Communication in Turbulent Times:
Exploring Issue Arenas and Crisis Communication to Enhance Organisational Resilience

Marita Vos

with contributions by Irna van der Molen and Markus Mykkänen

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UNIVERSITY OF JYVÄSKYLÄ
FINLAND

ABSTRACT

Vos, Marita
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This book is characterised by a broad approach towards corporate communication, emphasising change and crisis. The focus is not on crises as an exceptional situation but rather on broader volatility in the environment.

The purpose of this book is to increase the understanding of multi-stakeholder communication concerning organisational issues and crises. From the perspective of organisational management, this book clarifies how communication contributes to organisational resilience — the ability to adapt to a changing environment and mitigate emergency crises.

In todays' world, change is not the exception but a constant presence. Moreover, issues and risks occur that may grow to become crises. Coping with change and unexpected events, is what the concept of 'resilience' is about. Organisational resilience is the basis for the long-term viability of organisations in a turbulent environment. Communication, in various ways, is a bridging activity that supports the capacity of the organisation to function despite risks and disruptive incidents. Attention is needed for a resilient culture and collective mindfulness, in particular, in high reliability organisations.

This book explains that the roots of current crises are complex. As many crises combine different kinds of threats, cooperation with other actors is needed for their mitigation. Communication brings such actors together.

Communication has often aimed at enhancing dyadic relations between an organisation and its stakeholder groups. The issue arena approach instead focuses on competitive multi-actor interaction and poses that people primarily have a stake in issues that matter to them, rather than in organisations. Issues spread fast in social media and, hence, may result in organisational crises. To understand fast changing public views, developing digital communication and monitoring online discourse are vital. In addition, the diversity of environmental dynamics and crises requires a range of different communication strategies.

Research can offer a better understanding of evolving multi-actor interaction concerning issues, risks and crises, and support communicative decision making. This also calls for attention for methodological and ethical constraints in using big data for monitoring purposes. Finally, the book advocates the use of simulations and serious gaming to investigate multi-actor interaction in turbulent environments.

Keywords: *continuity management, corporate communication, crisis communication, disasters, emergencies, issue arenas, issues management, monitoring, organisational resilience, social media.*

PREFACE

These are turbulent times indeed. Scholars talk of disruptive changes resulting in dying industry branches, and black swans, meaning unforeseen large crises, that both will challenge society. How can private and public organisations deal with such major changes in their social environment? One thing is certain: such situations call for communication with all stakeholders involved, as this book further explains.

This book 'Communication in Turbulent Times' is characterised by a broad approach towards corporate communication, emphasising change and crisis even more than my earlier books. I am glad to have had the chance to write this new book, thanks to my university granting me a research year, to focus on research work and gain fresh input and ideas via research mobility.

Thanks also to the University of Twente that welcomed me as visiting professor, especially to the department of Psychology of Conflict, Risk and Safety led by Professor Ellen Giebels, and to Dr Irna van der Molen of the Centre for Risk Management, Safety and Security. This warm welcome enabled me to join in discussions on resilience with scholars from different disciplines, and benefit from the university's strong practice network in safety and security. The ideas for this book also came from the EU projects on disaster management and terrorism that I led as consortium coordinator or participated in as a partner, leading to many interesting contacts with international scholars. Within the University of Jyväskylä, my research group became, at our initiative, part of the School of Economics and Business, which invited me to take an organisational perspective, going beyond business continuity to include both organisational and societal crises. Beneficial to this process were also several of my doctoral students who focused on crisis communication and evolving issues in social media.

I hope that the contents of this book, in turn, will inspire many scholars and practitioners alike to ponder on this new approach of multi-actor communication in fast changing organisational environments.

Jyväskylä, 1.9.2017
Professor Marita Vos

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1 INTRODUCTION

"The future is not the past repeated"
    - Quarantelli (1996, p. 2)

In this chapter, this book's approach and its aims are explained.

1.1 Communication in a changing world

In todays' world, change is not the exception but a constant presence. Major changes in society cause shifting views on interests held and new issues to be debated. Change comes with frictions and new problems, but it also brings new chances. *Communication is used by actors to make sense of changes in their environment and to collaborate to obtain goals.*

Decennia ago, many people thought that technology and management would bring endless opportunities and would solve nearly any problem. Nowadays, we understand that management and control have limitations and that complex problems often cannot be solved by just one actor. We need to accept that organisational processes and systems are fallible. Thus, risk can be reduced but not excluded. Reducing risks demands a continuous engagement to lower the chance that they occur or grow in severity. The higher we set our standards, the more effort and costs risk reduction takes. Some standards are legal obligations, whereas other matters require decision making. Sometimes, avoiding risks to a very high degree costs more than handling the risks' potential consequences. An actor deciding which risks to prioritise and what budget to spend often has consequences for other actors, too. This calls for accountability of decisions made.

Many issues debated in the public sphere are complex and related to risks. Some risks are interrelated, that is, reducing one (risk) may increase another. Whose input is used in the decisions made also differs. Participative decision

making on risks is considered a difficult process, as emotions tend to arise and influence risk perception. Moreover, those with vested interests in activities that cause risks and those who bear the consequences are often different people. *Communication can support such decision-making processes and clarify the perceptions of different actors.*

We live in a complex world. Some issues and risks will grow to become crises. Earlier, organisations focused on management to enhance prevention, preparedness and response to crises. Nowadays, the roots of crises seem more complex and, in policy making, effort is aimed at understanding the roots of the events. For example, flooding or hurricanes are related to the complex phenomenon of global warming. The latter also causes conflicts over scarce resources such as water. Another example: migration often is a result of increased conflict in other geographical areas. The growth of international trade has both positive and negative consequences for local producers, and the interrelatedness of markets brings vulnerabilities to large scale economic crises. Technological developments create both opportunities and increased dependency which forms a risk.

The mitigation of crises and their consequences is not so different from before: emergency management activities aim at reducing the negative impacts of, for example, flooding, fire, pollution, crime and violence. However, as many crises combine different kinds of threats, cooperation with other actors is needed for their mitigation. The intensive cooperation needed to mitigate current crises requires a collaborative approach—an approach that combines the efforts of public, non-governmental and private organisations, as well as civil public groups. *Communication brings such actors together.*

In this publication, the focus is not on crises as an exceptional situation but rather on broader volatility in the environment. This is reflected in the concept of *resilience* which refers to the capacity to adapt and function in turbulent environments despite risks and disruptive events. Resilience can be seen on different levels, for example, societal and community resilience. This book's focus is on organisational resilience *and, in particular, how communication contributes to this resilience.*

1.2 About this book

Organisations function in a dynamic environment where multiple stakeholders discuss issues and crises that concern or affect the organisation. Communication professionals and managers need to understand the current challenges involved. Communication can greatly contribute to organisational resilience in turbulent times.

The purpose of this book is to *increase the understanding of multi-stakeholder communication concerning organisational issues and crises.* This book takes a broad

approach to explore communication in turbulent times, as the fragmentation in the field of organisational crisis communication, so far provided a limited view concerning the role of communication. Literature on crisis communication has been dominated by scholarly works on reputation and reputation crises, whereas literature on emergencies and disasters mostly focused on risk and crisis mitigation from the perspective of governmental safety and security authorities. Currently, the array of crisis contingencies calls for a broader view on communication activities that are crucial to avoid that "organisations get fatally hurt during radical changes and crises" (Falkheimer, 2008, p. 295).

From the perspective of organisational management, in particular, this book clarifies *how communication contributes to organisational resilience*—the ability to adapt to a changing environment and mitigate emergency crises. Organisational *continuity management* ensures the continuity of organisational processes including delivery of products and services in the case of disruptive incidents. These disruptive incidents often have an internal cause, such as an accident in the production process, or an external cause, such as violence targeted at the organisation. In addition, organisations can, like citizens, be subject to broader natural disasters or societal crises.

In this book, we will look at these crisis situations from the perspective of communication with stakeholders in turbulent times. This change-oriented approach towards communication is relevant in a range of volatile situations where the risks involved are complex. As Figure 1 summarises, a fast-changing environment makes organisational resilience important and calls for risk reduction, understanding of issues and mitigation of crises. To all of these matters, communication has an important contribution.

