

Sensemaking questions in crisis response teams

Crisis
response teams

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Abstract

Purpose – When a crisis strikes, responders need to make sense of it to gain an understanding of its origins, nature and implications. In this way, crisis sensemaking guides the implementation of the response. The purpose of this paper is to focus on the sensemaking questions that responders need to address for achieving effective and efficient crisis management.

Design/methodology/approach – Data are drawn from six exercises, in which teams of professionals from different crisis organizations were confronted with two terrorist attacks. Just like in real incidents, these professionals convened in tactical response teams and formulated their response collectively.

Findings – The exercises demonstrate that crisis responders do not just have to make sense of the crisis, but also of their own roles and actions. They raise and address three sensemaking questions: What is happening in this crisis? (i.e. situational sensemaking), Who am I in this crisis? (i.e. identity-oriented sensemaking) and How does it matter what I do? (i.e. action-oriented sensemaking).

Practical implications – Crisis preparation tends to focus on plans and systems that accelerate or improve the construction of a situational understanding, while this study suggests the need of more preparatory attention for crisis responders' roles and actions.

Originality/value – The research extends crisis sensemaking literature beyond the restricted focus on the incident itself by showing that responders are also trying to grasp their own role and how their actions matter when they are engaged in crisis response.

Keywords Sensemaking, Crisis response, Training, Teams, Identity, Action, Terrorism, Situational awareness

Paper type Research paper

Introduction

An incident takes place in a concert hall, leading the balconies to partly collapse, which causes destruction and panic among the hundreds of attendees. A team of professional crisis responders is alerted and convenes shortly afterwards to manage the incident on a tactical level, while operational responders are active at the incident site. Initially, there is a lot of ambiguity and uncertainty on the origins and nature of the crisis, which confronts the crisis response teams with difficult questions: did the balconies collapse due to a terrorist incident or was it caused by poor construction? How to make sense of the disparate and unclear information that is initially available? If it does turn out to be a terrorist incident, what does this mean to the response team and what will be its role? Relatedly, what are the team members supposed to do and what can their actions achieve? These are the questions raised by crisis professionals participating in a controlled exercise. They show that even when

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crisis information becomes available, this is not sufficient. Crisis responders have to know what this information means and how it can be used in managing the crisis. In other words, they raise questions of sensemaking.

Sensemaking, the process of gaining an understanding of an ambiguous situation, is essential for efficient and effective crisis management (Weick, 1993; Maitlis and Christianson, 2014). Crisis responders, for example, need to grasp and understand the size of the crisis, its origins, the number of people that are (potentially) victimized, what response capacities are available, and how the crisis will likely develop (see Ansell *et al.*, 2010). If multiple crisis organizations need to coordinate or cooperate, moreover, they require some degree of shared understanding in order to facilitate collective action and the sharing of information (Wolbers and Boersma, 2013; Mills and Weatherbee, 2006).

Current studies on crisis sensemaking tend to restrictively focus on how crisis responders try to understand what is happening around them, suggesting that once responders fully understand the crisis situation, the adequate response will automatically present itself (see Ansell *et al.*, 2010; Wolbers and Boersma, 2013; Huggins *et al.*, 2015; Van de Walle *et al.*, 2016). In this paper, the assumption that this situational sensemaking is sufficient for appropriate crisis management is problematized. Instead, an analysis of terrorism response exercises in the Netherlands informs a broader answer to the research question:

RQ1. Which sensemaking questions do crisis responders need to answer during a crisis response?

Before addressing this research question, the next section will briefly discuss the existing literature on crisis sensemaking and problematize it. The methods section, next, introduces the use of crisis exercises as a means of data collection and describes how these data were analyzed. In the findings, the different sensemaking questions are introduced, while their theoretical and practical implications are emphasized in the discussion and conclusion.

Sensemaking in crisis situations

The literature on crisis management has made extensive use of insights from sensemaking theory. Sensemaking theory describes how people, such as crisis responders, build an understanding of an unexpected or confusing situation by making observations, interpreting these observations and taking actions (Weick, 1995; Maitlis and Christianson, 2014). In this way, crisis responders may improve their awareness of the origins of the crisis, its development, and its possible future trajectories. Once crisis responders have a thorough comprehension of the crisis, this will inform their subsequent response actions (Weick, 1995).

