How crises solve organisations: a case study from the Covid-19 pandemic

Torgeir K. Haavik

Studio Apertura, NTNU Social Research, Norway. E-mail: torgeir.haavik@samforsk.no

Gudveig Gjøsund

Studio Apertura, NTNU Social Research, Norway. E-mail: gudveig.gjosund@samforsk.no

André Karlsen

Studio Apertura, NTNU Social Research, Norway. E-mail: andre.karlsen@samforsk.no

Stian Antonsen

Studio Apertura, NTNU Social Research, Norway. E-mail: stian.antonsen@ntnu.no

How organisations work is not so easy to grasp under normal conditions, when formalised work processes, routines and division of labour tend to overshadow and black-box the adaptations and sensemaking taking place in organisational life. During crises, however, black boxes in organisations tend to be opened, allowing for reflexive inspection. This paper is based on a study of a municipal organisation during the Covid-19 pandemic. The objective of the paper is to investigate how crises can change organisations beyond the limited realm of preparedness and crisis management, and to introduce a niche across interrelated research literatures where this topic can be further pursued. Theoretically, we draw on safety and crisis literature, in combination with research literature on organisational innovation. For around 18 months, we performed in-depth studies of a Norwegian urban municipality's adaptation to continuity and leadership challenges. Results from the study shed light on two central aspects of how crises affect public governance organisations. A central finding is that long-standing emergency management principles and their preconditions are put to test. Not only do organisations solve crises, but crises also solve organisations; during crises, organisational potentials become visible and give rise to adaptation of organisational structures and work forms, some of which may outlast the crises.

Keywords: Crisis management, Covid-19, Organizational learning, Adaptive capacities, Cross sectoral collaboration

1. Introduction

Over the last decade, management and organizational studies has seen an upturn in the interest in organizations operating under extreme conditions or having experienced serious events (Hällgren, Roleay & De Rond, 2018). A significant proportion of the research has either focused on organizational traits and practices of organizations operating under demanding conditions (e.g., La Porte & Consolini, 1991), or "normal" organizations finding themselves in short-term abnormal events due to major accidents, terrorism or the like. While this research has provided important insights for understanding the needs for sudden mode-switching (Schakel et al., 2016) and crisis leadership (e.g., Nesse, 2017), the sources and

challenges of the extreme can appear different when seen in other time frames. The COVID-19 pandemic is an obvious example of a both abrupt and long-lasting situation. Moreover, it hit virtually all private and public organizations/administrations as the pandemic rolled over largely unprepared nations across the world. It presented not only the surprise of the event occurring and the uncertainty of how to deal with it, but also recurring changes between peak load situations, periods of normal-like conditions, but with the ever-present potential of re-escalation of the crisis. In this paper, we aim to empirically explore the operationalization and execution of adaptive capacity of a municipality in dealing with the pandemic and, most importantly, how the need for actions contributes

to the emergence of new and lasting organisational structures.

The paper reports from work undertaken in the research project Coordination, Response and Networked Resilience (CORNER) in the period 2020-2024, where researchers from Norway, Sweden and Italy studied their countries' pandemic management 'up close' from very early in the pandemic and to its end (e.g. Antonsen et al., 2023, Frykmer & Becker, 2024, Nesse et al., 2024, Liste et al., 2024). The paper addresses not only the trajectory for dealing with the onset and duration of the crisis, but also for moving out of the crisis. Moving out of the crisis is where the tables are turned in terms of influence between organizational capabilities and crisis response – experiences with crises can change organisations far beyond the limited realm of preparedness and crisis management. The objective of the paper is to investigate the mechanisms for this, and to introduce a niche across interrelated research literatures where this can be further pursued in the future.

1.1 The case: challenges for local government

The authorities' organizing of the crisis response was challenging in several ways, and the nature of the challenges differed with their political-administrative level – the national, the regional and the local level.

