

Sensemaking in Radical Transition to Work from Home

Anna Williamsson, PhD¹, Katrin Skagert, PhD^{1,2}, Lotta Dellve, Professor²,
Andrea Eriksson, Professor³

1 RISE Research Institutes of Sweden, Digital Systems, Sweden.

2 Gothenburg University, Department of Sociology and Work Science, Sweden.

3 KTH – Royal Institute of technology, Biomedical Engineering and Health Systems, Sweden.

WORK LIFE IN TRANSITION
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för arbetsliv, Högskolan Kristianstad.

Redaktör: Calle Rosengren
Ansvarig utgivare: Jessica Wadin
Redaktionssekreterare: Peter Frodin
Redaktionsråd: Marita Flisbäck, Peter Lundqvist,
Christina Scholten, Jonas Borell,
Ulf Eriksson och Måns Svensson
Teknisk redaktör och grafisk form: Peter Frodin
Omslagsfoto: Peter Frodin
Kommunikatör: Jessika Sellergren

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Abstract

The COVID-19 pandemic forced a radical transition to work from home. Recent studies have focused on the individual employee's cognitive, physical, and mental resources, lacking the interactions between human, technology, and organization (HTO), and teams handling of the radical transition. This study explored the sensemaking processes of the narratives of teams' radical transitions to work from home. Chronicle workshops with seven teams and 13 semi-structured interviews with managers were thematically analysed in narratives and through HTO interactions. The narratives showed how crisis boosted development of efficient human - technology interactions and increased possibilities for individuals' work-life balance and flexibility. Organizational priorities and strategies were not adapted in time to support sensemaking processes of the teams. Thus, the study indicates that interactions between human and organization could have been accelerated during COVID-19 to support sensemaking and development of remote leadership practices for a sustainable post-pandemic work-life.

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Introduction

Work-life today is characterized by rapid changes. Worldwide events such as wars, natural disasters, pandemics, and the development of artificial intelligence in various work processes, are changing conditions for companies to conduct their business and for employees to pursue their work. The outbreak of COVID-19 is a telling example of external events that impacted employees' perceptions of and performance of work. The study presented in this article applied and combined the theories of sensemaking (Weick et al., 2005) and Human-Technology-Organization (HTO) (Karlton et al., 2017) to develop learnings from work teams' radical transitions of work from office to work from home due to the COVID-19 pandemic.

Sensemaking as a theoretical concept highlights the processes and behaviours when developing a common meaning of events and decisions taken within and outside the group. The theory has previously been used to for example deepen nurses' decision-making in critical situations (Weick et al., 2005) and it has also been used to understand university lecturers' adaptation to new work practices during the COVID-19 pandemic (Turner et al., 2023). Overall, the radical changes during COVID-19 can be assumed to have contributed to emergent collective sensemaking in work groups on adjusted ways of working and upholding the performance of the work system during ambiguity.

“First, faced with ambiguous information, organizations tend to reach for assurance in what they already know. Second, they may act within ambiguity and deepen it momentarily, accepting that it is malleable, chronic, disrupting and unsettling.”

(Weick, 2015, page 117)

As relevant as it can ever be in times of rapid technological development, understanding ambiguity as a permanent state and interpretation as impermanent (Weick, 2015) may help while learning from organizations' sensemaking during COVID-19. Work groups' relationships and sensemaking approaches to technology aspects, like digital work methods, should not be seen in a vacuum but from a system perspective. A theory of Human-Technology-Organization (HTO) developed within the socio-technical tradition highlights the environmental setting as well as interactions within a work

system as crucial to achieving the system's desired outcomes (Karlton et al., 2017). HTO as a concept has been used when studying complex and often intertwined crises events or disasters, e.g., in high-risk industries such as steel manufacturing and nuclear plants (Nordlöf et al., 2015; Wahlström, 2018). The theory emphasis work system and its outcomes to be relying on interactions within the system and between the sub-systems: human, technology, and organization (Berglund et al., 2020). Much research has been published in the aftermath of the COVID-19 outbreak. There is however a lack of research combining a social constructionist approach by the theory of sensemaking (Galbin, 2021) with a socio-technical approach by the theory of HTO. Sensemaking theory can give knowledge on how work groups develop their understanding of rapid changes, while the theory of HTO can support a system approach where critical and interplaying factors for employee well-being and productivity are accounted for in the analysis. This can illuminate processes that may increase organizational resilience to cope with and learn from change.

The aim of this study was to explore the sensemaking processes in the narratives of work teams' radical transitions of work from office to work from home due to the COVID-19 pandemic.

- What underlying HTO-interactions are highlighted in teams' sensemaking processes of critical events impacting performance of work during COVID-19?
- How are contextual factors and company strategies for dealing with critical events interplaying with HTO interactions and team sensemaking processes during the different phases of the covid-19 pandemic?

Background and previous research

The most tangible change of the COVID-19 outbreak that affected companies (and work systems) was the rapid transition for white-collar employees to turn from office-based working to remote work from home. Firstly, we will provide a brief description of the Swedish context during COVID-19 to bring a deeper understanding of variations in remote work from home in different parts of the country during different phases of the pandemic. Secondly, we will provide key points from research on remote work before and after the pandemic, and its implication on HTO and sensemaking.

In Sweden, The Public Health Agency of Sweden and the Swedish Government (hereafter referred to as the authorities) gave recommendations to stay at home if

having symptoms, keep a physical distance to others, and when and if possible, to work from home and avoid public transport. All the recommendations relied on voluntary action (Swedish Institute, 2022) which can be put in contrast to many other countries implementing more legal restrictions including lockdowns. Workplaces around the country took measures to increase physical distance and avoid travelling by sending home those workers who could move their workplaces to their homes. Roughly it meant white-collar workers without society-supporting function were (with varying degree of coercion) sent to work from their homes. The COVID-19 outbreak and first widespread infection – often referred to as “the first wave” – (starting March 2020) struck hardest in the large Stockholm city area (Public Health Agency of Sweden, 2022). Authorities’ recommendations to work from home was thus at that time especially directed to workplaces situated in the Stockholm area. The further spread of the virus in Sweden referred to as the second wave (October 2020) and third wave (April 2021) was broader geographically and affected workplaces all over the country (Public Health Agency of Sweden, 2022). Schools in Sweden were still held open, except for upper secondary schools which were recommended to partially adopt distance teaching (Swedish Institute, 2022) meaning that many homes were shared workplaces for both parents and older children.