It is important to emphasize that the emerging sense of the crisis is socially constructed rather than an objective description of reality (Maitlis and Christianson, 2014). Responders interpret reality and influence it through their actions, so that their sensemaking is not merely a passive, cognitive process, but represents an active construction of reality on the part of the responder (Weick, 1995). The resulting sense is crucial to the work of crisis responders. If sensemaking is unsuccessful or misguided, crisis responders may fail to comprehend what is happening around them, be surprised by unexpected crisis developments, and ultimately prove unable to respond adequately or even lose their lives in the process (see Weick, 1988, 1993; Enander *et al.*, 2009; Kayes, 2004).

Apart from the importance of individual crisis sensemaking, if multiple crisis organizations need to work together, it is essential that they have some degree of shared understanding to facilitate coordination and collective action among them (Wolbers and Boersma, 2013; Mills and Weatherbee, 2006). Typically, personnel of different organizations

ascribe different meanings to what they are witnessing, as they construct their individual understandings of the crisis event. For instance, a bomb at an elderly care center would evoke very different interpretations and reactions from police officers and from personnel of the care center itself (Danielsson, 2016). Since their different understandings complicate the emergence of collaborative actions, crisis responders often avoid high levels of collaboration (Berlin and Carlström, 2011). When crisis responders do aim for collective action, nevertheless, they have to bridge this gap in understanding. Thus, they may engage in political struggles over sensemaking. As they advocate their competing understandings and try to convince others of their version of events, they influence each other's crisis understandings (Maitlis and Christianson, 2014). In practice, responders of various organizations need to negotiate with each other on the interpretation and implications of available information to reach a common operational picture of the crisis (Wolbers and Boersma, 2013).

Since sensemaking is important for an efficient and effective crisis response, there have been many suggestions on possible improvements for crisis-related information sharing and for the construction of reliable and actionable crisis understandings. Many of these suggestions focus on advancing or upgrading detection systems, analysis capacities, communication means and decision support systems (Ansell *et al.*, 2010). For instance, satellite imagery can help organizations to quickly construct damage maps as a possibility for rapidly gaining an understanding of the damage that an earthquake has caused (Pham *et al.*, 2014). Alternatively, the way in which information is conveyed to responders is relevant, as some types of information displays facilitate better sensemaking and crisis response than others (Huggins *et al.*, 2015).

Understanding, identity, actions

Although these findings and suggestions are insightful and can improve crisis management considerably, there is an underlying assumption that crisis responders only have to make sense of the crisis itself. It appears that, once the crisis is well-understood, the appropriate response will automatically follow. Nevertheless, there are some indications that this presumption is flawed. In fact, crisis responders' sensemaking accounts appear inextricably linked to their identities as well as to their actions (see Weber and Glynn, 2006; Weick, 1995). The identities and actions of crisis responders are not straightforward or unequivocal, however, but require sensemaking of themselves.

Identity and role

Many studies have demonstrated that some degree of familiarity with the actors involved in the crisis response is essential to responders that are about to engage in the management of the crisis. When this information on potential partners is absent, there is a likelihood that the effectiveness of the entire response operation will suffer from a lack of coordination and collaboration (Yeo and Comfort, 2017; Nowell and Steelman, 2014; Guo and Kapucu, 2015). While it thus proves important for crisis responders to make sense of the roles of other organizations, it appears equally important for them to make sense of themselves.

As Weick (1995) has suggested, someone's self-perception exercises significant influence over what a situation means to that person. In fact, a person's identity or role (i.e. formalized identity) guide how this person perceives and interprets a crisis. This can explain why professional crisis responders and caregivers interpret the same information in dramatically different ways (Danielsson, 2016). The importance of identity is also highlighted in Weick's study of the Mann Gulch disaster in which a team of firefighters is overtaken by a natural fire and the team leader tells his firefighters to drop their tools. This completely contradicts their identity as firefighters (whom are not supposed to drop their equipment) and undermines the team leader's role-based authority. They refuse to follow his orders and