As the lowest level of authority in the Norwegian political-bureaucratic structure, the municipalities have considerable leeway and autonomy in many areas of governance. To the local level of municipalities, the pandemic is to a large extent a crisis of internal reallocation and coordination of resources, and of *continuity*, in the form of securing of maintaining service continuity over time, when new tasks arrive and the organization tires both from COVID and from high work pressure (Antonsen et al., 2023). The pandemic thus created a challenge for the municipalities' adaptive capacities (e.g. Woods & Branlat, 2010).

2. Theoretical background

The pandemic constituted not only a societal crisis, but also an *organisational* crisis, and this has several practical and theoretical implications. First, this means that public organizations will be of particular relevance, and is why we have selected our case within this category. The leaders and key actors we have followed are thus political-administrative actors within elaborate political-administrative structures. This means that our theoretical basis is at the intersection between the crisis management literature with its roots in political science (e.g., Rosenthal et al., 1989) and the organizational literature on safety, reliability and resilience (e.g. Hollnagel, Woods & Leveson, 2006; Weick, 1995). Second, COVID-19 as an organisational crisis draws the attention to the fact that several actors at the lower level of handling the situation are "non-emergency organizations" (Oscarsson, 2021) in the sense that emergency and crisis is more or less a strange experience, particularly on the organization-wide scale inflicted by the pandemic. The broader involvement of the entire organization in crisis management opens up for a wider catalogue of lessons that may be learned from the crisis, and not only restricted to adjusting or reforming crisis management structures. This means that the experience with operating in an extreme context may be the source of innovation that is also aimed at the organizing of *normal* operations. To assess the way the crisis can cast shadows into normal organizing, we have consulted sociological literature on social capital and entrepreneurship, particularly the literature on structural holes (Burt, 1992), but also on conditions for innovation in organisations in general (Aasen & Amundsen, 2011).

2.1 Designing for adaptive capacity

Research on organizational reliability have shown that continuity and robustness is closely associated with organizations' ability for spontaneous reconfiguration, i.e. the ability to adapt to variability in their operation (La Porte & Consolini, 1991). Spontaneous reconfiguration refers to practices of mode-switching from hierarchical and centralized decision-making structures in normal operation, to competence-based and decentralized decision-making structures in the face of contingencies and crises. The need for flexible adaptation to situational demands illustrated by HRO research, and the possible need for structural reconfiguring, underlines a key dilemma for all organizations facing surprises that may challenge their capacity to effectively respond.

However, the spontaneous reconfiguration described in HRO research is primarily one-

directional in the sense that the emphasis is on adapting organizational structures moving into challenging situations. The reconfiguring *out* of crises is less addressed and returning back to the original organizational form is only one out of many possible outcomes.

2.2 Adaptive capacities in networks

While HRO research and much of the safety literature in general has been much occupied with organizational structures, the structures are often described in an idealized manner, as either centralized or decentralized. However, structures are seldom as archetypical as described in theory, nor are they as perfectly replicated throughout the organization. From the organizational innovation and entrepreneurship literature, we have learned that the social networks that populate the organizational structures may be significantly constrained. One type of network constraint occurs when many actors have a large number of contacts, and thus have little time to spend on each of the contacts. While it may seem like there is a lot of social capital in the network, limited capacity to spend time with the contacts constrains the network. Burt (1992) has described such constraints as structural holes. He has shown how 'entrepreneurs' fill and exploit such holes through a kind of brokering function. As our analysis will show, the choice between different organizing principles in reality constitutes a 'false dilemma'.

2.3 Action nets

Czarniawska (2009) introduces the concept of 'action nets' to describe organisational development under or after crises. She advocates for more focus on actions, less on actors. An action net perspective involves "moving the focus of research back in time, and from 'who does what?' to 'what is being done?'" (Czarniawska, 2009, p. 2). Czarniawska argues that crises are well suited for understanding action nets, since the most important question when facing threats is 'what must be done and how?', and not always who is responsible for what or who has the right to do what.

An action net can emerge in the course of a crisis, and can sometimes develop into a formal entity in itself. However, there might also exist action nets that does not consist of formal actors, does not become a formal entity, and even action nets that continue to exist when actors have been disassembled or replaced. In the paper, we borrow support from theory on action nets to analyse how crises may produce permanent organisational change.

