
When duty calls: confronting fragmentation in crisis management

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Abstract

Europe's emergency services are increasingly confronted with sudden-onset crises, as headlines continue to remind us of terrorist attacks, extreme fires, and flash floods. Responding to sudden-onset crises typically generates fragmentation, as the crisis is characterized by an instant and rapidly escalating threat to the core functions of a society. Fragmentation –the breakdown of collaborative action and sensemaking– is one of the toughest and least understood organizational problems in crisis management.

For scientists and emergency services fragmentation is still an unresolved problem in crisis management, because research findings about the effects of fragmentation are inconsistent. Whereas the majority of studies in crisis management point to the negative effects of miscommunication and disruption, studies of organizational resilience claim fragmentation enhances flexibility and adaptation. To innovate the field of crisis management research, I build theory that connects these divergent perspectives. Based on a unique framework for managing fragmentation I will designate how crisis managers can adapt by switching between different command tactics to manage fragmentation in different stages of a crisis. Hereby, I systematically connect debates on resilience and crisis management by pinpointing the conditions in which fragmentation can be functional or dysfunctional.

I use a mixed-methods design across three consecutive sub-projects to validate the framework. First, I will reconstruct the different command tactics used in Europe's counter-terrorism operations. Second, I will observe how Dutch frontline commanders switch between tactics in different types of sudden-onset crises. Third, I will use quasi-experiments in a controlled training setting to test which command tactics are functional or dysfunctional for managing fragmentation. During the project, I will closely collaborate with the Police Academy and Fire Academy to embed my state-of-the-art research findings into their curriculum. Therefore, this research has a unique potential to improve the way crisis managers deal with fragmentation in crisis situations.

Keywords

Crisis management; fragmentation; resilience; organization; sensemaking

Introduction

Europe's emergency services are increasingly confronted with sudden-onset crises, as headlines continue to remind us of terrorist attacks, extreme fires, and flash floods. Responding to sudden-onset crises typically generates fragmentation, as the crisis is characterized by an instant and rapidly escalating threat to the core functions of a society (Quarentelli, 1993; Boin et al., 2017). Fragmentation –the breakdown of collaborative action and sensemaking– is one of the toughest and least understood organizational problems in crisis management (Drabek, 1985; Weick, 1993; Quarantelli, 1997; Cornelissen et al., 2014; Wolbers et al., 2017).

For scientists and emergency services fragmentation is still an unresolved problem in crisis management, because research findings about its effects are inconsistent. Whereas the majority of studies point to the negative effects of fragmentation like miscommunication and disruption (Rimstad & Sollid, 2015; Cornelissen et al., 2014), others claim it enhances flexibility and improvisation (Mendonça & Wallace, 2004; Kendra & Wachtendorf, 2003).

On the one hand, crisis management literature portrays integration as the ideal, and fragmentation as a negative outcome that needs to be prevented. Research has, for example, pointed to the need for integration by stressing the importance of command and control (Jensen & Thompson, 2016). On the other hand, organizational resilience literature indicates that fragmentation stimulates resilience –the capacity to proactively adapt and recover from disturbances– by fostering improvisation and creativity (Comfort et al., 2010; Williams et al., 2017; Boin et al., 2010).

These studies thus reveal scattered ideas and a lack of consensus around the question how fragmentation affects the quality of crisis management operations. Without theory that can help us understand when and why fragmentation has positive or negative effects on crisis management, it's impossible to provide practitioners with solid advice to properly guard society against the threats caused by sudden-onset crises.

Overall aim and key objectives

I aim to innovate the field of crisis management by presenting a unique framework for 'resilient crisis management' that bridges previous discrepant lines of thought on the effects of fragmentation. It systematically connects research on crisis management and resilience by, for the first time, explaining how crisis managers can manage fragmentation by adopting different command tactics.

I will establish and test the framework by addressing the following research question:

How do crisis managers adapt their command tactics to manage fragmentation, and to what extent does their adaptation influence the effectiveness of crisis management operations?