start making sense of the fire individually with little success. Another example can be found in a study of members of a counter-terrorist unit following a suspect. The police officers in this case were torn between a self-perception as violence-avoiding cops and violence-ready firearm officers, leaving them in confusion with regard to how to see themselves as well as the suspect, eventually leading them to shoot and kill an innocent person (Colville *et al.*, 2013). In an analysis of the Kaohsiung gas explosions, lastly, Hsu (2017) reports that several village heads failed to take appropriate action, regardless of having been granted a formal role and receiving considerable information that a crisis was taking place. These village heads did not develop the professional identity accompanying their formal roles, and instead behaved like “orphans” waiting for governmental support. This is likely to have been informed by the political culture which encouraged dependency rather than a proactive, professional identity. Formally attributing a role to someone is therefore no guarantee to the responder developing the preferred identity. What these examples indicate is that, even in the presence of a clear crisis understanding, responders need to make sense of their own identity, which may be informed by a formal crisis-related role, to understand what the crisis means to them and how they are supposed to behave.

Actions and scripts

The crisis management literature has traditionally been critical of the potentially inhibiting effects or even irrelevance of crisis plans and procedures for actual crisis management (e.g. McConnell and Drennan, 2006). By extension, scholars offer suggestions for how responders can make decisions on what to do, after they have built an understanding of the crisis, without reference to such plans (see Ansell *et al.*, 2010). This approach implies that crisis responders should freely observe and make sense of the crisis to subsequently identify the appropriate response actions.

In practice, however, plans and procedures exercise considerable influence over the response: they function like scripts that prescribe certain actions, which, in turn, affect the crisis and its understanding by responders (see Weber and Glynn, 2006). This is important because responders are likely to be overwhelmed by the enormous quantity of information as well as by the relatively ambiguity of its truthfulness and relevance during a crisis (e.g. see Ansell *et al.*, 2010; Dearstyne, 2007). It is therefore virtually impossible to first comprehend the entire situation before identifying the most appropriate actions. Instead, scripted actions guide sensemaking. For instance, different crisis classifications, regardless of their factuality, will trigger different routines and procedures by crisis responders, while their absence may cause great stress for response personnel (see Hofinger *et al.*, 2011). When actions have been undertaken on the basis of these scripts, response actions not only generate new information for interpretation, but also change the crisis itself in a new direction (i.e. enactment), which likely enhances the construction of a crisis understanding (Weick, 1988). Moreover, crisis response actions foster path dependency, in which the first actions continue to influence all subsequent response actions, so that the crisis can only be understood as a consequence of the actions that responders have taken over time (Berlin and Carlström, 2008). These examples show that scripts and actions considerably influence the crisis itself and responders’ crisis understanding, but these actions and scripts require sensemaking by responders as well to grasp their (potential) implications.

Theory-based expectations: three sensemaking questions

Based on the analysis of crisis management literature and the sensemaking theory, there are indications that crisis response does not only require sensemaking of the crisis itself, but also of the responders and their actions. In other words, as a crisis responder, you do not only have to understand what the crisis entails and what is happening on the ground, but

you also need an understanding of who you are yourself in relation to the crisis (identity and role), as well as how your (pre-defined) response activities matter (scripts and actions). If and how these three sensemaking questions are raised and answered is studied based on data derived from exercises with crisis response teams, as described in the next section.

Methods

For the purpose of studying the emergence and relevance of these sensemaking questions in practice, six exercises with professional crisis response teams have been carried out. The use of exercises has some benefits over other forms of data collection in crisis management. Crises are not very common, while observing an actual crisis response comes with ethical and practical challenges, rendering exercises a more appropriate option for gathering data on crisis management (Latiers and Jacques, 2009). Rather than following pre-planned exercises, the exercises in this study were specifically designed for research purposes and developed to confront several response teams with the same crises. This enhanced the control over the exercise, allowed for triangulation between multiple crises response teams, and expanded the quantity of empirical data.

Participants in the exercises were members of Dutch tactical response teams (ROT) (Kalkman, 2016; Kalkman *et al.*, 2018), representing the police, fire brigade, health services, municipal services and armed forces. The team composition was different in every exercise. Teams were recruited through the authors' contacts in the field. Typically, the researcher presented the plans and goals for the exercise to regional managers of the different emergency services, who subsequently issued invitations to their tactical personnel to participate. Generally, there was great motivation to take part in the exercises, so teams were filled without problem.

All participating teams were confronted with two terrorist incidents. In the first scenario, there was a likely a terrorist attack with a chemical weapon in a train station. In the second scenario, another possible terrorist attack has damaged a concert hall (as referred to in the opening paragraph). The response team was tasked to carry out the usual responsibilities of an ROT in reaction to these incidents.