3. Methods and approach

The paper rests on an in-depth case study of crisis leadership and management. As with all case studies, there are obvious limits to the potential for generalization in the traditional, statistical sense. However, the potential for theoretical generalizations and conceptual development is generally regarded as significant (e.g., Flyvbjerg 2006, Antonsen & Haavik, 2021). We will discuss the study's potential for generalization in the concluding section.

For around 18 months, we performed in-depth studies of a Norwegian urban municipality, on how it adapted to leadership and continuity challenges arising due to the pandemic. We conducted 37 interviews, each interview lasting between 1 and 1,5 hours. The informants had the following roles: member of the municipal director's management group; key organizational advisor; member of the collaboration group (representing the most affected sectors, e.g., health, education, culture, economics and IT); advisor of the municipality's central staff; emergency preparedness advisors; member of the municipality's disease control unit; key personnel following up restrictions. We observed meetings of two groups that played key adaptive roles: 22 meetings in the municipality's cross-sectoral collaboration group, and 51 status meetings in the municipality's top crisis leadership group. In addition, we studied the municipal organisation with regards to preparedness structures anno 2024, and also conducted an interview with a central person in the new preparedness section in the municipality. The combination of the observation study of adaptation and decision-making in practice, with more distanced reflection on practice through interviews, provides a unique basis for an in-depth case study with the potential for conceptual development (Antonsen & Haavik, 2021). In the analysis phase we made use of participatory analysis in an action research manner, developing the analysis in collaboration with representatives from the collaboration group.

4 Empirical findings

4.1 A crisis of continuity, not of health…

Interpreting and framing a crisis, is an integral part of dealing with it. In our case, the informants explicitly described the pandemic *not as a health crisis, but as a crisis of continuity*. By that, they referred to a challenge with considerable duration, that stressed the organisation and its staff capacity. A metaphor that was frequently used was that they were engaged not in a *sprint*, but in a *marathon*. This involved doing types of tasks that they were used to, only in a larger volume over a longer period of time than normal. This definition might have been important for the way the municipality chose to respond organisationally to the pandemic; to more or less seamlessly strengthen the leader group both with respect to participants in the meetings, and with respect to the frequency and duration of such meetings, without changing any lines of authority and decision making by handing responsibilities over to the emergency staff. Had it been a crisis of greater urgency, requiring hurried decisions and immediate actions to safeguard lives and values, this crisis management model could perhaps have been challenged to assume more 'emergency management characteristics' including more decision-making authority to the 'sharp end'. However, when zooming in, even a crisis of continuity appears acute to those involved.

The organization of the case municipality was, unsurprisingly, not designed for the purpose of dealing with a pandemic. It became immediately clear that the existing structures for coordination across the division of labour (the municipal sectors) were far from sufficient for the need for action, to rapidly adapt to the situational challenges. For example, the need to identify, mobilize and transfer personnel with health competence to where they were the most needed, put enormous pressure on administrative staff. Furthermore, requirement for intense coordination between education and health sectors emerged, for continuously monitoring the need for closing or opening schools and kindergartens as trends in infection rates changed, and to develop solutions for remote work across all the municipality's service areas. In these areas, there was challenges finding the optimal balance between tailor-made and common routines.

The municipality's overall emergency preparedness plan was, as was probably the case for countless organizations, developed on the assumption that all relevant scenarios would be sudden events that had a short timeframe, occurred one at a time, largely managed by emergency services and with impact limited to only parts of the organization. As elaborated on by one informant:

"*Our municipality is rigged for short-lasting crises outside [the organisation]…. But in this case, it was the municipal organisation itself that was seriously involved right away*" (staff advisor)

Hence, the existing assumptions and plans were quickly discarded as a basis for knowing what to do in the pandemic situation. Although cross-sectoral coordination under normal circumstances was managed by the managerial staff, the nature of the crisis with rapid changes implied needs for actions, such as a need for rapid assessments, and a need to develop a leaner and more flexible instrument to support coordination and collaboration across sectors.