Before COVID-19, working remotely from outside the office was most prevalent for a limited group, and then working from home almost always was of own choice (often to promote work-life balance) and with improvements of work arrangements between the employee and the employer (Panteli et al., 2023). Remote working meant, for most knowledge workers, only part-time remote working, dependent on well-functioning ICT. Regular contact with colleagues and supervisors in the office upheld work engagement and job satisfaction but was also crucial to accomplishing collaborative and creative work tasks (Charalampous et al., 2019). In research published before the pandemic, much focus lay on the individual employee’s benefits of working remotely, such as less time commuting, more time with family, and improved work-life balance (Charalampous et al., 2019; Kossek et al., 2006). But also risks, such as longer workdays, problems with boundary setting, isolation for those in single households, or musculoskeletal problems following poor physical ergonomics at home (Kelliher & Anderson, 2008; Kossek et al., 2006; Wang et al., 2021). Pre-pandemic research is however claimed not to be sufficient to fully understand and predict the organizational outcomes of remote working (Wang et al., 2021). A literature review on differences between virtual teams before and after COVID-19 highlight how unprepared employees were both technologically and mentally switching from face-to-face to digital collaboration (Chamakiotis et al., 2021). According to a Finnish study (Otonkorpi-Lehtoranta et al., 2021), and the aforementioned literature review (Chamakiotis et al., 2021), the boundary between work and private life might have been blurred and work more boundless during COVID-19. Employees in large enterprises with previous experience of remote working before COVID-19 had a technological advantage when transferring to work from home during COVID-19 (Donati et al.,

2021) and the results indicated that participants earlier experiences of remote working influenced their coping with the new situation. Findings from a Swedish COVID-19 context also implied benefits of work from home in organizational and social terms with more structured and efficient meetings and experiences of reduced distance to colleagues as all communication within an organization became equal no matter the geographical distance (Babapour Chafi et al., 2021). Another Swedish study showed how remote work seemed to be less spontaneous and creative, and how workplace relationships were perceived to change during working from home to be more selective regarding how, with whom and in what meetings one would have social interactions (Espersen et al., 2023). Fluctuations in employees' perceptions of well-being over the time course of the COVID-19 outbreak have also been noted. A Finnish study show higher employee well-being early after the COVID-19 outbreak but that these perceptions decreased towards winter 2020, and then increased again during spring 2021 (Kaltainen & Hakanen, 2022). Another qualitative study with Swedish and Australian university lecturers addressed the fluctuation in well-being in relation to the lecturers' sensemaking process of the rapid transition to work from home. After the first sense of loneliness in adapting, collective attempts to adapt to new digital technologies and ways to collaborate and learn new practices took place (Turner et al., 2023). Taken together, previous research on remote work (pre- and post-pandemic) gives hints on interactions between HTO sub-systems, specifically regarding pros and cons for the human sub-system and human-technology interaction, and the work of the individual (i.e., work-life balance, technological skills, and employee well-being). But lacks deeper insight into the collective sensemaking in the organizations during crisis, as well as on interactions between human and organization sub-systems and perceived performance of the work system as whole. This is a research gap we aim to address by paying attention to a more holistic work system approach.

Theoretical framework

Analysing sensemaking processes following the COVID-19 crisis is in this article considered to deepen the understanding of certain circumstances and contextual conditions that formed these processes. This is pursued by a combination of a social constructionist approach (Galbin, 2021) and a socio-technical approach (Trist, 1978). According to Weick, "Explicit efforts at sensemaking tend to occur when the current state of the world is perceived to be different from the expected state of the world" (Weick et al., 2005, page 409). A crisis can be described as an unprecedented ambiguous event with low probability of occurring, (Bhaduri, 2019), that is a swift change of the current and known state that creates ambiguity and induces the need for sensemaking. The level of trust in communication, and communication itself, is important for organizations to 'bounce back' after the events of external threats such as terrorism, natural disasters, or pandemics (Longstaff & Yang, 2008), and could also be considered

the basis for learning from the situation. Learning in the form of sensemaking can be a joint retrospective sharing of views, emotions, and individual comprehension of events (Weick et al., 2005). Tsoukas & Chia (2002) mean that change is not what the organization is exposed to but the sensemaking connected to the group members' social interactions and decisions on what conditions are relevant or irrelevant for how to adjust their work ways. The sensemaking process can thus be seen as the essence of change in a work system and therefore as a continuous evolvement in the organization (Tsoukas & Chia, 2002).

The principle of the work system being comprised by a set of activities linked together to a functional whole is the first principle in socio-technical theory (Trist, 1978). In the previously mentioned examples (Nordlöf et al., 2015; Wahlström, 2018) the manufacturing plant or the nuclear plant is the work system and the unit of analysis, broken down in its sub-systems H, T and O. The H sub-system stands for e.g., the individual employee's cognitive, physical, and mental resources, as well as past experiences and emotional life (Berglund et al., 2020). The T sub-system could e.g., be represented by digital management systems (DMS), IT systems, IT infrastructure as well as IT supplies and furniture affecting the physical ergonomics (Berglund et al., 2020). The O sub-system entails the social system of work, informal and formal work practices, leadership, and culture on group and organizational level (Berglund et al., 2020) and the sub-system in which the sensemaking process can be considered central. A change within any one of these three sub-systems affects the interactions between them and thus causes ripple effects within the work system as a functioning whole (Berglund et al., 2020). An analysis based on HTO theory is thus considered to complement and give a more holistic view on the aforementioned certain circumstances and contextual conditions which appear to have formed the sensemaking processes during the crisis.

Method

Design and study sample

With the aim to explore this novel work life context, a qualitative design with an abductive approach and narrative inquiry was considered appropriate for richer data with possibilities of nuanced and more open-ended conclusions (Webster & Mertova, 2007). The narrative approach was chosen because it fits the study aim as it allows for a deeper understanding of how the events and consequences of COVID-19 was experienced by the members of different organizations and teams, and how it shaped their sensemaking process over time (Czarniawska, 2007).

Two companies were chosen to compare different organizational settings and branches, even though white-collar work was the focus at both companies. The study was part of a larger research project building on an interactive research design meaning that the project aimed at mutual learning between the researchers and participating companies (Svensson et al., 2007). This meant more specifically that the researchers within the project facilitated learning processes within seven selected work teams by leading workshops where participants shared experiences from COVID-19.