My research will improve the capacity of crisis managers to deal with fragmentation. I am in a unique position to undertake this research, because I have developed close working relations with the field in progressing crisis management theory (Wolbers et al., 2017; Wolbers, 2016; Wolbers, 2016b; Wolbers et al., 2016; Noori et al., 2016; Mulder et al., 2016; Boersma et al., 2016; Treurniet et al., 2015; Boersma et al., 2014; Wolbers & Boersma, 2013; Wolbers et al., 2013; Boersma et al., 2012; Boersma et al., 2010).

Scientific relevance and challenges

The lack of consensus between the debates on crisis management and resilience is currently a pressing issue in organization and management studies, signaled by a number of calls for research in high-impact journals (Williams et al., 2017; Van der Vegt et al., 2015). Bridging these debates is crucial for learning how organizations can deal with, or recover from, adversity. Recently, I have argued that an important step to create consensus is to develop a more nuanced understanding about the role of fragmentation in crisis management (Wolbers et al., 2017). Overcoming the lack of consensus has been difficult, because three challenges lead to inconsistent findings about the role of fragmentation:

1. Studies in crisis management often only find the negative aspects of fragmentation because of hindsight bias, which occurs when they focus predominantly on tracing back the cause of failure in a crisis (Maitlis & Sonenshein, 2010).
2. Research on organizational resilience, which has a positive view on fragmentation, has largely been explored separately from crisis management, most likely caused by the assumption that resilient actors are able to avoid crises (Williams et al., 2017).
3. Crisis situations are normally studied as unique events, making it difficult to compare across cases (Roux-Dufort, 2016).

These challenges need to be overcome, otherwise the field of crisis management cannot answer the question whether fragmentation is of help or hindrance. Failure to understand the role of fragmentation means crisis managers are unable to mitigate critical situations like the delayed response to the 2011 Breivik attack (Rimstad & Sollid, 2015), or the collapse of sensemaking that led to the death of Charles de Menezes in the Stockwell shooting (Cornelissen et al., 2014).

Originality and innovative character

My research is original and ground-breaking, because I will address and overcome the lack of consensus on the role of fragmentation in crisis management.

- I will use the 'resilient crisis management' framework to explain both the positive and negative effects of fragmentation
- I will be the first to analyze and compare how crisis managers deal with fragmentation across different types of sudden-onset crises
- I contribute to the National Research Agenda route 'towards resilient societies' by advancing knowledge on how organizations deal with and recover from adversity

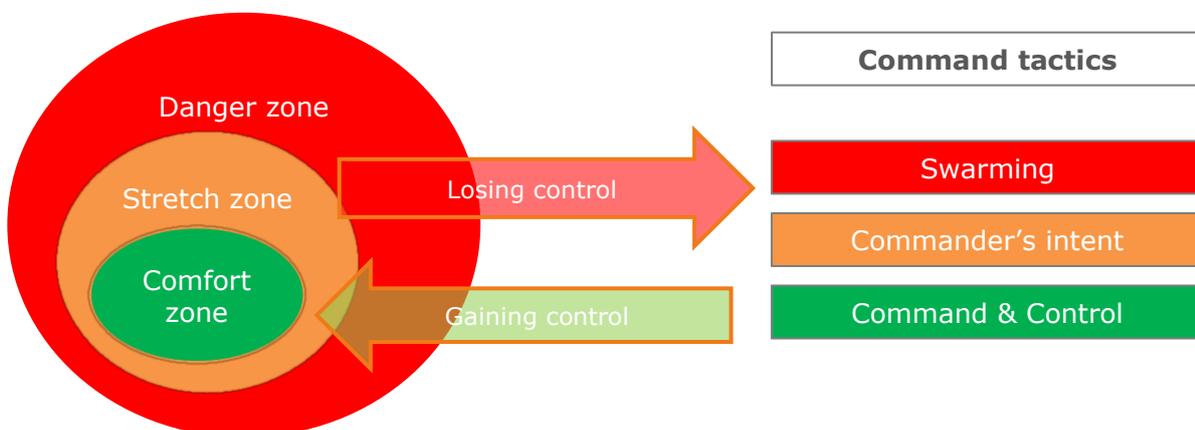


Figure 1. 'Resilient crisis management' framework (Wolbers & Schakel, 2016)

The framework proposes that fragmentation can be managed in three different zones of

operation: the comfort, stretch, and danger zone (Wolbers & Schakel, 2016). The zones classify how crisis managers make sense of the situation, and enact a corresponding command tactic (Weick, 1995). In the comfort zone, crisis managers classify the situation as predictable. Research points out that when crisis managers feel in control, they employ the tactic of command & control by using hierarchical directives to prevent fragmentation (Quarantelli, 1988). In the danger zone, crisis managers perceive the situation as unpredictable. When experiencing a loss of control due to fragmentation, crisis managers resort to the tactic of swarming, by sending in a decentralized response from multiple sides (Edwards, 2005).