Fast changing environment with complex interrelated risks

Organisational resilience
in the face of disruptive events:

- Reducing risks
- Understanding issues
- Mitigating crises

FIGURE 1 The theoretical framework synthesised

This book focuses on communication contributing to organisational resilience. It is *written for* communication experts and general managers of private and public organisations. It does not focus on the specific needs of emergency and rescue organisations. All kinds of organisations need communication to help reduce vulnerabilities to risks and increase resilience as a responsibility towards their partners, employees and other stakeholders. This is especially clear for critical infrastructure organisations, where a lack of continuity would affect many people in society.

We take an *integral approach* towards communication, as communication in turbulent times is co-constructed by multiple stakeholders characterised by different interests and various interdependencies. In the organisational management, business continuity is emphasised which includes both employees and business partners such as suppliers in the process. In the broader field of 'security and safety', a triple helix approach is used, where knowledge institutes such as universities collaborate with businesses and public organisations to create innovative solutions, also including non-governmental organisations such as the Red Cross. In the case of disasters and societal crises, broad collaboration has been advocated in an all-of-society approach, including private and public organisations and societal actors such as organised citizen groups and individual citizens.

The common denominator in the previously mentioned activities is collaboration in order to include all kinds of actors and resources to create social capital for crisis response and prevention. Communication enables these kinds of collaboration.

The following table provides an overview of the chapters to come.

TABLE 1 Preview of the chapters to come

Chapters 2–4	Communication, organisational resilience and types of crises: • Dynamics of issue discourse • Organisational resilience and the role of communication • Mixed crisis types
Chapters 5–7	Mindfulness and strategy making: • Culture of high resilience • Continuous monitoring • Communication strategies
Chapters 8–9	Future knowledge development • Consequences for crisis management and future research • Serious games applied for learning and crisis communication

We will introduce the dynamics of current issue discourse by describing the changing landscape in which communication takes place, introducing issue arena theory, and explaining the core concepts of issues, risks and crises. Or-

ganisational resilience is discussed as the focal concept in the book, and we will pinpoint the role of communication within organisational resilience using a strategy map approach. Moreover, we will clarify that crisis types to a large extent are overlapping, explaining the complexity of crises to be considered by organisations.

In the next part of the book, communication activities that enhance organisational resilience will be discussed, comprised of supporting a culture of high resilience, monitoring and strategy making. Finally, the consequences of this dynamic approach towards communication for continuity and communication management, as well as for future research, will be discussed.

At the end of each chapter, recommendations for further reading are provided, including other related works. The index lists the core concepts used and can be found at the end of the book.

2   DYNAMICS OF ISSUE DISCOURSE

In this chapter, we will picture the context in which we will discuss organisational resilience. We will explain the characteristics of multi-actor interaction and introduce issues, risks and crises as key concepts.

2.1   Living in turbulent times

These days, change is not seen as an exceptional situation but as a factor that is constantly present. Many organisations function in a *dynamic context*, characterised by fast development in both their external and internal environments. Change brings uncertainties and calls for communication to better understand the situation and negotiate possible consequences. Discussion held outside often also occurs inside an organisation. Boundaries fade between internal and external publics, where staff works at a distance and work that was previously completed by employees is outsourced to external agencies or vice versa. International boundaries also fade, as more companies not only export but also produce goods and services abroad and work with an international work force. Globalisation can enrich life but also brings complex interdependencies and potential conflicts, as the interests of the actors involved may differ.

　　Many people feel that there are more crises these days, although this has been disputed. But, as interdependence grows, crises often have global impact and are brought to worldwide attention by various real-time media outlets. In addition, the number of crises related to climate change has steadily increased. Moreover, in some periods, conflicts occur more often; for example, in 2015 a record number of people were displaced globally because of war and persecution (Herwig, 2016). Crises are said to pose wicked problems (Czarnecki, 2016), in the sense that they are complex phenomena with far-reaching effects involving many people and societal sectors.

　　International conflicts also increase instability in other parts of the world and pose difficulties in regard to humanitarian aid (e.g. van der Molen and Stel,

2015). In some places, disorder is seen as a political instrument, with violence always present and patronage as a dominant or underground stream, reinforcing deep-seated social animosities and public anxieties (Chabal and Daloz, 1999; Duffiel, 2001).

In volatile times, we cannot rely on predictions about events, and rather than being able to manage uncertainty "living with uncertainty becomes necessary" (Montuori and Purser, 1996, p. 198). Therefore, members of organisations enact their environment, learning by experimenting and anticipation (Weick, 2001). Through communication, people make sense of uncertainties in the environment, which helps co-create safety or, at least, reduce vulnerabilities to disruptions.

Crisis communication is the interaction between different actors concerning crises. It has also been defined as "communication by an organisation before, during and after a crisis" (Hargie and Irving, 2016, p. 87). However, we see crisis communication as being *co-created* by those that discuss issues related to the crisis. It can be considered an interface function between all those involved in the prevention of, preparedness for, response to, evaluation of and learning from crises.

When a crisis evolves, people combine information from different sources to try to understand the situation (Falkheimer and Heide, 2010). By communicating about the crisis, they make sense of what is happening, and this process helps them come to terms with it (Weick, 2001). Information is shared to construct a picture of the situation. In public discussions, different views are expressed concerning the situation, for example, related to causes and effects. This highlights multiple realities or perceptions of an event that necessarily come with distortions in perception (Topper and Lagadec, 2013), as people often see only part of the picture, are influenced by rumours, and/or emphasise different elements of the crisis.

In the media discourse, such different views become visible. Their interpretation is no simple matter, as the presentation of a point of view does not always reveal the interests behind it. Issues related to a crisis can be discussed in traditional media—including newspapers, radio and television—but also in social media. *Social media* are a group of Internet-based applications that allow exchange of user generated content (Kaplan and Haenlein, 2010), for example, microblogs such as Twitter, video sharing sites such as YouTube and social media networks such as Facebook. In social media, public debate does not always manifest as direct interaction in, for example, replies or comments, as more often people react indirectly to others or simply express their own views. Therefore, public discussion becomes visible as a collection of diverse viewpoints.

Technology has transformed the way in which people communicate, resulting in new media formats and the fragmentation of publics (Tench and Yeomans, 2017). The latter means that, online, people are confronted less with different opinions than in traditional news media like television; in social media, they primarily connect with those that share similar views to their own. Moreover, although social media make it easy to express one's point of view, simply

posting messages does not guarantee that these are being found among the many entries online, for example, on Twitter or YouTube. This is why gaining attention for one's viewpoint has been emphasised in multi-actor discussions. As multi-actor discussion is central to the timely approach towards communication in this book, we will thoroughly explain this in the next section.

2.2 Multi-actor discussion

Customary communication models depict a focal organisation with relations that have a stake in the organisation, which suggests that the organisation has a central position. The issue arena model instead poses that people have a stake in issues that matter to them, and as these issues—rather than organisations—are central to them, an organisation needs to look for suitable places for interaction to be able to connect with people, for example, on social media platforms (Luoma-aho and Vos, 2009, 2010). The concept of the issue arena has been suggested to lead to a more dynamic stakeholder model because it integrates insights from various theories, as will be further explained below. The concept is important to understand communication in volatile times.

Communication management has often been focused on dyadic relations between an organisation and its stakeholder groups; however, the network model of stakeholders provides a more complex view of interrelationships between stakeholders and stakeholders having stakeholders of their own (Rowley, 1997). Organisations and stakeholders are embedded in Internet-mediated social networks (Grunig, 2009). The organisational environment is understood as a set of social actors (Rowley, 1997), which encourages the study of communication in multi-stakeholder networks (Roloff, 2008).

In addition, the heterogeneity of publics and their shifting interests have been emphasised, which provides a dynamic picture of stakeholder interactions that changes over time (Crane and Livesay, 2003). Along similar lines, the discourse in crisis times has been characterised as emerging multi-actor interaction (Gutteling, 2001) and multi-vocal communication (Frandsen and Johansen, 2017).

An *issue arena* is a place of interaction where multiple actors discuss topics in which they have a stake. Actors in an issue arena, that following Goffman (1959) has been compared to a stage in a theatre, can choose to be active 'on the stage' or passive 'in the audience' (Luoma-aho and Vos, 2010). An organisation perceives how other actors behave interpreting other actors' interests, possibly leading to the formation of a communication strategy. As an organisation interacts in various dynamic issue arenas, meeting different actors and using different strategies, it would be advisable to balance its approach (Flynn, 2006) so as to maintain a clear identity within the different arenas.