In the exercise, the responders first read the detailed information on one of the scenarios and received a map and pictures of the incident location. Subsequently, they discussed for some twenty minutes how to make sense of the incident and what response decisions to implement. Afterwards, they received new information and again came together for the same purposes. After about 20 min, this second meeting was over as well and the first scenario was finished. The scenario was concluded at this point as all major sensemaking questions had been addressed by that time. Typically, one scenario lasted about 1 h 15 min. Every response team went through both scenarios. Throughout the exercise, the author was in the room for time management purposes but did not interfere in the proceedings. After concluding both scenarios, participants shared their thoughts and experiences on the exercise in a collective discussion. In total, all six exercises lasted about three hours, contributing to 18 h of data in total.

All exercises were audio-recorded and basic transcriptions were made based on these recordings. More relevant parts of conversation were transcribed verbatim. Data analysis, subsequently, consisted of a re-reading of all the transcripts, and selecting sensemaking processes for further scrutiny. Particularly, the formulation of sensemaking questions, the reality of different understandings among team members, and the final sensemaking answers were traced and coded. This coding led to the identification of three core sensemaking questions. First impressions and initial findings were discussed with exercise participants and other interested emergency staff directly after the completion of both scenarios and some months later after a more thorough analysis had taken place. These discussions served to share the main outcomes of the study, to debate their practical implications and to validate the findings, as discussed below.

Findings

Situational sensemaking: what is happening in this crisis?

Sensemaking of the crisis situation by tactical responders has two stages. First, they collect, select and share information with each other in order to achieve a shared awareness of the available information. Second, they attempt to build agreement on how to understand the crisis information.

Information sharing. Typically, crisis response teams begin with selecting and sharing information after they have convened. This stage is usually introduced with a question by one of the response team members, asking “Shall we share all our images?” (Health services officer) or “Shall we construct a picture?” (Police officer). This question is then followed by a period of information sharing in one of two ways. Either a designated “neutral” information expert is appointed, who collects all the available information and subsequently shares the main facts with the team, or every representative shares the information of particular relevance to their crisis organization with the others (e.g. health services officer reporting on the number of casualties). In both cases, the crisis information is presented as objectively and factually as possible:

Fire brigade officer: “There has been a collapse of balconies in a recently opened theater. [...] It happened 15 minutes before a concert ended” [...].

Health services officer: “My picture is that it was a concert which many young girls between fifteen and twenty attended. The concert took place in a large hall with a maximum capacity of 800. There is reporting of twenty to fifty wounded, of which eight are heavily injured [...]. There is considerable panic, so it will cost some time before we have a clear image” [...].

Municipal services officer: “On the other side of the train station, 50 meters down the road, there is also another theater which is full.”

Understanding crisis information. After the information has been shared in the response team in this way, the team members try to make sense of this information in order to grasp the nature of the incident, its causes and potential future risks. When information sharing has completed, one of the team members tends to raise new questions regarding the implications of this information, such as “What is happening specifically and how should we deal with it?” (Military officer). Initially, responders want to figure out what has happened to cause the crisis:

Health services officer: “What I find worrying is: what is the truth? Is this a terrorist attack or a technical problem?”

Next, there is an interest in how it is developing and which other organizations are already actively responding to it. Since much will remain unclear at the outset, there are many gaps in the understanding which crisis response teams try to fill while they are already directing the response. They may, for instance, make decisions and give directions, while also listing information “that we don’t know but want to know” for a better comprehension of the crisis (Fire brigade officer). Since new information will continuously be collected, the initially incomplete sensemaking of the crisis will usually be complemented and improve over time, as inadequate understandings can be rejected and existing understandings can be reformulated for greater reliability and usefulness.

Identity-oriented sensemaking: who am I in this crisis?

Apart from the question “what is happening,” tactical crisis responders ask the follow-up question what the crisis means to them: “who am I (and who are we) in this crisis?” In fact, identity-oriented sensemaking links the responders to the understanding of the crisis in two ways. Individually, responders have multiple roles – as organizational liaisons, crisis

response team members and professionals – which affect how they make sense of the crisis. Collectively, the group identity influences the cues that are deemed relevant to the crisis response team and affects how responders interactively make sense of information.