To incorporate research on organizational resilience, I propose to include a new zone: the stretch zone. In the stretch zone, crisis managers experience losing control, but can be trained in commander's intent to regard fragmentation as an opportunity. Commander's intent is a military tactic that lets subordinates understand the larger context of their actions, allowing them to adapt in a way that is consistent with the aims of the commander (Cowper, 2000). This tactic stimulates resilience by giving room for creativity and improvisation. Overall, it's crucial to switch between tactics, as retaining command & control has proven to diminish response capacity (Waugh & Streib, 2006).

Based on this line of thought, I propose that:

- 1) Resilient crisis management can be enhanced by switching to a command tactic that is congruent with the zone of operation.
- 2) An incongruence between the operational zone and the employed command tactic has a negative effect on the ability to mitigate the effects of a crisis.
- 3) Whether crisis managers are able to switch between different command tactics is determined by how they make sense of fragmentation:
 - a) When fragmentation is regarded as something to be prevented, or as a loss of control, it negatively influences the ability to switch between command tactics.

When fragmentation is regarded as an opportunity, it positively influences the ability to switch between command tactics.

Methods and techniques

I will investigate these propositions using a mixed-methods approach divided in three subsequent sub-projects. The initial results provide the foundation for the next project. I take an innovative step for the field of crisis management by using experiments to validate the 'resilient crisis management' framework. I have arranged unique access for data collection by collaborating with the Fire Academy and Police Academy.

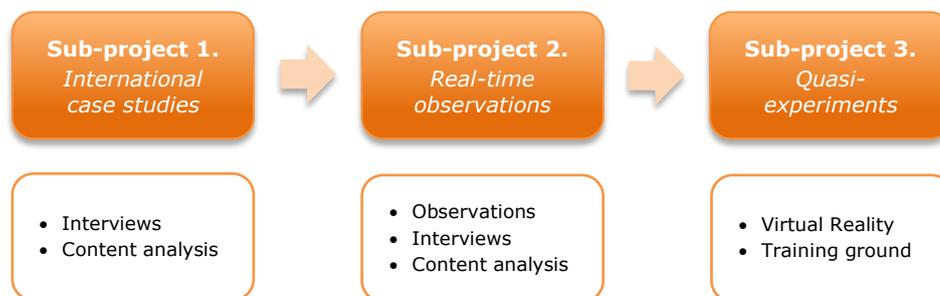


Figure 2. Sub-projects

Sub-project 1. *Reconstructing command tactics in counter-terrorism operations*

Objective: Test proposition 1 by studying the command tactics used in response to Europe's terrorist attacks in London, Manchester, Brussels.

Outcome: Reconstruction of command tactics used in counter-terrorism operations

The purpose of this sub-project is to identify to what command tactics commanders switch during a response operation based on **self-reporting**. I focus on counter-terrorism, because this type of sudden-onset crisis exposes different zones of operation. I will **interview** the involved commanders and use **content analysis** by coding incident reports and communication logs, and by transcribing and annotating video materials from helmet cams and news feeds. The multiple case study design allows me to **draw cross-case conclusions**, which improves validity and reliability of my results (Yin, 2013).

Sub-project 2. *Real-time analysis of command tactics in different sudden-onset crisis*

Objective: Test proposition 2 by broadening the focus from counter-terrorism operations to a range of sudden-onset crisis, such as high-speed pursuits, riots, and rapidly evolving fires.