In line with the Norwegian societal safety model for organising principles in crisis management (Olsen et al., 2007), the case municipality had a deliberate strategy not to change the factual decision-making mode when going from normal conditions to a crisis, and this was the argument not to implement a crisis management structure beside or over the leader group: *"(…) the principle of responsibility, the principle of equality, and the principle of proximity have been incredibly important. If those who usually work with this don't take responsibility, it would just be nonsense (…)*" (informant from leader group).

Besides, the crisis management was considered highly effective and the approach to both the short-term and long-term challenges was seen by most involved as successful. However, the line organization was strengthened by dedicating tasks related to crisis management to local emergency personnel in the respective sectors areas. This can be understood as a way to activate sharp end capabilities without shifting the control capacity from the leader group to other structures. The crisis management was also strengthened in terms of decision support. In the following we will describe how new, informal structures providing decision support emerged in an early phase of the pandemic.

4.2 A need for decision support

In the very early phase of the pandemic, it became clear to the municipal management that there was a communication and coordination deficit in the organisation. There was also a lack of capacity to *make sense* of the situation, and of the short term and middle to long term trajectory; how will the situation be for the municipal organisation the next days, and what will the challenges look like the next weeks and months? One of our informants that had so far not been involved in the pandemic management was in a situation where her regular tasks had been put on hold due to the pandemic. She explained how she was sitting one day, looking out the window and thinking: "*It shouldn't have to be like this*", whereafter she approached the director of organisational development, and asked if there was anything she could do.

She was asked to join a group in the municipal organisation working with personnel and working environment related issues. Already, HSE issues associated with presence/absence at work, fair treatment between different positions, etc, had become challenging tasks to deal with. She describes the complexity of the challenge: *"(...)to track all the information that had to circulate in the municipal organisation; (...) quite quickly we saw that it was a bit messy. (...) There was little time, and they were to make continuity plans and ROS analyses and such things…"* (staff advisor). A short while after, the informant was asked for some advice by the director of organisational development:

"*Not much later, [a municipal leader] contacted me and asked if I could create some scenarios for what such a pandemic should look like and what it could look like (in) 1 month, 3 months, 6 months, 12 months from now*" (staff advisor). With basis in this request, the employee started to systematize the different challenges and action needs that had been brought to forth, while also studying the basics of pandemics and emergency plans.

"*I started to study pandemics and emergency plans. I sketched a scenario (...) based on pandemic's 'double top'. The infection pressure could be high, but if we're well organised the crisis management will not have to be so 'intensively engaged', (...) and so I wrote 'collaboration' as a means…*" (staff advisor). Not knowing it at the time, this was the first seed of

what was to become the collaboration group; together with two colleagues who had similar perceptions and ideas, a group of people started to form, the initiative was brought as a discussion point into the leader group meeting, and not long after, a group was 'semi-formalised'. Not only did the initiative to the group *emerge* from below rather than being strategically decided from the management; even the group's mandate was shaped in a process led by the group itself.

A main focus for the group came to be support of internal organisation in a long-lasting crisis. With representatives from the different municipality areas, they organised work to obtain synergies from similar tasks being done in parallel by the different areas – so as to prevent a lot of double work, and inconsistencies. One example, and one of the initial tasks for the collaboration group, was to coordinate, gather and compile information from the different municipal areas that the leader group had to report weekly to the county administrator and to DSB. By coordinating this work, the collaboration group both prevented double reporting work, and freed time for the leader group.

The group also supplemented the crisis management by having a longer time perspective, in contrast to the more reactive, short time perspective of the crisis management: "*What is particular interesting are the challenges in the coming periods. The most important, in my view, is where we may stumble next week if we don't meet those challenges*" (Member of the collaboration group).

