared vision against e-health, based on members’ professional identity. This vision includes no need for broader application of e-health systems, which does not meet clients’ needs. TownCare members had different e-health visions, without a shared vision. Most employees viewed digital technology as an add-on instead of a long-term, ongoing process, in contrast with the champions’ vision of e-health and pursuit of an entirely digital transformation. CityCare had already developed a positive view of e-health, in which digital technology was a basic element of modern life, making it inherently part of professional care practices. UrbanCare had no champions—and instead opponents—for more advanced adoption of digital technologies, nor did people want to continue using introduced digital technologies. At TownCare, champions were unable to bring e-health to the next level by implementing it throughout the organization, partly because peers and clients felt less included in the digital transformation process, and were not ready for a broader, structural adoption of e-health. At CityCare, champions involved many peers and clients in the digital transformation process. All three social care organizations took steps toward educating employees and clients on digital technologies. At first only champions of CityCare, but later also |
| Shared vision      | Mutual agreement about a desired result that is regarded as a higher-level goal (West and Anderson, 1996) and relates to how organization members maintain shared goals and hopes about organizational improvements (Larwood et al., 1995). | |
| Championing        | A “charismatic individual who throws his or her weight behind an innovation, thus overcoming indifference or resistance that the new idea may provoke in an organization” (Stuart et al., 2009, p. 734). | |
| Transformation practices | Conscious practices used to enable the process of adopting digital technologies in organizations. | |

are driven by the reciprocal interaction between the professional identity of care professionals, a shared vision of digital technology, the influence of champions, and the set of transformation practices adopted. With an empirically grounded model, we provide more insight into why some organizations resist the adoption of technology while others embrace it (Nielsen et al., 2016). We summarize these insights according to their implications for theory and practice.

6.1. Theoretical implications

We provide new evidence regarding how organizations adopt digital technology during a crisis. Extant literature centers mostly on the outcomes of digital innovation (e.g., products, services, business models), not its process (Urbinati et al., 2021). Technology adoption during a crisis, especially abrupt changes, such as evoked by COVID-19, requires ad hoc decisions and a largely unguided process. Careful preparation, timing, and planning are impossible (Candi et al., 2013; Chen et al., 2014; Kohli and Melville, 2019). Even if organizations have some preliminary infrastructure in place, suddenly, the entire organization must rely on (new) technology. In response, organizations, and champions in particular, take different approaches to dealing with the adoption process, leading to very different outcomes. When organizations must jump immediately to the use of digital technology, our analysis provides needed insights in the ad hoc process and potential outcomes they will experience (Urbinati et al., 2021).

We also elucidate how well-known enablers of (digital) innovation, such as champions and a shared vision (Day, 1994; Howell and Boies, 2004; Khodadad-Saryazdi, 2021; Perry-Smith and Mannucci, 2017), can hinder the adoption process of digital technology. Champions affect how other employees experience their professional identity and shape a shared vision. If an existing, strong, shared vision supports e-health, then champions enhance the adoption of digital technologies. However, champions who are not well-embedded in the organization have limited influence. When no champions provide support for e-health, digital technology appears restricted to functioning as a mere workaround. Some champions even take an opposite position: Because their professional identity strongly incorporates physical contact, they champion resistance to rather than broader adoption of e-health technology. A shared vision also has been established as a determinant of the successful adoption of digital technology, leading to enhanced commitment, responsibility, and cooperation, which can foster innovation (Hülseger et al., 2009; Perry-Smith and Mannucci, 2017). It further helps organizational members understand why innovation is necessary, reduces misunderstanding, and supports learning (Niemand
et al., 2020; Strese et al., 2018). Finally, a shared vision can help justify and legitimize the innovation, which should reduce resistance and increase commitment (Goodman and Griffith, 1991; Swanson and Ramlill, 1997). Our findings confirm that variation in (shared) visions of the role of digital technology prior to COVID-19 influenced employees’ responses to extensive uses of e-health systems, especially one year into COVID-19. However, the lack of a shared vision undermines motivation and efforts to pursue truly transformational uses of the digital technology; a strong shared vision that contests and resists the broader adoption of digital technology even can be an innovation constraint.