The issue arena approach is based on several theoretical areas (see Vos, Schoemaker and Luoma-aho, 2014). First, stakeholder theory clarifies the mutu-

al dependence between an organisation and stakeholders with diverse interests. Next, network theory explains roles and power relations in the network, depicted as a 'set of interconnected nodes' (Castells, 2000, p. 152). Furthermore, agenda setting provides a basis to understand the salience of issues and their transfer between news media and public agenda. Last but not least, issues management identifies evolving issues and links these to organisational policies.

Similar to the concept of the market arena which refers to places where supply and demand meet for a product or service, the concept of the issue arena relates to places where views on issues are exchanged. Nowadays, much emphasis is on social media as a platform for the exchange of views on issues. Social media have not only enabling functions, as they provide opportunities to share information, but also disrupting functions when damaging messages are posted for which it is difficult to discern message truthfulness and find the identity of the source (Valentini and Kruckeberg, 2016). All of these messages disseminate fast and wide on the Internet if they are actively shared by users, for example, when retweeting posts. Fast issue spread is a feature of turbulent times.

It has been suggested that organisations "cannot afford to wait until others have defined and legitimised issues before entering the issue arena" (Crable and Vibbert, 1985, p. 9). Although organisations can participate in the debate in issue arenas, they cannot control how it evolves (Heath and Palenchar, 2009). However, by proactively picking up on early warning signs, an organisation can participate early in the debate as one of the actors. This is important for "whoever perceives the issue early on and is able to establish sufficient credibility, may turn out to be the dominant voice on the issue" (Luoma-aho and Vos, 2009, p. 120). The term arena has been chosen to underline the competitiveness of the interplay between the actors as they compete for attention on particular issues.

An organisation can participate in an issue debate in order to prevent an issue from growing and to decrease related risks for the organisation. Alternatively, organisations may wish to enhance societal change by further developing and spreading an issue themselves (Crable and Vibbert, 1985). Other aims in issue arenas can be to jointly solve problems together with other actors, make sense of events or balance interests of different stakeholders (Heath and Palenchar, 2009). What happens in an issue arena can be described as follows. Actors can:

- create attention for a topic in order to place it on the agenda;
- influence the direction of the debate by promoting a viewpoint;
- show accountability and explain one's actions to maintain legitimacy or gain acceptance;
- educate publics to enhance risk awareness and crisis preparedness;
- call for the input of publics, such as through online polling or *crowd sourcing* (soliciting contributions from the public, thereby gaining input of social media users); and

- arrange a negotiation of interests or joint problem solving.

Besides focusing on issue content, actors can also focus on relationship building, for example, when the topic discussed is secondary to strengthening relations or building alliances. One can also aspire to a position or role in the network by gaining credibility or becoming a dominant voice which could, consequently, also affect other issue discourses. This aspiration is related to power relations. In a network, a few nodes act as a highly-connected central actor, also called a *hub* (Borge-Holthoefer et al., 2012), and are coupled with the power of a *gatekeeper* that is able to facilitate or block the spread of information (Gruzd et al., 2011; Carpenter, 2011).

Although a network of actors tends to maintain *homeostasis*, meaning a relatively stable situation (Vos et al., 2014), imbalances will occur resulting from the actions of one or more actors or changing external circumstances. Consequently, the actors in the network react to such imbalances in power relations, which can result in issue debate.

For an organisation, strategy making in issue arenas is complex. Typically, several issue arenas are followed by an organisation in which those issues crucial for organisational goals are prioritised and the costs and benefits of participation versus non-participation are estimated. In addition, the organisation needs to identify the places most suitable for participation in the debate and find ways to connect with other actors to gain social capital, such as a positive reputation.

Usually, organisations train a limited number of organisational representatives for news media interviews. However, in social media, such a limited approach would not make use of available opportunities. Many employees are social media users and, increasingly, this is valued as a resource within the voluminous social media discourse, using organisational codes that explain, for example, how their role in the organisation is to be mentioned in a transparent way.

In an online issue arena, organisations attempt to keep abreast of the discussion by observing how competitors communicate, following comments to their own posts, replying to clients and sharing posts of other actors with whom they share views. For all of this, continuous *monitoring* is essential, that is, following the debate in a structured way and analysing what is going on (see also section 6).

When monitoring evolving discussion in an issue arena, one can focus on the elements of the analytical model of communication in issue arenas (see Figure 2), that is, the actors, places of interaction, issue-related aspects and the course of the debate over time.
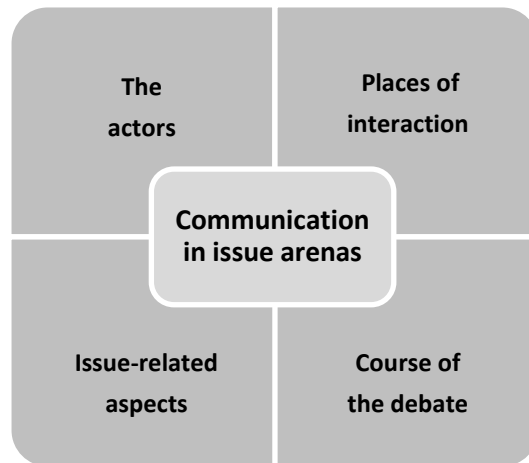
FIGURE 2 Analytical model of communication in issue arenas (based on Vos, Schoemaker and Luoma-aho, 2014)

The actors

To study communication in issue arenas, one must first look at the actors involved. An important feature of the arena is the actors active in the debate. If an issue is important to an organisation, the organisation should maintain an updated overview of the main actors in the issue arena, noting their characteristics and interests, strategies used and roles in the debate. It is important to know who is active in an issue arena because these actors are important for the organisation. One of the reasons to be active in an issue arena can be to strengthen such relations between the actors and the organisation. There are many different active actors: public and private actors, civil society representatives and/or individual citizens or consumers. The functioning of the current network society is built on social and media networks that as an organisational form connect individuals, groups and organisations (van Dijk, 1997).

Resilience requires cooperation, is created in the constellation of social networks and emerges from the adaptive capacities of these networks. In the issue arena, it is interesting to see how the actors are interrelated, for example, if coalitions exist or if some actors support other actors. Actors can refer to each other, in a critical or in a positive way. If online posts of other actors are shared, the actors could have similar interests and, for example, function in the same sector or value chain.

Crisis communication involves many stakeholders with different views and interests. Thus, there is often dissent on the causes of a crisis and how it should be resolved (Quarantelli and Dynes, 1977). Issue arenas are competitive places, as actors compete for attention for their own viewpoint and have different aims in the debate. The better one knows the other actors, the easier it will be to understand their interactions and anticipate the actions of others. The intentions of the actors in relation to the issue discussed are not always clear. They are deduced from what the actors say or how they act.

Places of interaction
To observe issue arenas, one can look for different places of interaction. The discussion in an issue arena happens in one or many places, in the traditional media or virtual media. Social media in particular have been known to facilitate the spread of issues. The speed with which information travels on the web has been compared to the fast spreading of viruses and is thus called *viral spreading*. The characteristics of the media context influence the speed at which an issue spreads. Some social media are easy to access and facilitate the sharing of posts, for example, retweeting messages in Twitter. Other social media form strong link networks, such as Whatsapp. There often is a threshold for an issue to be spread wider, for example, to be transferred from one social medium to another (Rogers et al., 2012). Similarly, it could take a significant amount of time to move from the news agenda to the public agenda or vice versa (Zhang et al., 2014).

Organisations that follow an issue debate observe various places of interaction and consider which places, also called *sub arenas* (Coombs and Holladay, 2014), are most suitable for them to participate in. Many organisations prioritise their own home pages; however, more actors will be active on other independent platforms. Organisations try to increase the spread of some issues by motivating bloggers and other influential actors online to post messages about them, prioritizing those Internet users who have active accounts and many followers.

Issue-related aspects
An issue arena is also characterised by the features of the issue itself. This relates to its lifecycle, for example, if the issue is in an early or mature stage of development. If an issue relates to a crisis, the nature of the crisis is important. Crises can have natural causes or be human-made. For example, deaths caused by the collapse of buildings triggered by an earthquake are usually followed by expressed sadness and sympathy, but if the collapse was caused by fraudulent building companies, different sentiments, such as showing anger, will arise. There may be various interrelated causes of a crisis, resulting in diverse public reactions.