4.3 Developing a preparedness unit

Revisiting the municipality after the end of the pandemic, it became clear that the experiences and learnings from the pandemic had materialised in organisational development. Not long after the pandemic ended, the municipality established a preparedness unit as a formal organisational structure. According to those involved in this change process, the new preparedness unit was not a direct continuation of the collaboration group, but it was formed on the basis on *the same identified action needs* that were pointed to in connection with the establishment of the collaboration group: *"It was a good thing that the collaboration group was established. But the structures should have been there already. Had [the preparedness] unit been there at the time,*

[*that*] *would have been that collaboration group.*"
(member of staff)

5. Discussion: How crises solve organisations

In the crisis literature, there is much focus on how organisations should meet crises. There are also numerous examples of situational improvisation and adaptation, particularly associated with acute and fast-burning crises. There is a symmetry, however, that has not been much addressed in the crisis literature, with respect to how crises provide opportunities and occasions for organisational change. This relationship *is* addressed in the entrepreneurship literature – but from an entrepreneurship perspective (Lee et al., 2024). Also the STS-inspired organisational literature, which is seldom referred in the 'traditional' safety science research, highlights this 'causal' direction, such as Czarniawska's focus on action nets. Our study provides an opportunity to illuminate that relationship.

5.1 Spontaneous reconfiguration as continuity management

The main impetus for the establishment of the collaboration group and the work forms it acquired was the need acknowledged by its 'founders' for more and better coordination of the communication and collaboration both horizontally and vertically in the municipality. We understand this as an emerging action net, relatively independent of the existing organisational structure and without reconfiguring in the sense of 'spontaneous reconfiguration' that is a central crisis management concept acknowledged in HROs (La Porte & Consolini, 1991).

The collaboration group that was established can be understood as a number of tasks and processes thar 'found' each other with a common interest to reduce 'double work'. This is an example of how spontaneous reconfiguration does not have to imply a shift in management or authority structures. The group was *not* a traditional emergency management staff, neither in terms of composition, timeframe or the degree to which it was a result of planning in advance. Rather, it was a result of an activation of social capital that is latent in network potentials. The networks that emerged, filled structural holes; synergies between actions such as crisis information reporting spanning across the organizational sector areas, that were weak not due to their quality but due to the limited temporal capacity, were more strongly connected through the action net of the collaboration group, whose central resource in addition to the networks' social capital was time; with the establishment of the collaboration group came also time allocated for frequent meetings – time that otherwise during the pandemic to most employees in the whole municipality was a very scarce resource. In effect, organizational innovation in the form of new connections and collaboration structures were activated as a result of the establishment and work of the collaboration group. Our understanding is these new structures would have served the organisation well also before the crisis, but a 'normal situation' never provided sufficient impetus to make it happen.

5.2 Crisis entrepreneurship

In the literature on leadership, leaders are characterised in different ways. Some say that leaders are leaders in capacity of their personalities and special abilities. Others say that crises give birth to leaders; that leaders *emerge* and take responsibility during crises – it is not something they *are* (Nesse et al., 2024). One example that may serve to illustrate this, is the assistant head of the Norwegian Directorate of Health during the pandemic management in Norway. Without the 'correct' formal background and training, and virtually unknown to the general public, he emerged to become a highly important and symbolic 'unifying leadership figure' to the whole nation.

In our data, leadership was not necessarily connected with formal leaders with formal titles. The initiators and other members of the collaboration group not only provided highly valued support for the crisis management and the leader group, they also maneuvered in the organisational landscape, strengthening their own power to 'set things in motion'. Their distance to the organisational top level shrinked, and the opportunity to influence decisions that would materialise and last beyond the pandemic increased. For example, during the pandemic one topic of high attention and inquiry in the collaboration group was how the work, if not the structures, of the group could be continued and play a role also after the pandemic. Our

interpretation of this maneuvering is that – rather than being explained by leadership capabilities – it can be explained by the type of middle ground competency that in the entrepreneur literature is referred to as central for identifying and fill so-called structural holes (Burt, 1992).

The initiators and central members of the collaboration group that filled the structural holes possessed such middle ground competence, enabling them to identify both challenges and opportunities, and to create new solutions in the space between existing structures (and their activities and services) (Ringholm et al., 2011).