Outcome: Reconstructions of switching dynamics in different sudden-onset crises

The purpose of this sub-project is to identify why and when people switch between command tactics based on **observations**. I will study operations that have a high potential for escalation that occur at the time of data collection. I will observe operations in the Operational Commander Centres of the Police and Fire Department. I will perform **interviews** with the involved commanders after each operation, combined with a **content analysis** of radio communication recordings, and video footage from bodycams and the police helicopter. To ensure access, I have arranged commitment from the Fire Academy and Police Academy.

Sub-project 3. *Quasi-experiments to test switching between command tactics*

Objective: Test propositions 3a and 3b, by performing two experiments that test under what conditions crisis managers switch between command tactics.

Outcome: Effectiveness of command tactics in different operational conditions & virtual reality training scenarios to train crisis managers

The purpose of this sub-project is to test under what conditions people switch between command tactics based on **experiments**. Experiment 1 uses a Virtual Reality setting, in which 30 participants are confronted with three different scripted scenarios of a sudden-onset crisis. In experiment 2 the scenarios are recreated on the training grounds of the Police and Fire Academy. In both experiments, I will code how and when commanders switch tactics, and manipulate the briefing participants receive on how to manage fragmentation. Specific goals are set in the scenarios to measure the effectiveness of the operation (Cohen-Hatton & Honey, 2015). Participants perceiving fragmentation positively should switch between command tactics, while participants that perceive fragmentation negatively should keep to a single tactic. I will develop the scenarios based on the findings from sub-project 1 & 2 in collaboration with Fire & Police Academy.

Project update (December 2021)

The main model in the project has been developed and theorized in a paper in *Human Relations* on police pursuits (Schakel & Wolbers, 2021). In this paper I theorize how fast-response organizations excel in mounting swift and coordinated responses to unexpected events. There are a multitude of conflicting explanations why these organizations excel. These range from acknowledging the strengths of centralized command and control structures, towards stressing the importance of decentralized, improvised action. Though this dichotomy is derived from studies offering either structure or action-based explanations, we were able to reconcile these insights by looking into the process of how fast-responders organize themselves during an unfolding crisis. We analyzed 15 high-speed police pursuits crossing multiple administrative units and jurisdictions, and interviewed and observed officers at work in multiple operations centers, police cars, and helicopters. Our analysis uncovered that fast-responders regularly transition between designed, frontline, and partitioned modes of organizing, each characterized by practices that shape command, allocation, and information sharing. Success and failure are rooted in the ability of the responders to adapt their mode of organizing by tacking back and forth between these practices. Based on our findings, we constructed a process model that provides a deeper understanding of fast-response organizing that informs future studies on organizing in extreme contexts.

The first study resulted in a number of publications on the Utrecht terrorist attack (Wolbers, 2021; Wolbers, 2020a; Wolbers, 2020b). On Monday morning March 18, 2019 a terrorist opened fire inside a tram in the middle of the city of Utrecht. A key challenge in the Utrecht attack was making sense of the situation and organizing a coherent response in a distributed command and control structure. This is a recurrent challenge in crisis management. As command structures expand, sensemaking becomes distributed when groups at different locations develop partial images of a complex environment. While most sensemaking studies focus on how specific groups attempt to collectively construct a plausible representation of the situation, few accounts of distributed sensemaking have appeared. I explain how crisis managers made sense of the volatile situation across different command structures. Twenty-five crisis managers from different teams were interviewed by making use of the critical decision methodology. The analysis points to five factors that influence the quality of distributed sensemaking: type of interdependence, sensitivity to operations, plausibility, hierarchy, and identity. It signals that updating one's sensemaking does not only require noticing discrepant cues but is especially related to key social-cognitive and organizational processes that stimulate doubt, questioning, and a plurality of perspectives.

In a broader sense, the Veni project allowed me to work on theoretical development in the field of crisis and disaster management in a number of conceptual papers as data collection was impeded during Covid-19 (Wolbers & Boersma, 2018; Boersma et al., 2019; Boersma & Wolbers, 2021; Kuipers & Wolbers, 2021; Wolbers et al., 2021; Boersma et al., 2021). In preparation for project 2 & 3, empirical papers on command tactics and information sharing have been published (Treurniet & Wolbers, 2021). In addition, a professional report for the WODC conceptually develops and assesses the effectiveness of Dutch crisis management (Lakerveld et al., 2020).

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