The context of the issue and any associations with other issues also matter. In this way, an incident related to an organisation also reminds of earlier incidents of the organisation. Consequently, the negotiation of reality is contested by competing views on an organisation's current and earlier behaviour (McHale et al., 2007). Similarly, an incident relates to earlier incidents in the same sector or industry. For example, earlier incidents in nuclear power plants have created a context in which new incidents are scrutinised more critically.

Course of the debate
Observing an issue arena means following the interplay between the actors, developments over time, communication strategies deployed and outcomes gained. In their actions in the issue arena, the actors anticipate possible reactions of other actors. They estimate and try out what they might gain by executing a certain action. While acting, they observe the other actors. From an enact-

ment perspective (Weick, 2001), people make sense of events through communication processes in which they read each other's behaviour (Sutcliffe, 2001).

Issue arenas are places for interaction rather than one-way posting of messages without taking note of what goes on. However, many organisations still primarily focus on dissemination of their own messages and under-use possibilities for online dialogue (Coombs et al., 2015), such as discussion platforms, online polls and joint problem solving. Social media users increasingly expect organisations to monitor their tweets and reply to the users directly. Interaction can also be indirect, for example, when an organisation posts information that on a more general level incorporates a reaction.

Issue arena debate does not always lead to action in society, as the discussion can also block or slow down actions. For example, competing voices in the international arena slowed down the response to the dangerous virus SARS (severe acute respiratory syndrome) when it appeared in 2002 (Sellnow and Veil, 2016). The interplay shifted from fear of the virus to fear of overreacting by states, resulting in negative consequences for local economies.

The focus of an issue debate changes over time. For example, the discussions on risks caused by global warming became dominated by the issues of lowering CO_2 emissions and use of fossil fuels, while other substances that contribute to global warming, such as methane, seem to be forgotten.

Issues discussed may in content relate to disturbances in the environment, for example, when people discuss current changes or crises to make sense of what is going on. However, in online discourse, issues can also be created or added to. Views expressed by individuals are shared online and retweeted, possibly spreading the issue further and making it grow. Consequently, public and private organisations need to follow-up on these instances, either to coproduce solutions or to attend to problems that relate to their organisation.

In a changing environment, there often is heated debate. Issue arena discussion reflects change in the social environment, but it can also lead to or enhance change. Communication has been understood as constitutive of change and as to produce change (Crane and Livesey, 2003). Coping with turbulence in the environment can also be addressed by focusing on resilience, as will be explained in the next section. We will first clarify the concept of resilience and some other core concepts before venturing into organisational resilience and explaining how communication can contribute to this.

2.3 Resilience

Resilience refers to coping with change and managing the unexpected through a comprehensive and multidisciplinary approach (Robert et al., 2015). The concept points to the capacity to adapt and function in turbulent environments despite risks and disruptive events. This is an important capacity that includes being able to avoid, withstand, adapt to and recover from a threat. Resilience has also been described as the ability to bounce back, but bouncing back is not

appropriate because this does nothing to address the situation that brought the crisis about in the first instance, instead calling for renewal (Frerks, 2015).

Turbulence cannot be avoided, but one can act or adapt to absorb unexpected shocks to retain function at an acceptable level (Palma-Oliveira and Trump, 2016). This is in the interest of a fast recovery of main functions, or even an improvement of such functions, bouncing forward rather than bouncing back to the situation before a threat occurred. Thus, resilience aims to retain function at an acceptable level and to achieve well-being and renewal.

Dynamic situations call for mindfulness to note deviations and remain sensitive to operations, unexpected turns of events and potential errors or weaknesses of systems (Weick and Sutcliffe, 2007). They also require agility to cope with sudden and incremental changes (Lechner, 2015).

A *systems approach* is important to understand resilience (Palma-Oliveira and Trump, 2016). Such an approach takes an integral view at a set of interrelated parts, emphasising the interfaces between a system (e.g. an organisation) and its environment, between sub systems or between a sub system and the system (Grunig, Grunig and Ehrling, 1992). Following this approach, communication can be seen as a boundary spanning function. The degree of permeability is a characteristic of the system, as it can be more or less open to influences from outside the system (Miller, 2006).

Social, ecological and technological systems are seen as interdependent (Linkov et al., 2016). One can look at resilience on various interrelated levels, for example, micro/individual, organisational, meso/processes and macro/societal. The nested systems approach is comprised of these various levels, from micro to macro, whereas the networked systems approach adds complexity (Neal and Neal, 2013). The nested systems approach, for example, looks at transboundary crises that call for attention on various levels, such as states and intergovernmental institutions. The networked system approach, for example, focuses on cross-sector collaboration, that is, how different sectors in society together form societal resilience.

The systems approach also clarifies why it is urgent to give attention to resilience. Nowadays, there is a tight coupling of systems and processes, and there are many interdependencies between these systems and processes, as many systems are complex. For example, in a hospital, the surgical unit depends on laboratories for test results that, in turn, depend on various supplies, such as equipment, electricity and water (Miller, 2006). This interdependency increases susceptibility to disruptions and, in the case of a disruption, causes ripple effects to other systems. Another example is the highly connected global economy (Miller, 2007). A focus on resilience helps cope with uncertainties in complex systems and solve problems that call for collaboration. Activities to increase resilience include anticipation, detection and learning, aimed at adaptation to or influencing of developments.

Organisational resilience is the basis for the long-term viability of organisations functioning in a turbulent environment. Vogus and Sutcliffe (2007) define it as "the maintenance of positive adjustment under challenging conditions such that the organisation emerges from those conditions strengthened and more resourceful."' (p. 3418). The ability to adjust to challenging conditions is co-created within the network of internal actors of the organisation and its external stakeholders, for example, its suppliers.

Resilience of one particular organisation contributes to broader societal resilience and is also connected to the community resilience of regional actors including authorities, private organisations and societal actors such as citizens and non-governmental agencies (Hyvärinen and Vos, 2015). Organisational resilience, and how communication supports it, is further discussed in Chapter 3.

2.4   Issues, risks and crises

The challenging conditions that culminate in a crisis are comprised of issues and risks. *Issues* are topics discussed in public and often represent a problem. According to Coombs (2002) "A problem becomes an issue when it moves from a private concern to a publicly discussed concern" (p. 216). Issues are unsettled matters (Crable and Vibbert, 1985), and many people may discuss a similar concern with others (Hallahan, 2001). Therefore, some issues have the potential to become an organisational crisis (Heath and Nelson, 1986).

Issues relate more or less to the focal organisation. For example, people discuss the issue of sustainable energy and how they see their energy use and responsibilities in relation to other generations, though they may or may not link this to the reputation of a particular energy company. Either way, it is of interest for such companies to understand the relevant client views. Most organisations continuously follow the development of several issues deemed important for the organisation. Issues should not only be seen as a threat; they also bring opportunities (e.g. new market possibilities).

A *risk* is a threat that may occur with a greater or lesser probability (Zinn, 2008). According to Renn (1998), 'Risks refer to the possibility that human actions or events lead to consequences that affect aspects of what humans value' (p. 51). Risk analyses focus on the study of cause–effect relationships, while risk assessments calculate probabilities and potential effects as is. Risk assessment, then, is especially relevant for insurance companies. Not all risks are avoided, as risky choices often come with benefits. Thus, although decision making often aims at decreasing risks and ensuring continuity, some risk taking is done with the expectation of certain trade-offs, as utility, cost, schedule and performance are also taken into account (Madni, 2009).

Risks may be accepted if compensated by benefits; however, often the bearers of risks are not those that benefit from them, and risks are not equally divided. Socially vulnerable populations often bear more risks and suffer the

consequences disproportionately, as in the case of natural disasters which result in property damage, injury and death (Boano and Lund, 2011). Acceptance of the risk tends to be higher if people feel the risk is justified and not imposed on them. It also matters if people trust that those managing the risk are committed to controlling, reducing and containing it (Regester and Larkin, 1997). Therefore, according to Renn (1998), although technical assessments can best estimate probabilities of risks, "public perception should govern the selection of criteria on which acceptability or tolerability are to be judged" (p. 1).

Vulnerability is the opposite of resilience, as it indicates sensitivity to the threat and, thus, how much loss, damage or harm it may cause (Boano and Lund, 2011). Vulnerability is low if the change can be absorbed and turned into renewal.