Individual identity. When crisis responders are alerted and join a crisis response team, they enter into a role which focuses their attention on the crisis response. Consequently, their sensemaking will differ considerably from that of an accidental bystander or a victim. However, even in a crisis response team, responders have multiple identities. In fact, three identities can be identified, and frequently responders were asked to clarify which of their roles they were performing when using the word “I”. First, a crisis responder in a response team typically represents a crisis organization (e.g. police, fire brigade, military) and functions as an organizational liaison. The responder can therefore speak on behalf of the organization and personify this organization during the response. This is evidenced in the way that crisis responders address each other during meetings: they do not use each other’s first names, but rather refer to their organizations. After recognizing a terrorist threat, for instance, the health services officer argued:

Health services officer: “The police is leading here, so I’d like to ask the police what to do.”

Second, crisis responders are also response team members. This role comes with different expectations, particularly dedication to the common team effort of quickly and effectively resolving the crisis, rather than representing their respective organizations:

Municipal services officer: “I have a dilemma: the mayor has an administrative interest and is exercising influence on me [...], but I am here at the table with you to manage this incident.”

Third, and finally, crisis responders are professionals and experts. Although this identity is not institutionalized in a role, the self-identification as professional may guide their sensemaking. They may thus give their professional interpretation of the crisis, irrespective of the two formal roles. The data demonstrate that the chosen identity guides the crisis understanding, while the crisis understanding can, in turn, guide the role one assumes. For instance, as an organizational liaison, a crisis responder will particularly recognize aspects that are relevant to his or her organization, but when the crisis risks becoming a drama, the responder is likely to shift to being an expert or team member instead, and thus start focusing on cues that are of general interest or particularly pressing. This serves to show that identity and crisis sensemaking mutually influence each other.

Collective identity. When a team has formed, a similar identity-based question arises on a collective level. A very common question, after a shared situational understanding has been constructed, is: “what does this information or understanding mean to us as a team?” Underlying this question is the belief that the response team is more than a mere collection of disjointed individuals. The team members will thus occasionally briefly recapitulate the team’s role, which gives the answer to the question “What are we for?” (Police representative). For the crisis response teams in this experiment, the focus is on the tactical level and therefore on “managing the wider effects of the incident, facilitating emergency aid, environmental management, and external communication” (Police representative). Once this is settled, a role for the team emerges that guides their subsequent analysis of the incident and their formulation of an action plan. If this team identity remains unclear instead, an understanding of the crisis situation remains meaningless:

Military officer: “And what does this mean to us: what are we looking at?”

The absence of a shared team identity is likely to result in significant debate over the crisis understanding and appropriate actions. For instance, during one exercise, the team had not clearly made sense of its own role, so team members kept criticizing each other for being too

much operationally or strategically focused instead of being preoccupied with tactical matters. In one case, a tactical crisis responder wanted to evacuate all operational crisis responders from the incident location for security reasons after rumors of terrorism began to emerge. Another tactical responder subsequently rebutted that the tactical team was not qualified to make such decisions. As long as the identity and role of the response team remained unclear, such discussions were recurring. Vice versa, a strong team identity facilitates collective sensemaking, so that teams specifically formulating their role are one step ahead.

Action-oriented sensemaking: how does it matter what I do?

A clear crisis understanding and identity do not guarantee effective crisis management yet. Responders also need to be aware of the implications of the actions that they take by answering the question: “how does it matter what I (or we) do?” Action-oriented sensemaking links the responders’ activities to the crisis understanding in two ways. Crisis responders need to make sense of scripts (i.e. plans, routines, habits and procedures), which guide their sensemaking. Next, implemented actions need to be assessed before their influence on the crisis itself (i.e. enactment) and newly retrieved information can be used for further sensemaking.

Scripted actions. During an incident, responders are expected to manage and resolve the crisis based on existing plans, procedures, habits, and routines (i.e. scripts). While the absence of such scripted actions might have led crisis responders to be overwhelmed by the quantity of information and a wide variety of possible crisis understandings, these scripts facilitate crisis sensemaking. The manner in which these scripts influence sensemaking depends on responders’ understandings of the scripts. For instance, there may be ambiguity with regard to when a plan is applicable or, more importantly, how a plan applies in a certain context. For example, after suspected terrorists are rumored to have fled an incident location by train, one tactical responder proposes to make new sense of the situation and make a new decision, while another avoids in-depth sensemaking and follows a script:

Health services officer: “Well, do we leave the other train stations open?”