Company A was a large global manufacturing company with about 13,500 employees in Sweden. The company was strategically selected and invited to participate in the study due to having previously participated in studies with the authors. The headquarters are in a Swedish urban area and four teams were strategically selected together with the company's human resources representative, all located at the headquarters but from having different types of work content (see table 1) and presumably different preconditions to transit from office to work from home. The number of years in the company were for respective team (range and median); (7-25) 15, (3-24) 13,5, (2-4) 2,5, and (6-21) 13. One of the four company A teams was a management team.

Company B was a real estate company with about 390 employees. A real estate company was chosen due to the interest in following a company which business and branch was very much affected by COVID-19. The headquarters are in an urban area and three teams were strategically selected together with the company's human resources representative to work in different regions in Sweden, and with differing work content

(see table 1). The number of years in the company in respective team were (range and median); (1-14) 6,5, (2-7) 3, and (1-15) 7. One of the three company B teams was a management team.

Data collection

Data was collected in semi-structured interviews with key informants and operative team managers, and in chronicle workshops (Poulsen et al., 2015) with included work teams.

Interviews

An interview guide was developed from considering previous research on pre-pandemic remote work, crisis management and change management and contained questions with a focus on understanding both company and team context regarding how the companies dealt with COVID-19 in terms of work from home and digital transformation, short-time layoffs and staffing, communication, and new work environment risks. The interviews also covered the companies' views of flexible working before and after COVID-19. Semi-structured interviews were held with three key informants (i.e., HR representatives, top managers, union representatives) from company A and three key informants from company B, as well as one team manager from each of the seven participating teams, resulting in a total of 13 interviews. All interviews were performed in spring 2021 and were recorded and transcribed.

Chronicle workshops

The chronicle workshop (CW) was originally developed as a change management support method but was further developed by Poulsen and co-authors to use for process evaluation of interventions (Poulsen et al., 2015). The core of the CW is in both cases to create a coherent story from the participants regarding a certain period and events relating to a project or phenomena (ibid).

The CWs in this study were adjusted to be retrospective and give a coherent story of each team's experience, i.e., covering respective team's process of dealing with events and changes during the period from the COVID-19 outbreak up to the time of the workshop. CWs were held separately, one with each team (see Table 1) (3-10 participants per team including team manager). Three were held digitally in June 2021, two were held digitally (using Miro online whiteboard) in August and September 2021, and two were held at the teams' respective offices in August 2021.

A virtual whiteboard was used at each CW (including the two held at team offices), where the whiteboard was prepared with a timeline starting at March 2020 (the COVID-19 outbreak) and ending in June 2021. First the participants in a team were

asked to individually fill out yellow post-it notes of events that were of importance for them and their work and paste along the timeline. This could be e.g., starting work from home, school closing, introduction of new colleague, or a relative getting COVID-19. Second the participants were asked to individually fill out new green post-it notes of consequences (both good and bad) following the previously pasted (yellow post-it notes) of events. This could be e.g., tighter booked meetings in the calendar, helping colleagues to understand how to use the computer camera, digitalizing the daily steering whiteboard, or exercising during lunch breaks. Also, the participants were asked to paste these green post-it notes along the timeline. The yellow and green post-it notes were filled in individually but colleagues in the team helped each other to put the events and consequences in the correct order along the timeline. This gave an overview of the team's narratives of perceived critical events and consequences during the pandemic, including critical HTO interactions. Thirdly, during a break the researchers clustered the different green consequence post its according to their content. And fourth, the participants were asked to reflect upon these clustered consequences with each other and make a list of promoting and hindering factors affecting how they dealt with the consequences within a certain cluster. The aim of the clustering and discussion on consequences was to be able to analyse the teams' narratives including their sensemaking processes of how to perceive and deal with the consequences. Each CW was recorded, documented with notes and by saving screenshots of the whiteboards.

Table 1. Participating teams' characteristics.

Company A teams *	Characteristics of the teams' work before the pandemic
Team A1 N=6	Members working individually with own external clients/customers. Office work combined with domestic and global travelling.
Team A2 N=4	Members co-working with each other and internal clients/customers. Office work, work close to production.
Team A3 N=6	Members co-working, most often digital contact with internal or external clients/customers. Office work, sometimes from home.
Team A4 N=3	Management team working close to each other. Managing employees meeting internal and external clients/customers in confidential face-to-face meetings. Office work.

Company B teams *	Characteristics of the teams' work before the pandemic
Team B5 N=6	Members working individually with external clients/customers. Office work combined with visiting customers.
Team B6 N=5	Members working individually as well as in close cooperation with external clients/customers. Office work combined with visiting customers.
Team B7 N=11	Management team spread geographically. Office work combined with domestic travelling.

*N=Number of participants including team leader/manager

Analysis

The analysis was pursued stepwise and started with the narrative analysis during the CWs. The teams shared their retrospective experiences from March 2020 till June 2021 and the inductive clustering of consequences and discussion on promoting and hindering factors when dealing with consequences. The choice of using a chronological timeline where the participants created mutual understanding of how the work situation changed during the pandemic outbreak and following events happening after, was very useful when crafting a cohesive narrative and to link to sensemaking processes of the teams' work situations (Poulsen et al, 2015). As is often the case (Webster & Mertova, 2007), the narrative approach was combined with further thematic analysis (Braun & Clarke, 2006) of data from the CWs as well as interviews in the following steps of analysis, where the first inductive coding was further sorted, compared, discussed with the co-authors, and condensed into themes. The focus of this analysis was to capture the narratives including the sensemaking processes of the teams and from an HTO perspective (Berglund, 2020). The analysis of interviews and CWs and HTO analysis is described more in detail below. This abductive approach enables for new insights in the interplay between data and existing theories and openness for new and unexpected findings (Timmermans & Tavory, 2012)

Interview analysis

The transcriptions of the interviews were read through to get the full story from each interviewee and then further coded in NVivo. The coding took its start from the common milestones in the narratives from the interviews and were coded in a timeline starting with the first wave of the pandemic outbreak, and restriction that forced work from home, followed by further sub-coding of narratives highlighting the organizational context that influenced the sensemaking in the teams. Examples of codes was e.g., company attitudes as well as working policy regarding flexible working before pandemic outbreak, perceptions on company's way of communicating, early crisis management during the pandemic outbreak, policy, and actual ways of safeguarding work environment at home. The coding was conducted by the first author and discussed with all authors on several occasions as themes emerged.

Chronicle workshop analysis

The analysis of CW data was partly initiated during the workshops with the teams sharing their narratives from March 2020 till June 2021. The initial coding of themes was conducted collaboratively with the team, grouping together the various consequences brought about by the pandemic and remote work, as well as identifying the factors that promoted or hindered dealing with these consequences based on their experiences.