As previous research indicates (Khodadad-Saryazdi, 2021), an organizational identity and professional norms can lead to inertial forces that reject innovations (Cordasco et al., 2021; Raffaelli et al., 2019). Likewise, we argue that a strong professional identity, which implies that employees have established norms for how they should work, can prevent the expansive adoption of digital technology. This insight adds to studies that provide some initial notions of the role of professional identity for encouraging the introduction of a new technology (Cordasco et al., 2021; Korica and Molloy, 2010; Lifshitz-Assaf, 2018). Moreover, we observe a reciprocal relationship between professional identity and a (lack of) shared vision. As these two concepts have so far been discussed in isolation, we encourage researchers to account for their interdependencies.

Finally, our findings highlight the importance of transformation practices. Educating people about digital technology is important; many professionals and clients lack the essential skills needed to use e-health tools. In addition, including peers and clients in the technology adoption process leads to a better understanding of the possibilities and boundaries of the new technology, which helps them adjust their work practices to the technology, and vice versa. Champions sometimes develop positive biases toward their own ideas (see Day, 1994; Fuchs et al., 2019) and miss opportunities to embrace other ideas or receive criticism. Finally, coupling digital technologies with organizational members’ professional identity can transform the technology’s adoption, such that rather than being a temporary feature, workaround, or add-on, it gets incorporated into people’s daily work practices.

6.2. Implications for practice

We offer some practical recommendations for organizations that want to adopt (digital) technologies successfully. First, because a crisis often disrupts existing work practices and routines, it also can create opportunities to encourage a new way of working, like e-health. Even if the crisis is a catalyst, it should not be treated as a shortcut though; none of our case organizations had fully adopted e-health even a year into the COVID-19 crisis. Transforming practices and routines to ensure substantial, sustained use of a new technology requires reshaping professional identities and developing a shared vision that embraces the new context. For example, the organization might promote a shared vision of how technology can enhance professional care provision, improve the quality and span of care (e.g., addressing clients’ digitalization needs), and encourage more freedom of choice for clients. Second, our findings emphasize the need for a clear vision and strategy to be in place in organizations, which can enable them to adopt innovative responses to crises. Without a shared vision that embraces technology, efforts to implement digital technology as a solution are likely to have limited or even negative effects. Third, organizations can leverage embedded champions and transformation practices to ensure they include and educate employees and clients; they also should couple digital technologies with organizational members’ professional identity.

6.3. Limitations and research opportunities

Our study has some relevant limitations. First, the characteristics of the three social care organizations represent boundaries on the transferability of our findings and insights. We anticipate that the findings likely apply to other social care organizations in the Netherlands and probably in Western Europe, which operate in similar social contexts, with similar norms and values. For other types of organizations, the particular professional identities likely differ and may have more or less important influences. Continued studies should extend our findings to different contexts. Second, we captured respondents’ pre-COVID-19 experiences retrospectively, and we inquired about the start of the pandemic a couple of months after its occurrence. Their responses thus might reflect some retrospective distortion that could minimize their recall of negative experiences (Golden, 1992). By triangulating our data sources though, we minimize the risk of bias. Third, the data collection spanned more than a year, so we were able to trace the ongoing adoption of digital technology, but we still were limited to our specific sample of informants. Moreover, the pandemic had not ended when we completed our data collection. Further research could solicit more informants, over a longer period. Fourth, we find that professional identity, shared vision, champions, and transformation practices strongly influence the adoption of digital technologies during a crisis, and continued studies should test for the potential effects of other factors. For example, the organization’s structure and networks within the organization could be influential, in line with our observation that the embeddedness of champions within an organization affects their ability to influence and convince others. Overall, this study serves as a foundation for continued research that can provide novel insights into technology adoption processes and their outcomes, especially in times of crisis.

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Appendix A. Supplementary data

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