Middle ground competence is likely to be a part of adaptive processes when perturbations cross professional, sectoral and organizational boundaries, as well as political-administrative levels of authority. More specifically, middle ground competence can be involved in avoiding common traps of adaptation – the risk of running out of available resources, the risk of mismatch between local and system-wide adaptation, and the risk of using old patterns of functioning under fundamentally changed operational conditions (Branlat & Woods, 2010).

Another characteristic for the collaboration group was its informal character, its strong ties to and at the same time its close collaboration with the crisis management. The collaboration group was not traceable on any formal organizational charts, but in practice it functioned as the crisis management's extended arm into the operative organizational line. Although being informal is not at all a prerequisite for effective management support, it can help reduce the negative side effects of formal organization, such as goal-based management, reporting, and often as an effect, target displacement. For the collaboration group, no other considerations than the core goal of better collaboration across sectors and across vertical levels needed to be taken.

It is a general challenge in organisations that initiatives for change coming from lower and middle organisational level tend to meet the 'hard constraints' from established structures and procedures (Aasen & Amundsen, 2011). That crises can represent opportunities is well known (Ulmer et al., 2010). From this study, we add to this body of knowledge how the mentioned constraints may be weaker in times of crisis – and that crises also due to *that* represent windows of opportunities for improvement.

6. Conclusion: Bouncing forward-organisational development from crises

As thematised also in the innovation branch of science and technology studies (e.g. Akrich et al. 2002) crises tend to disclose the black boxes of complex systems and make visible both the vulnerabilities and potentials for improvement. To take seriously the admonition to keep intact structures and work modes as organizations turns from normal operations to crises, would perhaps also advice not only a look in the rearview mirror for capabilities that would have been useful to have in place also before the crisis occurred, but even to consider 'structural leftovers' from the crisis that could benefit the organisation and its achievements when life 'returns to normal' after the crisis. Organisational change to live up to such ideas in the future would imply bouncing forward, using the crisis as an occasion for innovation and development. If such assumptions would prove legitimate, learnings from this case contributes to the practice of organizational management and innovation, and to the knowledge front of organizational safety and crisis management.

Recognizing the contingent emergence of organizational work in and after crisis is not necessarily a novel insight. What has been less researched in the organisational safety literature, is what happens after such experiences. The new, formal preparedness unit emerging after the pandemic can be traced back to informal structures and work processes that emerged during the crisis, although indications are that they were really needed also before the crisis. The point is that it took a crisis to make them visible.

Everybody *wants to* have flexibility, pace and adaptability, and crises represent occasions of opportunity before one *has to* have it. It is still a research task to understand more about how crises shape organisations, to understand the conceptual 'normalisation of crisis': *"If we are able to be flexibly adaptive and coordinated across sectors under extreme conditions, why don't we try to do it all the time?"* (Member of the collaboration group).

This involved asking fundamental questions of how the municipality was organized, not to meet the next crisis but the new normal. Hence, what may be seen as improvisation or adaptation within a crisis can be translated into innovation in the longer run, in terms of being the origins or new modes of organizing.

The results presented in this paper is based on an in-depth case study. As indicated in the methods section, such a "small N" study is not generalizable in the statistical sense. However, case studies are vital sources of knowledge for safety science. Many, if not most, of the classics are based on case studies, due to the opportunities to understand causal mechanisms for both failure and success, as well as organisational factors influencing both. (Antonsen & Haavik 2021). Our case is particular in many respects: Norwegian municipalities vary in e.g. demography, geography and organisational history, as well as how hard they were hit by COVID-19, However, while the contexts for dealing with the pandemic vary, the challenges were highly similar. We therefore argue that although there is no reason to believe that the study's findings can be "replicated" in another municipality, the challenges posed and opportunities arising are likely to be recognizable across contexts. Furthermore, our findings point direction for new avenues of research, zooming in on the way organizations move out of crisis through theoretical lenses that move beyond the explicit efforts to prepare for the next crisis.