When a risk is manifested, a crisis can evolve (Heath and O'Hair, 2009). Known risks can be prepared for, and risk communication is considered an enabler of risk awareness and crisis preparedness (Romo-Murphy, 2014). *Risk communication* is the exchange of views and information about a risk among those that have a stake in it, in some cases including the organisations that create risks and those that bear the consequences (Coombs, 2012). In reducing risks, the focus should be on avoidance of threats and/or reducing vulnerabilities.

A *crisis* is an unexpected, high-consequence event that brings uncertainty and calls for a short response time, as it "comes as a surprise and introduces extreme threat into a situation" (Ulmer et al., 2011, p. 8). Routine procedures are not enough to cope with such a disruptive situation. In the literature, crisis management activities follow crisis phases comprised of risk mitigation, preparedness, response and recovery (e.g. Moe et al., 2007). However, crises do not follow linear development (Chess, 2001), and, rather than an event, a crisis should be seen as a process (Reynolds and Seeger, 2005).

Often, the crisis cannot be easily demarcated in time, and there is a triggering event with hectic moments of decision making followed by an aftermath of the crisis that does not always have a clear ending (Boano and Lund, 2011). Crises, rather than events, are processes extended in time and space (Shrivastava, 1993). There is a chain of decisions to be made, often with incomplete information and within time constraints, and each decision forms a new risk because it may add to or decrease the problem. Although a crisis is an unstable and challenging situation, it is also a turning point that can bring opportunities for change and learning (Ulmer et al., 2011).

Crises have also been approached as a collective stress situation (Quarantelli and Dynes, 1977). Because a crisis creates high uncertainty, "it prompts the search for information" (Seeger et al., 2003, p. 18). This emphasises the need for *crisis communication*, that is, interaction to make sense of the events.

What is labelled as a crisis depends on the point of view of the actor. For an emergency organisation, a frequently occurring type of incident is routine, whereas the people involved will experience it as an exceptional situation with high anxiety. Similarly, some changes are resisted as unwanted disruptions.

Labelling a situation as a crisis creates attention and fits frames in which blame is attributed. Depicting the context as a crisis often also fits political aims when advocating change or economical aims, for example, when speculating on financial markets.

Issues, risks and crises are interrelated. Issues management is deemed particularly worthwhile because it aims at preventing crises (Heath and Nelson, 1986). Therefore, the monitoring of issues has been positioned as a pre-crisis activity (e.g. Czarnecki, 2015). Similarly, risks have been defined as threats that may develop into crises. Thus, although it has been acknowledged that risks also occur during crises, risk communication has primarily been addressed in research concerning risk awareness in the pre-crisis phase. Here, we emphasise that issues and risks occur during any phase of a crisis.

Figure 3 shows that issues and risks may lead to a crisis that in turn is characterised by (possibly new) risks and evolving (sub) issues.
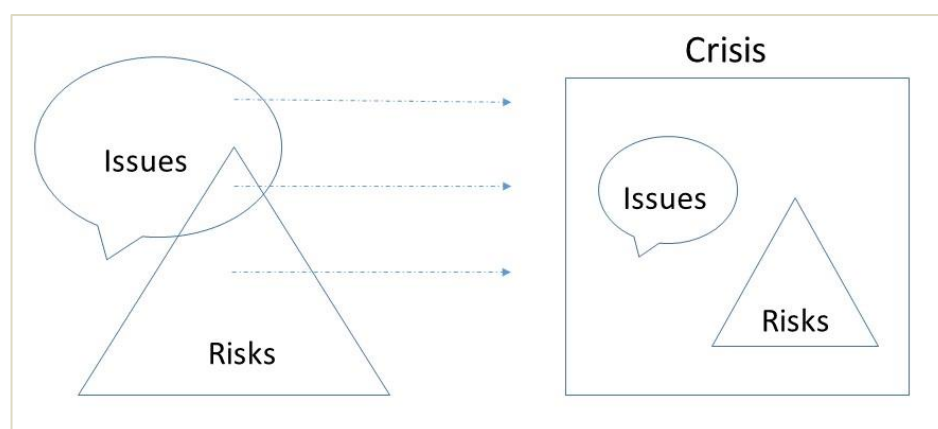
FIGURE 3 Issues and risks may lead to a crisis characterised by possibly new risks and evolving issues

The relation between issues, risks and crises is not as simple as it seems. Some of the issues discussed in public lead to a crisis. The issue could barely relate to a particular organisation or, oppositely, the organisation could be the main actor that publics refer to. Some risks are intensively discussed as an issue in public, for example, economic risks associated with a country potentially leaving the Euro zone. Figure 3 shows such an overlap between issues and risks. Other risks are hardly discussed before occurring as a crisis, for example, the risk that an earthquake occurs in Western Europe in a mining area. Following the example, it is not an unknown risk but not part of the collective memory if it hardly happened before in the area and was not addressed publicly, possibly because of interests involved.

Crises have often been described as a black box full of uncertainty, making it difficult to predict how the situation will evolve. Certainly, current crises are

complex phenomena, but it helps to understand a crisis not just as a possible result of issues and risks but also as being comprised of issues and risks. *During a crisis, new risks appear and different (sub) issues related to the crisis evolve*. Risk analyses and monitoring aimed at identifying (sub) issues clarify which topics need to be addressed in communication with stakeholders.

A crisis can be considered an umbrella for different evolving (sub) issues, as was demonstrated in social media discourse by different issue lifecycles within the crisis lifecycle (Zhang et al., 2017). Based on the insight that, during a crisis, various issues are publicly discussed, Figure 4 shows a fictitious example of crisis discourse over time.
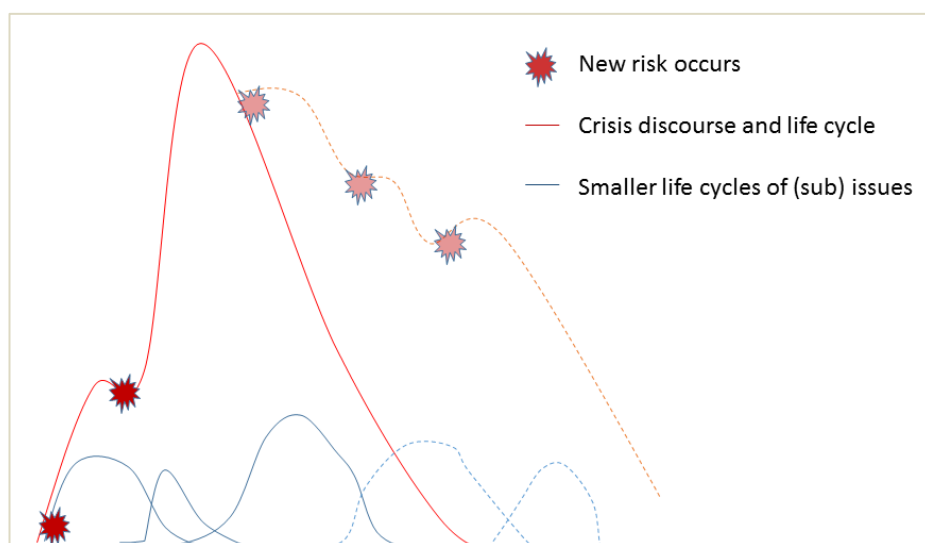
FIGURE 4 Over time, the intensity of crisis discourse changes when new risks and (sub) issues occur

Figure 4 shows a fictitious example to clarify that, over time, the total volume of social media discourse (shown by a red line) varies with the intensity of the crisis events. In this example, the initial risk of an earthquake materialises in an area where it leads to a secondary risk of explosion at an industrial plant, both becoming visible as high peaks in the crisis discourse. In the aftermath of the fictitious example, new risks of pollution occur, resulting in discourse about them (shown by the dotted line). Different crisis-related issues are discussed over time at a smaller volume than the total crisis discourse, representing the concerns of publics. Each issue is only discussed frequently over a limited period of time (Downs, 1972). Thus, during the lifecycle of a crisis, different lifecycles for various crisis-related issues occur.

Every crisis will have its own unique dynamics and *pattern of (sub) issues*. Understanding the evolving pattern of the crisis helps when communicating about it. For example, the initial peak is higher when there is a clear triggering event as opposed to a creeping crisis. There can also be a series of linked crisis events

when the crisis breaks. The number of issues and their pattern will be very different. The final stage looks different, as well. In the wake of a crisis, a power vacuum can trigger new risks. For example, after a violent conflict or natural disaster in a poor region, those affected are, alas, vulnerable targets for human trafficking, resulting in both human tragedy and subsequent new issues and risks beyond the lifespan of the crisis (Meriläinen and Vos, 2015). In the case of organisational crises, reputation loss has influence far beyond the crisis, as it takes a significant amount of time for trust to be restored.