Discussions during each CW gave rich data of preconditions as well as perspectives of events and consequences related to the pandemic. The discussions within the teams during the CWs were also analysed to understand the sensemaking processes within each team. The sensemaking was analysed both by the participants' descriptions of how they as a team had dealt with changes during the pandemic, as well as how the participants during the CW met each other and handled differences and similarities in understandings of events, consequences, hindering and promoting factors during the pandemic.

The team was the unit of analysis and after each CW, the authors wrote a short narrative summary which was validated with respective team manager. Analysis seminars within the author group were held after each CW as well as after the last CW. In the second step of the analysis, notes, screen prints of the whiteboards with post its and clustering of post its, as well as validated CW summaries were coded and compared between teams. Examples of codes was e.g., meeting routines within the team, individual coping with digital insecurity, changes in individuals' family routines when working from home, work engagement and motivation connected to not knowing when to go back to normal work ways. The emerging themes work-life balance, information overload, meeting inflation (that is the accumulating number of meetings), change in workload/work content, decreased social interactions, hopes of lifted restrictions were similar between all teams. While some themes, such as increased communication quality, decreased communication quality, efficiency in own work, feelings of insecurity for the future, were specific for specific teams.

Further HTO analysis of all data

In the third step of analysis, the themes from the narratives and thematic analyses were analysed from an HTO perspective (Berglund et al., 2020) where each team was considered its own work system with sub-systems (H, T, and O). Analysing the themes, the chronology, and the phase of the pandemic different interactions between sub-systems were identified. Data from interviews added contextual knowledge of especially the organizational and group level O sub-system, and the preconditions for sensemaking in the teams' daily work. The HTO analysis was conducted jointly by all authors.

Ethical considerations

All interviewees and CW participants gave recorded spoken informed consent prior to starting the interviews and CWs. The Swedish Ethical Review authority (reference number 2021-01019) decided no need for ethical review for the study.

Results

Summary of narratives of chronological interactions between the sub-systems H, T and O

When comparing the analyses of the interviews and teams' CWs, similarities were found regarding emerging themes. For example, work life balance theme emerged from codes such as less commute time and more time for physical activity mentioned in both manager interviews and in CWs. The themes had different weight on interactions between certain parts of the work system in different phases of the pandemic. Figure 1 shows the similar themes (ovals) and crucial HTO interactions (arrows) affecting the teams' work systems over the pandemic timeline.

In the first wave when the authorities recommended and declared restrictions on physical distancing, all teams in both companies (except from a few individuals), moved their workplace to their home over a day. The companies' different strategies and varying experiences of pre-pandemic remote work gave the seven teams somewhat different starting positions. Initially much focus in the narratives of the teams laid on technology for communication, (see T-O arrow to the left in Figure 1). This was for example expressed by one manager as figuring out how the organization could reach out to all employees simultaneously with communication as part of crisis management. It was also expressed by one employee in a CW as a kind of orientation phase where you as employee had to monitor all types of digital media to be sure not to miss important information from management.

The teams' narratives highlighted intense interactions between H and T (see H-T arrow to the left in Figure 1), when learning new digital skills and routines right after the pandemic outbreak. During this period, the teams found their own technical solutions for implementing real-time collaboration which could support sensemaking in the teams. When work from home had been going on for a longer time and the second wave hit, pros and cons with work life balance became more apparent, and focus shifted towards creating better conditions for sensemaking through interactions between H and O. The possibilities to invite to digital meetings without organizational or geographical limitation had led to meeting inflation. Direct access to team members

via DMS meant increased one-to-one talks but at the same time decreased social interactions connected to teamwork and development (see H-O arrow in the middle of Figure 1). Also, issues related to physical ergonomics and space at home (and with other family members working from home) were more pronounced and screen-time fatigue characterized work due to no recovery time between meetings (see lightning arrow and H warning triangle in Figure 1). Although the third wave hit Sweden as hard as the second, there was confidence that broad vaccine coverage would reduce the spread of the virus in the summer of 2021. A post-pandemic “new normal” work life with new technological needs began to be discerned and concerns raised regarding future hybrid work (see dotted T-O arrow to the right in Figure 1).

In the following sections, the results will be presented in a storyline – a chronological narrative spoken by interviewees, and CW participants, combined with the HTO and sensemaking analysis.