Police officer: “That depends on what the [counter-terrorism plans] state. We have made agreements on that.”

This example implies that scripts are not unequivocal, since the situations to which they apply are not straightforward, but the script itself can be subject to different understandings as well. In a similarly complicated case of whether to enter a fragile building, the health services officer proposes to refer to the existing plans, because “if you’d ask me, we haven’t made these protocols for nothing” (Health services officer). The problem here turned out to be that applying the general plan to the specific crisis situation still required making new sense of how it applied. In turn, this explains why similar scripts lead in similar situations to different actions in different crisis response teams. In fact, some teams in the experiment followed a “counter-terrorism” script, others a “fragile buildings” script and others made new sense to make their own decision. Thus, during crisis response meetings, the attention often shifts between situational sensemaking and making sense of scripted actions.

Actions and enactment. It is well-known that actions affect the crisis trajectory and thus become inextricably linked to the crisis (i.e. enactment). Even when the responders only decide to evacuate a concert hall or train station after a terrorist attack, the evacuees may form groups nearby the evacuated building or begin to stray, which creates new risks and may foster public unrest. A crisis response action (e.g. evacuation) thus enacts a new crisis reality (e.g. public vulnerability and unrest). However, actions and their consequences require sensemaking as their implications are not clear-cut. While the current crisis may be partly a

product of responder actions, the question remains to what extent the crisis reality is an effect of responder intervention. If a group is forming in front of the concert hall, for instance, this may be a consequence of the evacuation, leaving people disoriented or passively awaiting further instructions, but it may also have been caused by attendees leaving the hall on their own accord and waiting here to be picked up by relatives or friends. These explanations make a difference because they would trigger different follow-up actions. Likewise, in one case, the response team ordered a “halt of all trains into and out of the area” after an incident which was followed by public unrest, but whether their action caused this public unrest (e.g. due to emerging mobility problems) or if there is another reason (e.g. rumors of terrorism) matters a great deal for crisis responders and thus requires action-oriented sensemaking. Next, actions return crisis information. At the early phase of a crisis, the responders trigger almost automatically a whole range of procedures, even though their prospected relevance cannot be predicted as the crisis understanding is still underdeveloped. Examples of this include the tracing of victims, the activation of a phone number for providing crisis information to the public, the preparation of an aftercare location for lightly wounded people, the communication of alerts or updates and the provision of psychological aftercare. Many such procedures “have been shared in the preparation phase and are activated” soon after the crisis has struck (police officer). These actions, once implemented, provide new crisis-related information. Tellingly, after the first team meeting, every new crisis response meeting starts with the question on the effects of the previous actions:

Fire brigade officer: “We are now in the second [tactical response meeting]. Let’s first take a look at the actions that we decided upon in the previous [meeting].”

How this information is to be understood is a question of sensemaking. It can be revealing about the crisis but may also tell more about the action instead. A clear example of this is that almost all teams immediately prepared an aftercare location in both scenarios. The number of people using aftercare can be seen as a measure of the size and nature of the crisis. However, when few people make use of it, this may mean that the crisis is not worryingly large, but it can also mean that “it is too far off to get there” (Municipal services officer). Since crises are complex and require the concerted effort of many different organizations and teams, the related question arises what the actions of others have achieved and how they may have crossed or influenced the team’s actions. For instance, one of the organizations may have “taken decisions that are of relevance to our perception” (Police officer). In other words, the information that results from earlier actions, as well, remains equivocal and requires sensemaking on the part of crisis responders.

Conclusion and discussion

Crisis are ambiguous, uncertain and unexpected events, which trigger the need for sensemaking by responders in order to enable effective management of the crisis. In many crisis management studies, there is an assumption that responders only have to gain a thorough understanding of the crisis itself, so that they can implement the appropriate actions. This study questioned that assumption and focused on which sensemaking questions crisis responders need to answer during a crisis response. An analysis of six terrorism response exercises show that crisis responders raise and address three sensemaking questions: What is happening in this crisis; who am I in this crisis; and how does it matter what I do? This means that responders not only have to engage in situational sensemaking but also have to make sense of their own identity and role as well as of their scripts and actions. In fact, a crisis understanding is only useful and actionable in relation to self-aware responding actors who can grasp the implications of their responding actions. These findings produce several theoretical and practical implications.