Often, there is initial *uncertainty* concerning the causes of the crisis and the expected consequences. However, later, in the lifecycle of the crisis and even afterwards, causes and consequences are open to debate. Crises are multifaceted, and, during a crisis, in the discourse different aspects are emphasised. The different ways to describe and discuss the crisis reflect the earlier experiences of the actors and their interests. Blame is attributed and solutions are advocated to prevent such crises from happening again. Of course, risks and crises will remain part of life, even if we aim at continuous learning in order to reduce vulnerabilities.

As we will further discuss in the next chapter, organisational resilience refers to the capacity to function despite risks and disruptive incidents. This requires adaptability to enable an acceptable level of functioning (Hémond and Robert, 2012). The perspective of resilience takes into account that continuing operations as normal under any circumstances is usually impossible. This postmodern viewpoint helps make *risk reduction* efforts more successful; instead of relying on rigorous planning, alertness for deviances followed by adaptive behaviour is advocated. As systems are considered fallible and deviations need to be noted quickly, monitoring and detection of events are emphasised (Vogus and Sutcliffe, 2007).

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Frandsen, F. and Johansen, W. (2017), Organizational Crisis Communication – A Multivocal Approach, London, Sage.

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3 ORGANIZATIONAL RESILIENCE AND THE ROLE OF COMMUNICATION

Economic and social viability of an organisation are considered to be the main organisational goals (Krijnen, 1986). Other organisational goals and functional areas, such as production, finance, human resources, marketing and communication, contribute to this end. Communication as a functional area enhances economic goals by, for example, strengthening financial and consumer relations, and it enhances social goals by, for example, increasing organisational legitimacy (Vos and Schoemaker, 2011). Communication also supports the other organisational goals and functional areas.

These days, more than the other organisational goals, organisational resilience is emphasised. In this chapter, we further explain the importance of organisational resilience and how communication contributes to this. Here, the term 'managing' is often used; in a turbulent environment, 'managing' can be defined as thinking ahead and being goal-oriented, rather than actually being able to control events (Grunig and Repper, 1992).

3.1 Organisational continuity and resilience

Organisational continuity in the case of disruptive incidents is seen as an important goal. Being able to continue operations is important for financial performance and for reliability towards clients and other stakeholders. For example, when the services of an internet company are disrupted, this has negative consequences for many internet users. Organisational continuity management aims to ensure the continuity of organisational operations, production activities and provision of services. In private organisations, the term *business continuity management* is used. Continuity management needs buy-in across the organisation, with support from the top management. It needs to be aligned with business goals and corporate culture. Continuity management is based on risk as-

sessment for the particular organisation and focuses on business processes and systems, often from an information technology perspective.

Some starting questions for a risk audit could be: (1) What history does the organisation have in relation to risks, and have there been important incidents in similar organisations? and (2) Which policies or developments are known to increase the organisation's risks (Regester and Larkin, 1997)? Within an organisation, some departments are more susceptible to risks than others, but since crises cross departments, one needs to study the organisation as a whole and note the complexity of interaction among departments (Mitroff, 1988). In this section, we will often mention cooperation within organisations and with external stakeholders, which requires communication (in this case, usually multi-actor communication).

In a complex and dynamic organisational environment, there are many interdependencies that have to be taken into account. Therefore, business continuity also needs to include collaboration within the value chain. Risks related to supply and distribution are difficult to oversee by the contracting organisation and require collaborative continuity management (Sheffi and Rice, 2005). Contracting companies ensure that they do not rely on only a few suppliers and, similarly, often require that their suppliers work for other contractors to reduce vulnerabilities of interdependency. Small and medium-sized enterprises (SMEs) especially have been considered ill-prepared for disruptions and, thus, regional collaboration has been suggested for knowledge transfer (Haraguchi et al., 2016). Regional capacity to deal with disruptions can be considered, for example, to allow for a reasonable duration of a recovery period.

Breaks in the production and delivery of services are typically costly in many ways, disadvantaging partners and stakeholders and possibly leading to compensation claims. Continuity management aims at reducing vulnerabilities. Redundancy—for example, in the form of large stock provisions—helps overcome disruptions but is avoided because it is expensive, whereas flexibility in the case of disruptions has benefits even for daily operations (Sheffi and Rice, 2005). This underlines the importance of flexibility of organisational processes.

To some extent, taking risks is part of the game for gain in a competitive market. Management behaviour seeks to gain market position for the organisation while possibly violating organisational policies in, for example, sustainability. If such a fact was to become public, it could result in a reputation crisis. This kind of ethical problem also relates to the power positions of individual managers, who may be tempted to evaluate risks from their own perspective and interests.

In formal risk assessment, the focus is on the risk's impact on the organisation and/or its stakeholders. Likelihood and consequences are mapped. Risks, critical activities, systems and information, locations and partners are analysed, whereas responsibilities are described, including legal aspects, monitoring and measurement, allowing for a continuous improvement process (ASIS International, 2009).

Emergency incident management includes actions like evacuation and initial mobilisation of safety as well as recovery activities, which includes risk and crisis communication with stakeholders such as employees, partners, other organisations and clients. Activities include all phases in risk and crisis management, from preventive and preparedness activities to dynamic processes during disruptive events, the mitigation of structurally negative consequences of disruptive events after they have occurred and evaluation of emergency management measures.

Planning can be supported by internal audits, testing of the various elements and exercises based on discussion, table-top simulations based on a realistic scenario, as well as stakeholder input. Recordings can help thorough evaluations.

Nowadays, continuity management is often combined with *emergency incident management*, and both elements together are addressed by the term *organisational resilience* (Hemond and Benoit, 2012). Thus, an even wider range of risks and organisational processes is taken into account. Resilient organisations aim at flexibility rather than trying to respond to incidents without changing the organisational structure, and they adapt to environmental dynamics to maintain an acceptable level of functioning (Hemond and Benoit, 2012).

The concept of organisational resilience is relatively young. As indicated before, it focuses on capabilities to reduce harm while regaining full functionality as quickly and efficiently as possible, which is particularly relevant for uncertain threats to critical functions (Linkov et al., 2016).

Resilience at the level of organisations contributes to the macro level of disaster risk reduction in a networked society. The private sector reflects the vulnerabilities of the global economy, where critical infrastructures are increasingly privately owned and the insurance industry has a crucial role in the transfer of residual risks (Haraguchi et al., 2016). As the importance of resilient organisations has been recognised, the topic has been addressed in national standards including those of the International Standards Organisation. Activities that enhance organisational resilience are also considered to benefit business as usual.

The shift from crisis management and continuity management towards organisational resilience marks a different way to think about crises, underlining the following:
- Turbulence is not seen as an exception anymore, and change is embraced through *capabilities* rather than procedures.
- Protection needs full attention but, as it is acknowledged that it cannot prevent all threats from growing into a crisis, early detection and (fast) recovery are emphasised, as well.
- Resilience is formed on many levels (e.g. the organisational, community and societal levels) that need to be connected through cooperation.

In training for organisational resilience, *capabilities* are strengthened that also benefit daily operations. Rather than being bogged down in constant crisis management, resilient organisations aim to invest in a learning culture that encourages problem solving rather than blaming and nourishes adaptive capabilities that help functioning under pressure and, consequently, raise daily performance (Walker and Nilakant, 2014). Besides just exercises to enhance capabilities, metrics also help continuous learning and further development of capabilities to flexibly react to changing circumstances.

Early detection is emphasised because, in many crises, there have been early warning signs that, alas, were not detected and acted upon at the time. A major crisis that could not have been predicted is called a *'black swan'* (Taleb, 2010); for example, we cannot predict which earthquakes will grow to a high magnitude as the characteristics of both groups, those earthquakes that grow and those that do not, are similar. However, many severe crises have not been black swans but rather *'dragon kings'*, meaning a crisis with a wide impact that—contrary to a black swan—does have differentiating characteristics, such as the slow recovery of earlier incidents or increasing deviations in complex systems, that provide a warning sign for its eventual occurrence (Wheatly and Sornette, 2015).