Acknowledgements

7. References

Aasen, T. M. B., & Amundsen, O. (2011). *Innovasjon som kollektiv prestasjon*. Gyldendal akademisk.

Akrich, M., Callon, M., & Latour, B. (2002). The Key to Success in Innovation Part I: The Art of Interessement. International Journal of Innovation Management, 6(2), 187-206.

Antonsen, S., Haavik, T. K., Frykmer, T., & Gjøsund, G. (2023). Structures for collaboration and networked adaptation – Emerging themes from the COVID-19 pandemic. *Journ of Emerg Managm*.

Antonsen, S., & Haavik, T. K. (2021). *Case studies in safety research*. In Inside Hazardous Technological Systems (pp. 69-84). CRC Press.

Branlat, M., & Woods, D. D. (2010). How do Systems Manage Their Adaptive Capacity to Successfully Handle Disruptions? AAAI Fall Symposium: Complex Adaptive Systems,

Burt, R. S. (1992). *Structural holes*. Harv. univ. press.

Czarniawska, B. (2009). Introduction: action nets. In Organizing in the face of risk and threat (pp. 1-8). Edward Elgar Publishing.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. Qualit. inq., 12(2), 219-245.

Frykmer, T., & Becker, P. (2024). Emergence and institutionalization of interorganizational coordination structures in crises. *Journal of Contingencies and Crisis Management*, *32*(1).

Hällgren, M., Roleay, L. & De Rond, M. (2018). A matter of life or death: How extreme context research matters for management and organization studies. *Aca of Man Annals,* V. 12, No. 1, 111–153

Hollnagel, E., Woods, D. D., & Leveson, N. (2006). Resilience Engineering - Concepts and precepts. Aldershot: Ashgate.

La Porte, T. R., & Consolini, P. M. (1991). Working in practice but not in theory: Theoretical challenges of high reliability organizations. *Journal of Public Administration Research and Theory*, 1(1), 19-47.

Lee, Y., Kim, J., Mah, S., & Karr, A. (2024). Entrepreneurship in times of crisis: A comprehensive review with future directions. Entrepreneurship Research Journ, 14(3), 905-950.

Liste, L., Johnson, V., Costa, S., & Karlsen, A. (2024). To wear or not to wear, was that the question? Understanding citizen responses to COVID-19 crisis management in social media across Europe. *Journ of Cont and Crisis Managm*, *32*(2).

Nesse, S., Schei, V., & Mitroff, I. (2024). Collective response capacity: Developing crisis leadership in organisations. *Journal of Contingencies and Crisis Management*, *32*(3).

Nesse, S. (2017). When Leadership Matters More Than Leaders: Developing a Processual Prespective on Leadership During Organizational Crises. Ph. d. thesis (Norges handelshøyskole).

Olsen, O. E., Kruke, B. I., & Hovden, J. (2007). Societal safety: Concept, borders and dilemmas. Journ of Cont and Crisis Manag, 15(2), 69-79.

Oscarsson, O. (2021). *Crisis as practice: Non-emergency organizations' coping with crises* PhD thesis, Mid Sweden University.

Ringholm, T., Aarsæther, N., Bogason, P., & Ellingsen, M.-B. (2011). *Innovasjonsprosesser i norske kommuner. Åpninger, pådrivere og mellomromskompetanse*. Rapport nr. 2/2011.

Rosenthal, U., t'Hart, P., & Charles, M. T. (1989). The world of crises and crisis management. In U. Rosenthal, M. T. Charles, & P. t'Hart (Eds.), *Coping with crises: The management of disasters, riots and terrorism*. Springf: Charles C. Thomas.

Schakel, J.-K., Fenema, P. C. v., & Faraj, S. (2016). Shots Fired! Switching Between Practices in Police Work. Org Science, 27(2), 391-410

Ulmer, R. R., Sellnow, T. L., & Seeger, M. W. (2010). *Effective crisis communication: Moving from crisis to opportunity*. Sage Publications.

Weick, K. (1995). *Sensemaking in organizations*. Sage.