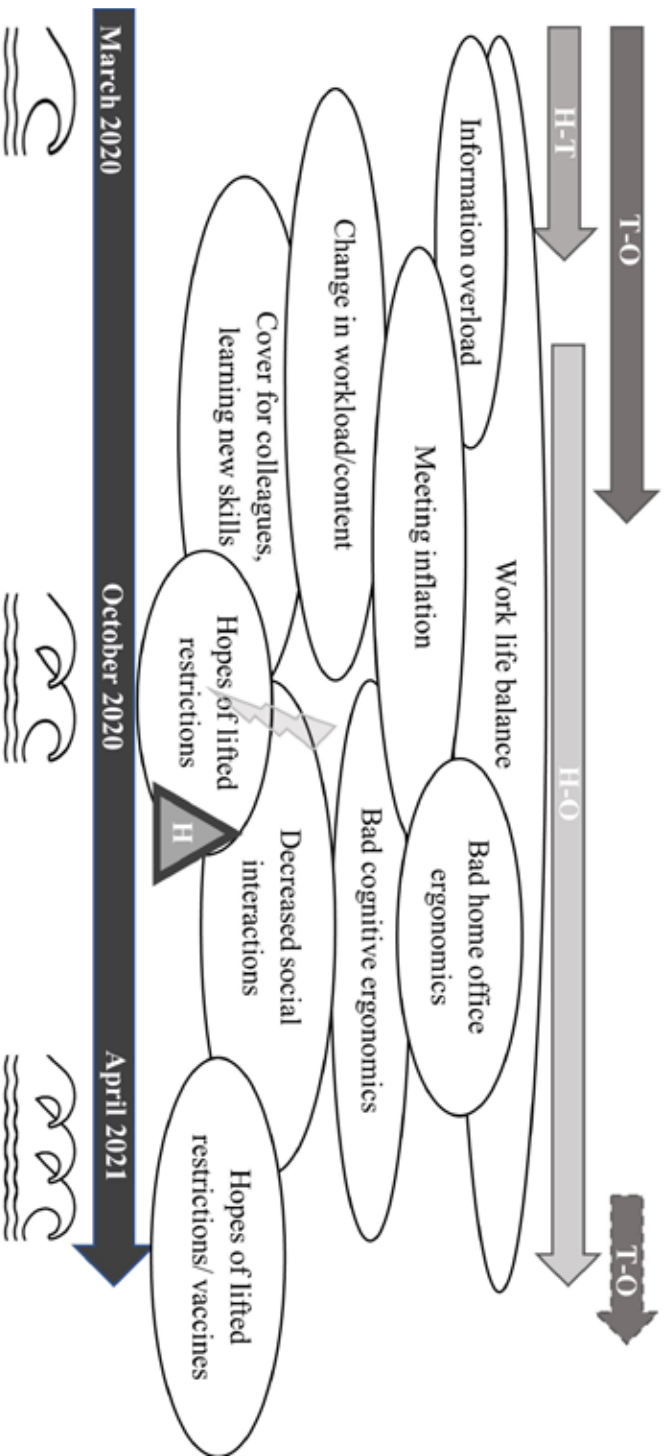


Figure 1. Most prominent and prioritized/crucial sub-system interactions (arrows) in the HTO analysis of themes (ovals) emerging from thematic analysis of interviews and chronicle workshops. Interactions and themes presented in relation to chronology and spread of COVID-19 in Sweden (first, second, and third wave). Warning triangle meaning concern about the H sub-system.

The outbreak of the first wave – heavy information focus dependent on human and organizational interaction with technology

Initial focus on solutions during forced transition into the digitized world of work

Forced transition to a digitized world of work was highly dependent on the digital maturity of both the organization and the individuals for crisis communication to work. Both companies had their respective crisis management group set up quickly in direct relation to the school half-term break in February 2020, but everyone was not immediately aware of the severity of the situation.

“I, myself, was actually in Milan during that awful weekend when all these people were going home after the February school break, and I saw what happened. This made us in the management team realize that this was a bit more serious than we thought from the beginning when the rumours started. (...) At that time, we were about 3 out of 10 – 30 percent of the management team that predicted this would get even worse. So, the first dilemma I faced was to get everyone on-board in thinking we need to act on this.”

(Top management, company B)

Fast changes and uncertainties in the situation increased the information flow in several channels in both companies and the H-O interaction relied heavily on functioning ICT and T-O interaction (see Figure 1). During this phase, a strong focus in the narratives of key actors was put on keeping communication flows open between company and employees to bring some kind of clarity, e.g., in the company's adaptation of restrictions communicated by the authorities. The companies tried different technological solutions for communication with employees which focused more on a top-down direction than on dialogue. Communication from executive management to employees was initially handled via the companies' respective intranets and direct emailing. Information given was not always new but was still seen as important by all to keep a tight H-O interaction with regular updates even during weeks when there was no specific news. This asynchronous communication gave little room for dialogue, common understanding and sensemaking.

There was a challenge in the varying individual and teamwork practices and maturity of technology use. The management team in company A was used to working closely with their employees, meeting clients face-to-face, and dealing with both their own and employees' digital immaturity. The transition to work from home was surprisingly smooth for most, due to the T sub-systems for the individual to get started working

from home was well set-up with an expanded community IT infrastructure and virtual private network (VPN).

“(…) “tomorrow going forward, we are digital, deal with it” ... And you do deal with it, you find your ways. (...) So, I guess that’s what we have learned, to do a swift transition and then handle obstacles as they come up, instead of trying to have everything set up properly, and then push the button.”

(HR strategist, company A)

Wide communication reorientation to face new ways of working

Information in the first wave was important, but in all teams, accounts emerged of how cognitively strenuous it was for the individual to know in what media (intranet, email, different DMS, small chat groups in different chat apps) to communicate and find information. Also, there were unclarities regarding how to prioritize who to invite or not to certain meetings. This was experienced to result in information overload combined with meeting inflation due to many just-in-case invitations being sent to multiple employees (see Figure 1). The immature digital routines at organizational level were also expressed by all interviewees highlighting the importance of using the camera to feel a closeness with meeting participants, and to interpret the facial expressions of employees to get better insights into how everyone was tackling the transition from office to home. Despite the diverse starting points for digital work both within the teams and companies, there was a positive attitude to tackle the situation together, and at team level employees described how they helped each other out to learn and reorientate to new work ways, although not formalized within the teams or companies (see themes between the first and second wave in Figure 1).

In company A, the fixed routine of daily steering meetings around the office whiteboards was digitalized to be used consistently in one specific DMS chosen by the company. This technological development increased accessibility and this kind of visual management gave an overview of work and a platform supporting dialogue and sensemaking regarding matters that presumably affected team efficiency and productivity. Team members in one company A team took turns in working from office and from home since working closely with production on site and kept their analogue office whiteboard updated as usual and had no digital whiteboard. This affected the H-T interaction when working from home (distanced from the office whiteboard), leading to disturbance in the group and organizational level (T-O interaction). Due to the short-time layoffs in company A, members in this team had to help each other out and take over colleagues’ work tasks during their non-workdays to keep the cooperation with production running smoothly. Although this had also positive effects for the H-O interaction and strengthened the team in terms of work enrichment, learning between colleagues and sensemaking regarding production. In teams that knew each other

well and where technological skills had developed, the H-O interactions worked well. Team members supported and watched each other's backs, and collegial support was important when workload in the team increased due to work content and contact with clients being digitalized. In hindsight, this change of work was seen as enriching, and learning new skills increased the job satisfaction. On the other hand, it sometimes created quantitative stress for the individual (see themes between the first and second wave in Figure 1).

In company B, routines and processes involving customers, old real estate blueprints, and legal documents were more complicated to digitalize since the technological preconditions were not in place. This negatively influenced both individuals' work and further the work efficiency (see themes between the first and second wave in Figure 1). The disruption in the markets following COVID-19 was noticeable and these external contextual changes in the first wave decreased the workload in one team depending on larger construction projects, which initially reduced quantitative stress and gave time for individual recovery. The experience of changes in T-O interactions differed within the same team. Some thought the digitalized meetings became more to-the-point, and clear in moving the projects forward. But for others the digital environment "changed the social codes of the game" and the experience was that the dynamic of building relations and reaching mutual understanding when collaborating was more or less ruined.

"The smallest detail, which may sound like the least important but that is the most disturbing, is the signing of contracts. It sounds absurd, but we have seven thousand customers, and you can imagine how the rental agreements which we already have digital, but the customer may not have IT solutions for or may not be ok with."