As not all crisis situations can be avoided, dealing with their consequences is important. Plans for quick recovery (e.g. switching to unaffected suppliers) help limit damage in such cases where fallout of organisational functions occurs. The different levels of resilience, from organisational to community and societal levels, need to be linked, calling for integral approaches within and among business sectors. When one element is weak, it also weakens other parts of the system. Interactions or cascade effects between systems and their sub systems need to be considered when identifying brittle and resilient areas (Palma-Oliveira and Trump, 2016). Public–private collaboration needs pre-crisis preparation to clarify roles, responsibilities and communication channels. This is especially needed in severe and complex crises (e.g. an infrastructure fallout that would affect many people and processes).

3.2 The role of communication for organisational resilience

Communication has been approached as a bridging activity, enabling the networked adaptive capacities needed for resilience (Norris et al., 2008). We created a strategy map to clarify how communication contributes to organisational resilience (see Figure 5). The concept of a strategy map is derived from Kaplan and Norton (2001) and has been applied to various functional areas including marketing, human resources and communication (Vos and Schoemaker, 2004). The strategy map below highlights how communication supports organisational resilience.

Organisational resilience goals:

Capacity to function despite risks and disruptive incidents

Supportive communication goals:

Continuity management reputation of the organisation
• Societal acceptance of business-related risks and their management
• Viability as seen by– e.g. financial stakeholders in all crisis phases

Commitment of employees and business partners
• Preventive behaviour and information exchange
• Collective mindfullness for high reliability
• Preparedness and mitigation cooperation

Cooperation with organisations and clients for prevention and mitigation
• Cooperation with authorities and other organisations
• Support for and cooperation with clients (e.g. recalls, out of service, compensation)
• Preventive action by clients – e.g. safe internet use
• Assistance to communities in societal crises (CSR)

Communication processes:

Monitoring stakeholder views and interactions

Communication with employees and partners

Interorganisational and client communication

Learning and growth:

Continuous evaluation and accountability

Planning and preparedness activities

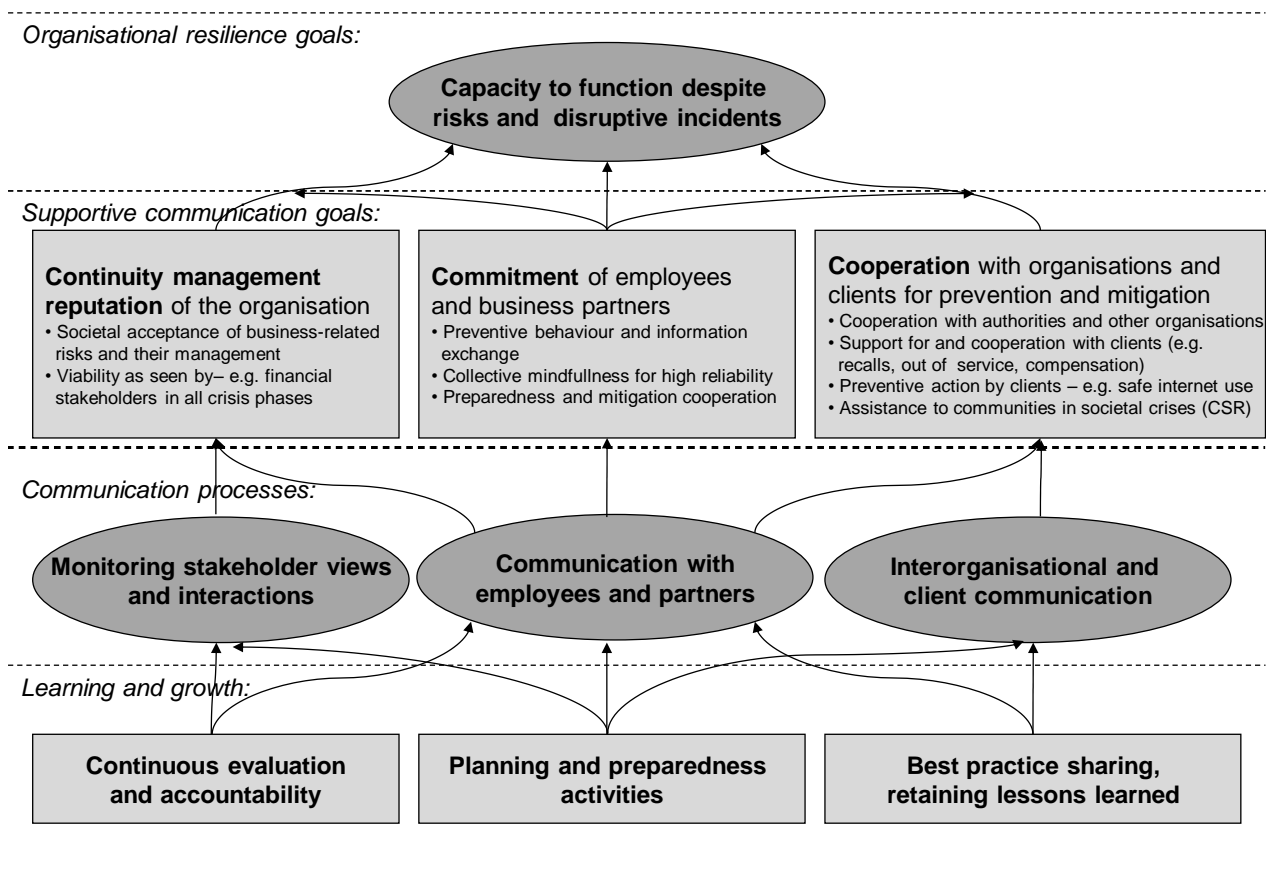**Best practice sharing, retaining lessons learned**

FIGURE 5 Strategy map showing the contribution of communication to organisational resilience

Below, we will further explain the content of Figure 5. Communication contributes to organisations in different ways (Vos and Schoemaker, 2011). This is also true when we focus on the contribution of communication to resilience. As a functional area, communication aims to support the reputation of the continuity management of the organisation by enhancing societal acceptance of business-related risks and how these are managed. This relates to clarifying risks connected to the production process and explaining what is done to reduce vulnerabilities, for example, to people living in the neighbourhood of an industrial plant. It also concerns the perception of organisational viability and stability, for example, by financial relations.

In addition, communication aims to support the commitment of employees and business partners for continuity management, engaging them in preventive behaviour and supporting information exchange within the organisation and between the organisation and its business partners in the value chain, such as suppliers and distributors. This also includes awareness of (new or changed) risks, such as malicious software that could harm computer operations. Vulnerabilities of partners increase those of the main contractor and vice

versa. This calls for maintaining a culture of *high reliability*, where individual employees and those working for partner businesses note and report deviances in the production or service processes that need attention. Communication also supports collaboration for preparedness activities, such as exercises, and joint mitigation in the case of incidents. Employees are included in preparedness activities and training, whereas new staff need special attention.

Furthermore, communication also aims to support cooperation with other organisations such as government authorities involved in the prevention and mitigation of incidents (e.g. emergency services). It also supports collaboration with clients or consumers, for example, in the case of a product recall or decreased services caused by disruptive incidents. Clients can also be motivated to take preventive action, for example, safe Internet behaviour including a regular changing of passwords. Resources and trained personnel need to ensure they will communicate with stakeholders and alert those that could be impacted by the incident (ASIS International, 2009; Alcatara and Riglietti, 2015). In the case of broader societal crises or natural disasters, the organisation can, from the perspective of corporate social responsibility, contribute resources to crisis response in the region.

For potential disruptions, arrangements need to be made for internal and external communication and warnings. When preparing related messages, naturally, stakeholder views and information needs should be taken into account. Pre-planning can include templates, scripts and statements for situations mentioned in the risk assessment (ASIS International, 2009). A combination of communication means can be used to be able to reach as many as possible of the publics affected. In the procedures, internal communication with personnel also needs to be included, for example, using organisational social media networks and work meetings (see also Chapter 5).

Having strong support for communication for organisational resilience is not self-evident. Many organisations reported that they missed expertise, often due to lack of management buy-in to embed communication in business continuity management (Alcatara and Riglietti, 2015).