Theoretical implications

The first theoretical contribution of this article is that it challenges the tendency of studies on crisis sensemaking to only focus on how responders build a situational understanding (see Ansell *et al.*, 2010; Wolbers and Boersma, 2013; Huggins *et al.*, 2015; Van de Walle *et al.*, 2016). Much of this work provides suggestions that may improve the creation of an understanding of the crisis situation when an incident has occurred. Although these suggestions are helpful for improving situational sensemaking, the focus on the crisis itself is too limited if the goal is to improve crisis management in general. Instead, more theoretical focus should be given to identity-oriented sensemaking and action-oriented sensemaking to complement earlier studies.

Second, research has already demonstrated the importance of being familiar with the roles of other organizations and their members (Yeo and Comfort, 2017; Nowell and Steelman, 2014; Guo and Kapucu, 2015), but the findings in this study demonstrate that the identities of responders and teams are equally important (see Weick, 1995; Weber and Glynn, 2006; Colville *et al.*, 2013), but not necessarily straightforward. Specifically, crisis responders could assume three identities – as organizational liaison, team member and professional – which led to different sensemaking accounts of the crisis. The team, additionally, had to assess and understand its own role for effective functioning. Thus, this study shows in detail how responders struggle to understand what the crisis means to them individually and collectively.

Third, crisis studies tend to view action taking by responders as a successor to information gathering and analysis, and thus focus in earlier research on improvements in information collection and decision-making (see Ansell *et al.*, 2010; Van de Walle *et al.*, 2016). This tends to assume full liberty of action for responders, and indeed crisis plans and procedures are often criticized for failing to be of use or even limiting responders (see McConnell and Drennan, 2006). However, scripted actions (in the form of plans and procedures) also guide and focus sensemaking (see Weick, 1995; Weber and Glynn, 2006), but, in turn, require sensemaking in themselves. As the study demonstrates, scripts are often equivocal in when and how they apply. When actions are taken, additionally, responders have to make sense of how their actions influence the crisis and what new crisis information they have created themselves through their actions. Thus, the study demonstrates that responders need to ultimately build an understanding of the implications of their actions.

Practical implications

This study has various consequences for crisis practice. First, investments in information-processing and decision support systems are relevant for enhancing situational understanding (see Huggins *et al.*, 2015; Van de Walle *et al.*, 2016; Pham *et al.*, 2014), but they are not a panacea for crisis management problems. In fact, an enhanced situational understanding of a crisis is only useful if the responders have a thorough comprehension of their own roles and the implications of their actions. If they are confused over their identity or how their actions matter, a situational understanding will be of little help. Instead, it is important to give attention to responder identity and actions. Training exercises may thus focus on how responders can balance and shift between their multiple roles as organizational liaisons, team members and professional experts (see Kalkman and Groenewegen, 2018). Also, exercises may contribute to the construction of a team identity to facilitate collective sensemaking. Additionally, plans and procedures should not necessarily be criticized as inflexible or inhibiting improvisation, but be recognized for their use in ordering the crisis and helping crisis responders to make sense. Thus, there needs to be practical attention for striking the balance between over-planning and under-planning.

Limitations and further research

The current study comes with some limitations which inspire suggestions for further research. First, this study focuses on a tactical team that is removed from the incident site and concerns itself with questions beyond the immediate operational response. Operational teams witness and sense the crisis more directly, so that responders' identities and actions are likely to have more direct implications and possibly feature in a different way than found in this study (see Weick, 1988, 1993; Kayes, 2004). Analysis of sensemaking on different response levels may thus be insightful. Second, this study has focused on how responders struggle with making sense of crisis information, their identity and their actions, but has not extensively elaborated how responders struggled among each other over different sensemaking accounts. This political struggle between competing understandings deserves more attention in future research. Third, the exercises in this study were conducted in the Netherlands, in which the role of responder implies proactivity and self-confidence. Thus, it may not be representative for crisis sensemaking in other countries, which may, for instance, have a political culture that promotes dependence of crisis responders instead (cf. Hsu, 2017). In general, additional research into crisis sensemaking will support responders in their work and ultimately benefit crisis management practices.

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