(Top manager, Company B)

This led to frustration and decreased job satisfaction, challenging previous work patterns and know-how, but also gave rise to new ideas of a more digital business models and of how company B could move into a more digitalized future (see themes between the first and second wave in Figure 1).

Empowered work-life balance

The transition to work from home meant for many in both companies a dramatic increase in time for work and/or family life due to reduced travelling/commuting. Several teams expressed how, in early spring 2020, they had had a feeling of freedom and power over their time and workday. This sudden freeing up of time seemed to boost the individuals' work-life balance, especially for parents. Some were happy about family and work-life being more integrated, and in these cases, it seemed to strengthen the individual. But to some it was a constant reminder of work when H-O interactions

went on outside work hours, and possibilities for recovery from work decreased and created stress for the individual (see Work-life balance theme in Figure 1).

Adjusting to the new, and suddenly being hit by the second wave – dependence on evolving human and organization interactions

Managerial concerns and strategies in handling work environment consequences

The first wave flattened out over the summer 2020, but restrictions regarding social distancing continued, and new work ways were not as temporary anymore. Focus shifted towards actual development of the H-O interactions constituting conditions to handle new work environment risks and managerial challenges following experiences of the lack of routines for remote leadership connected to work from home.

While physical ergonomics at home were quite easily handled by picking up office chairs and supplies from the office to take home time for individual recovery varied a lot. One team meant it had become easier than usual to take an hour off in the middle of the day for physical exercise. Others experienced the workdays as more intense, in front of the screen in meeting after meeting without breaks. The psychosocial risks were the biggest concern and hard to grasp due to changed H-O interactions. In both companies, managers told of exceptions made to strengthen parts of the H sub-system. It could be employees that for different reasons needed a change in work environment to get away from home, i.e., due to having a newborn or teenagers home schooling, risks of domestic violence, or addictive behaviour. Also, managers raised concerns for employees living in single households with a risk of being socially isolated. In parts of Sweden where the spread of the virus in the first wave had not been as aggressive as in other parts of the country, teams met for walks-and-talks outside their office, strengthening both the H sub-system and the H-O interactions within the teams. While many operative managers had put the social aspects of work on hold, some had initiated creative social interaction activities, such as outdoor BBQs, or digital after work and delivery of goodie bags to employees' homes. In both companies, the managers talked of something they defined as a "tight leadership" with regular checkups with employees and teams to make sure no one was left out or "slipped under the radar", especially when it came to employees living in single households.

In company B, one top manager and one operative manager shared different views on changes in the managerial preconditions and an increased top-down leadership. The top manager meant that the situation demanded a straightforward and decisive leadership in insecure times, while the operative manager told of centralized decision-

making and previous mandates taken away. Insufficient H-O interaction shown in lacking communication and understanding of changes in mandates between strategic and operative managers thus affected the individual manager's leadership practice, and highlights lacking common sensemaking processes between managerial levels. Some employees wanted more regular contact with their manager, while others felt more controlled if the manager booked one-to-one meetings just for checkup. Lacking routines for remote leadership affected the conditions in the O sub-system.

“It is a challenge, a new kind of leadership. I think we must be even closer to our employees than we have been before to really, in some way, see that they are doing alright, working, and working as they should.”

(Top manager, company B)

Freeing time and intensifying work

The experienced gains in work-life balance derived from not commuting were, after a few months, accompanied by experiences of work spilling over into free time. With no commute, expectations of being more accessible to work early and late in the workday increased. Open calendars made it easier to book meetings in colleagues' calendars, which was talked of as intended to ease digital spontaneous communication between individuals since no longer informally sharing information at the coffee machine. But team members spoke of how the transparency instead had led to meetings taking an increasing amount of time and cognitive resources, since meetings were booked right after each other (intensifying H-T interactions) (see Figure 1). It reduced time for reflection between meetings, and further led to no time to execute decisions taken in meetings. An intensification of the employees' cognitive work environment was described. Overall, the intensification of meetings seemed to have led to a vicious spiral of many multi-tasking participants attending meetings without interacting. Several described how it resulted in a tendency of meetings becoming more information portals than dialogue forums, and the social interplay as well as the meetings became insufficient.

Digitalized routines evolved and set “the new normal”

After months of initial confusion regarding different communication media, both companies moved the information sharing and meetings to one specific DMS, and communication flows became more equal and predictable. New digitalized routines in the ongoing work processes evolved over time. Teams with higher digital maturity were quicker to get functioning T-O and H-T interactions compared to other teams. One less digitally mature team meant that the equal digital preconditions in the team

led to closer contact within the team but increased the distance to other parts of the organization, indicating a better functioning H-O interaction on team level than on organization level.

From the first wave, most development projects had been put on hold waiting for COVID-19 to blow over. As the first wave flattened out but restrictions remained, some projects could not be postponed any longer. Some of the teams expressed disturbances in H-O interaction and a lack of productivity and decreased performance due to creativity being negatively affected by the fully digital working.

“When we are working on new projects or ideas we are usually moving around in the room, thinking together at the office and then someone comes up with something. It is harder to get us all in a one-hour online meeting and say, “Hey, let’s think together!” [laughing]. The creative work must build on each other’s ideas, where someone throws something up in the air and another one says, “That’s not bad!”. To work together... It is not the same thing to write in Paint and share on the screen as it is to sit and scribble together on a piece of paper.”

(Operative manager, company B)

All teams had experienced how the “social glue” disappeared when digitalizing all face-to-face interaction in work. In, for example daily steering, information sharing, and result presentations, when there was an apparent upside of being able to share screen, digital meetings were stringent and efficient. While creative meetings, e.g., brainstorming new concepts, dealing with abstract problem solving, dialogues around sensitive matters, or having a digital coffee break, were considered much harder. The loss of nuances in the interpersonal encounter (restrictions of the T sub-system) got in the way of the H-O interaction.

“(…) digital coffee breaks – that’s a threshold. We were not prepared for that. Putting the camera on, drinking coffee and small talking, that’s a different thing than just loitering away to the coffee machine, sitting down and taking a short break. (...) When entering a digital coffee break room, you are actually expected to say something. You cannot just sit passively in silence in the same way as in real life.”

(Operative manager, company A)

Experiences of a strained and lone winter in the second wave

After the summer of 2020, hopes were high of restrictions being lifted and colleagues finally reuniting at the office. Company B gave permission to slowly start going back to the offices for 50% of the time, and planning started for different networking activities within the company. During this time, team members from company A as well took turns in working from the office but were still strict to maintain social distancing, and meetings were kept online. But as the second wave hit Sweden in October 2020, all teams were ordered back to the same ways of working as during the first wave, with a collective sense of disappointment (see lightning in Figure 1). Even though the physical preconditions for work from were pretty good, lacking recovery between meetings and intense screen work wore down the individual employee. It affected individual employees' motivation as well as the team spirit. Further, family life intruded into work-life and put extra pressure on some individuals since some schools closed and parents had to support home schooling.

Recruitments in two company A-teams in autumn and winter 2020 challenged the team dynamics as well as the managers' operational leadership to introduce new employees properly.

Additionally, in the second wave, the O sub-system of company B was shaken by selling parts of the company. This led to a certain stress on some managers not being able to be fully transparent in informing the employees. The non-transparent communication between different managerial levels of company B affected the H sub-system both from the manager and employee perspective. While in both companies during this time, a tangible and widespread concern was raised regarding employees' and colleagues' mental health (see warning triangle in Figure 1).

“But it is loneliness. Psychological impact, that you don't get this social part. Difficulty dealing with problems in a situation when you never get the little, little support [from colleagues]. I can see my employees who are younger, who need help from those with more experience and competence. They are very left behind. They don't always call and ask.”

(Operative manager, company B)

“And loneliness.... Maybe you live by yourself or something, so you don’t have much interaction.... Maybe it will be extra with the pandemic when you don’t meet in other ways either. For many, it may be work and meeting colleagues that is the social thing you have, and if you don’t have that, you can feel quite lonely... Then I think that those who actually balance in some type of addiction, of course, it can be easier ... to hide it or get a little deeper into it. So, that’s also a risk.”

(Top manager, company A)

Expectations of organizational clarifications and sustainable work practices in the new post-pandemic work-life

During spring 2021, the third wave affected most Swedish regions, but as the vaccine program had been rolled out, hopes were high of seeing the end of COVID-19 (see Figure 1). The learning and evolving of new routines that had started during the second wave continued with even more focus on H-O interactions as means of securing efficiency in production, but also to protect the well-being and strengthening of the H sub-system. Managers in both companies longed for a post-pandemic “new normal” when employees and managers could take the best parts of the new work ways into the future. The new work-life balance that so many saw as a positive effect was something the companies wanted to safeguard.

Both companies saw the gains of keeping many meetings online after COVID-19, and cutting down on travelling to save time, money, and planet. But learning from the experiences of missing out on subtle social details of real-life meetings, the perception was that physical meetings were necessary for creative discussions or meetings of a sensitive character. Many spoke of future hybrid working with meetings online as well as in the office. The attitudes toward hybrid meetings were based on experiences from before COVID-19 when the default way of hybrid meetings was to be in the same room, with a few remote participants joining digitally. Remote participants were then perceived to have insufficient conditions to participate socially and interact with participants on site. Thus, the attitudes towards hybrid meetings were that they probably would not work, and that new technology (see dotted T-O arrow in Figure 1) would be needed for H-O interaction to be sufficient in the future.

In company A, a policy was being created to prepare for new rules of flexible working after COVID-19 (developing the O sub-system). Operative managers’ expectations were to get support in their hybrid leadership and define what flexibility meant for their own team and for the company. Interviewees from company A meant teams had been ready for flexible working long before COVID-19 but that the company had not.

While now, there was an awareness within the company of both present and future employees expecting flexible work.

“The labour market, recruitment market today is pretty tough. It’s not like when I started at [company A], when I arrived and “Wow, do I get a phone?!”. Today candidates come and demand the latest and flashiest phone, or they won’t take the job. (...) ...we need to adjust and become more flexible and dynamic to meet people’s needs, to get the right competence and the right talents.”

(Operative manager, company A)

In company B a flexible work policy had been launched already in fall 2019, but the company’s teams were to a varying extent familiar with the policy. The teams had expectations of clarifications and support regarding interpretation of the policy in their context. The company B managers were positive that a flexible work-life was here to stay, but what it really meant, differed between managers. Executive managers believed in full flexibility for the individual employee’s work-life balance (to buffer the H subsystem), and how to be an attractive employer. The operative managers saw the office as a natural base for work and highlighted how much their employees longed to work side-by-side to re-create the lost social aspects of work. They also spoke of many employees probably wanting to work from home a couple of days per week in the future, and that commute time would probably affect the employees’ future work patterns. All to maintain the work-life balance of the individual.

Discussion

Recent studies during the pandemic have a heavy focus on the individual's cognitive, physical, and mental resources, as well as past experiences and emotional life, i.e., the H sub-system and its reaction to technology and organization. But there is a lack of research considering interactions between human, technology, and organization and how these interactions interplay with how teams handle transitions due to different kinds of changes impacting performance of work. This study adds to previous research by looking back on sensemaking processes in the narratives of work teams' radical transitions of work from office to work from home due to COVID-19.

Sensemaking has its ontological roots in social constructionism, which provided opportunities to take into account subjective interpretations that guide people's behaviour. HTO has a more socio-technical ontological starting point and therefore contributed to highlighting factors that previous research has pointed out are important for creating healthy work systems. The recursive and iterative aspects of abductive analysis can result in various theoretical pitfalls and dead ends (Timmermans & Tavory, 2012). To avoid these problems, the study is more specifically applying HTO theory as analytical frame in understanding perceptions of critical interactions during the transition to work from home.

The study explores a pandemic induced transition of work from office to work from home, where digital work ways drove an evolution of the work system into a new and upcoming post-pandemic work-life. The results of the study represent the process of when digital work became the new normal and institutionalized within organizations. This institutionalization of new work ways can be seen as a meaning-making process where different aspects of HTO-interactions were highlighted in the teams' narratives of the transition of work from office to home. The individual employee's ability to handle technical aids was, for example, seen as a pre-condition for well-functioning remote work. This in turn was seen as depending on how well the organization enabled technical solutions for the radical transition. The results can be interpreted as such that sensemaking processes in the teams boosted development of more efficient H-T interactions, for example individuals' willingness and courage to learn new digital work ways, which in turn was seen as positive for individuals' work-life balance and flexibility. Team members initially also reported efficiency as they experienced a freedom in gained time from not commuting while developing individual work routines that

streamlined the workday. The efficiency was high in teams that could work fully digital, and that were not dependent on socializing with e.g., clients, while also increasing the cognitive strain of the H sub-system. The perceived individual gains of increased work-life balance and efficiency by working from home is similar to previous pre-pandemic research on remote work (Charalampous et al., 2019). The narratives from the teams pointed however also on that the increased freedom for the H sub-system also, in a longer run, put demands on the O sub-system to regulate and set clear frames for work content, communication, and meetings. This should also be considered in the light of previous research pointing at individuals' being selective regarding social interactions during COVID-19 (Espersen et al., 2023). The narratives pointed on a demand of experienced remote leadership that supported the individual to perform work within ordinary working hours, take breaks for recovery, and keep a work-life balance. The results point at that intensified H-T interaction combined with uncertainties in the work situation otherwise may pose a risk and give room for overwork and create endless room for individuals' own interpretations of the norms and legitimate boundaries for work. Much in line with previous findings of remote leadership before COVID-19 (Charalampous et al., 2019) this highlights the importance of an agility and sensemaking regarding the remote leadership.

When decisions were taken to start work from home both companies were very much preoccupied with getting technology for synchronous communication working, and to make the transition from office to home as seamless as possible. The results point at that O-T interactions and H-T interactions, e.g., as regular and predictable use of DMS by management to update employees, was seen by the teams as necessary preconditions to be imposed for the reliability of the H-O interaction and information flows in the companies. When taking into account how companies' strategies interplayed with the teams' sense-making processes, the HTO analysis points at that organizational priorities and strategies were not always in time and aligned with perceived human challenges and priorities within the teams. This indicates a risk if top-down decisions about future remote work do not time or match the sensemaking processes including narratives of challenges that take place in the teams. The analysis of company B's strategies revealed for example lacking shared understanding between managerial levels regarding the company's management strategy during the pandemic which may have hindered alignment of sensemaking (Weick et al., 2005) between organizational levels. The results point to the importance of making room for relational communication in times of uncertainties to support the teams' sensemaking of how to handle the changed working pre-conditions.

Digital maturity of the O sub-systems as well as individual H sub-systems had to be developed at a fast pace. The results showed learning on how to adapt to new ways of working as an ongoing iterative process, as a way of facing and dealing with ambiguity and interpretation (Weick, 2015), induced almost immediately and on-going during dealing with the transition. The local communication in the teams was a priority, and the teams took a collective responsibility for the team members' learning to get clear

communication paths for the teams' sensemaking (Weick et al., 2005) occurring in continuous loops as information and preconditions in the organizations changed. These findings add new knowledge on team resilience through collective learning. To exemplify the collective learning from a T sub-system perspective, the results point to the importance of making room and structure for technological adjustments, development, education, and service to enable the team's work. Teams with experience of using visual management in daily steering meetings could digitalize their e.g., whiteboards and carry on with their daily meetings most as before while also facilitating collective shared understanding in daily work. For future remote work, agility in the T sub-system supporting daily management of a distributed team might be just as important to consider sustaining and improve performance and working conditions.

In line with previous research pointing to the importance of iterative learning when accepting permanent ambiguity in dealing with crisis (Weick, 2015), loss of production time in the transition from office to home was costly and thus the sensemaking from the teams indicate that there was a view that also the learning curve had to be steep. In this context there were different pre-conditions facilitating the teams' learning. In teams with previous experience of digital work, DMS was already an obvious part of the T sub-system, and the work system was better prepared to go fully digital, as recent research also highlighted (Donati et al., 2021). Thus, these teams were the first to establish new digital work ways before the other teams struggling with the T sub-system (DMS) and H-T interaction when individual employees learnt DMS by own trial and error. Furthermore, company A had fixed routines of daily steering meetings and shared understanding supported by visual management built into their O sub-system. Thus, the iterative process of continuously learning and develop new ways of working was beneficial for the development of interactions in company A teams' work systems. The forced learning following the transition in company B supported its teams', but the O sub-system had no history of engaging the employees in daily shared understanding and reflection and did not in the same way as in company A reach the same iterative learning spiral. Further, the sensemaking of new work ways of company B had more of a character of waiting for things to go back to the way things had been before COVID-19, thus not having reached to Weick's (2015) description of managing and making sense of ambiguity as permanent and interpretation as impermanent.

A crisis being "an un-precedented ambiguous event with low probability of occurring" (Bhaduri, 2019), for the uninitiated employees in company B, the organizational changes after the second wave can be seen as an additional (internal) crisis. Trusted communication is of high importance during a crisis, whether arising from an external or internal threat (Longstaff & Yang, 2008). The insecurities and insufficient communication following these changes probably had a negative effect for the company B teams' sensemaking during COVID-19. Their work processes were highly dependent on functioning social relationships with external partners and clients. When they could not meet face-to-face as usual some of the sensemaking processes seemed lost. This may have hindered the organizational learning to find new work

ways and a competitive adaptation to conditions in a future work-life. This includes for example how to deal with creating relations with clients in a digital context instead of direct physical social contact, or individual employees' demands to keep working from home. Sensemaking as well as learning occurs from looking back with critical reflection upon experiences of events, actions, and impacts on the system and its processes (Weick et al., 2005). In the chronological workshops with the seven teams, the method itself probably supported this critical reflection and hopefully promoted the collective sensemaking and learning in the teams. The results show that sensemaking and learning of how to perform work from home were apparent throughout the pandemic, while the interactions in the teams' work systems differed.

Conclusion

Overall, some key issues may be highlighted in the teams' sensemaking during the COVID-19 crisis, i.e., what social interactions, and conditions were perceived as relevant for how to adjust the work ways. From the pandemic outbreak and first wave individual employees' handling of technology as well as organizational digital maturity were specifically prominent in the sensemaking processes in the narratives of the studied teams. Well-established digital management systems in the first COVID-19 wave were experienced to boost ways of setting conditions for effective work from home and work-life balance. As COVID-19 continued, the organizations seemed not to keep up with the evolving new work ways, and issues related to deficiencies in the human - organization interactions were highlighted as hindering sensemaking during the transition. This was exemplified by team narratives on longer workdays, more meetings, and cognitive overload affecting not only individual employees but further the experienced efficiency and sustainability of the whole work system.

Learnings from the companies in this study include that the whole work system needs to be considered as future work will probably be carried out remotely to a greater extent. To support sensemaking, organizations need to create clear communication channels and offer continuous technical support that stays updated with the technological development and the development of new work ways. In future remote work this concretely means keeping a tight human – organization interaction through e.g., a well-established strategy of daily steering and visual management to support sharing of ideas and common understandings of work. The study indicates that extra attention should be paid to interactions between human and organization aspects that support sensemaking, and the development of remote leadership to support and promote a sustainable post-pandemic work-life.

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