Further reading:

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Coombs, W.T. and Holladay, S.J. (Eds., 2012), The Handbook of Crisis Communication, Wiley-Blackwell, Oxford, see also http://www.instituteforpr.org/crisis-management-communications/

4 CRISIS TYPES AND TRANSBOUNDARY CRISIS

In this chapter, organisational and societal crises and how they overlap are explained. Organisational crises often bring reputation issues. Societal crises have a transboundary nature, combining different types of crises. So, although scholars have identified different kinds of crises, a crisis situation often demonstrates a combination of elements. This adds complexity and requires communication between multiple organisations, groups and individuals.

4.1 Organisational and societal crises

An *organisational crisis* has been defined from the perspective of the focal organisation as "a specific, unexpected and non-routine organisationally-based event or series of events which creates high levels of uncertainty and threat or perceived threat to an organisation's high priority goals" (Seeger et al., 1998, p. 233). A crisis disrupts an organisation's operations and poses both a financial and reputational threat (Coombs, 2007). It may harm a product line or service delivery and/or damage a business unit, stakeholder interests or organisational reputation.

   In an organisational crisis, a particular organisation is the focal point. The crisis may have occurred within the organisation but can also affect its stakeholders. Crisis response can primarily be executed by the organisation (e.g. in the case of a reputation crisis), but in cases where there is a large scope and impact, authorities (e.g. controlling institutions or rescue and crisis management authorities) often take a lead.

A *societal crisis* is a large scale disruption that affect different organisations, groups and individuals, as well as the infrastructure, economic and social structures that form the fabric of society. For example, an earthquake damages roads, bridges and buildings and harms individuals, groups and organisations. Crisis management aims at preventing and mitigating crises. In societal crises, the

causes and consequences are usually broader than in organisational crises, although the difference is not absolute, as can be shown by the overlapping circles in Figure 6.
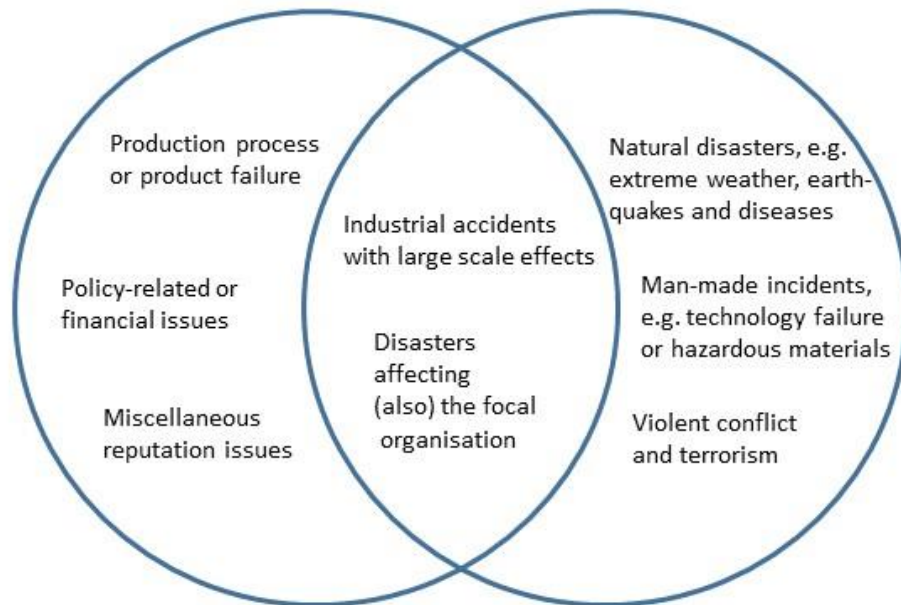

FIGURE 6 Organisational and societal crises overlap

Figure 6 shows how organisational and societal crises overlap by providing some examples. Industrial accidents occur within organisations but might have large scale effects for people living in the neighbourhood of the plant, especially if hazardous materials are involved. Similarly, societal crises also impact an organisation, for example, a violent conflict affecting one place of its operations will also impact the performance of the international organisation as a whole.

Various types of disruptions occur in organisations, and their causes can be both internal and external (Mitroff et al., 1987; Mitrof, 1988). Some disruptions originate from organisational activities. These include the following:

- *Disruptions in the processes of production or service delivery conducted by the organisation*, for example, an explosion or pollution incident in a plant, a computer system breakdown or an accident causing casualties in a service delivery location. Organisations take preventive measures to lower such risks and limit their negative consequences if they were to occur.
- *Product failure* with negative consequences or risks for buyers, possibly resulting in a product recall. Organisations have procedures for this type of incident. Similarly, service quality deficits can cause problems for clients, for example, food hygiene incidents in a hotel chain or hospital.
- Disruptions causing reputation damage or stakeholder conflicts related to *organisational policies or financial management,* for example, a policy not deemed sustainable or ethical, the misinformation of publics, potential bankruptcy or a boycott or long strike. This relates to decision-making

processes in which organisations take legal and communicative consequences into account and weigh different interests, for example, of labour unions, suppliers, shareholders and pressure groups.

- *Miscellaneous* organisation-related causes, for example, fraud or other criminal acts by a disgruntled employee or a hostile takeover attempt.

The disruptions may also originate from business partners, such as suppliers and distributors, and be attributed in part to the organisation.

Disruptions can also originate from the external environment of the organisation.

- The organisation may be a *target of violence*, for example, neighbourhood unrest, cyber security crimes or a terrorist attack. Even though in such cases the organisation is a victim, it is still expected to be prepared to mitigate possible consequences for its stakeholders.

- The organisation may also be subject to a *broader* societal crisis such as an international financial crisis, large travel disruptions or a natural disaster such as a hurricane or pandemic flu. In such cases, the organisation can, in addition to mitigating the consequences for itself which often requires enlisting the help of other actors, contribute to societal resilience by contributing resources for crisis response in the geographical area affected. Such activities can be seen as a societal duty or as an act of positive corporate social responsibility.

Societal crises can have a variety of causes and conditions. Some authors differentiate between intentional and unintentional causes (e.g. Ulmer et al., 2011), for example, terrorism versus accidents, respectively. Others make distinctions between human-made incidents, such as technology failure and violence, and natural incidents, such as hurricanes and epidemics. Moreover, social, financial, technical and legal types of crises identified (Mitroff, 1988). Besides crises that are a concentrated space–time event, there are also diffuse events such as epidemics (Quarantelli and Dynes, 1977).

Many crises are *mixed-type incidents*, where one threat adds to another, making the outcomes more severe and difficult to predict. The consequences of climate change manifest as extreme weather incidents, but the phenomenon is in part considered to be human-made. Similarly, a pandemic is a natural crisis but can also originate from industrial agriculture. Flooding occurs as a natural crisis but causes more damage where dykes are not maintained.

There is also cross-over between technological and natural disasters (Quarantelli, 1996), for example, in the case that a tsunami also affects a nuclear power plant. The *transboundary* nature of contemporary crises has been noted as local threats often cross geographic and functional boundaries and affect different systems, for example, a severe hurricane that causes the breakdown of various critical functions and affects financial markets (Boano and Lund, 2011).

It is not simply the type of a crisis, according to its causes, that matters; its severity also matters, meaning to what extent and how wide the disruption af-

fects societal functioning. In severe crises, different causes for disruption add up, while mistakes in response can aggravate the situation, resulting in a complex crisis situation.

An organisation being involved in a crisis affects its stakeholders and requires communication with them; for example, the stakeholders may include clients, people living in the neighbourhood of a plant, employees, partners in the supply chain or distribution and shareholders. Initial consequences lead to secondary consequences with more actors directly or indirectly affected. Thus, a crisis evolves over time.

When people discuss an issue such as a company policy they consider inappropriate, the issue may grow into reputation crisis for the company involved and become widely discussed on the web. If the incident, for example, also results in pollution in the neighbourhood, mitigating the consequences comes first, and the reputation issue merely becomes one element among others. If, next, the crisis is not managed well, a second reputation issue attributing blame will arise.

Crisis typologies are often arranged according to the causes of a crisis, as operational crisis response needs to counteract such causes. For communication, different features of a crisis might be important. The intensity and consequences of the crisis, its dynamics, how it evolves and the interpretations given to it need to be taken into account (Frandsen and Johansen, 2017). During a crisis, discourse among stakeholders influences how the event is perceived. In the discourse, the reality of a crisis is socially constructed and given a mediated existence (Hearit and Courtright, 2003).

To better understand the *communication climate* during a crisis, various characteristics of the incident can be considered. Some general insights are explained in the following.

- Organisational crises can cause physical harm or damage and/or affect organisational reputation and possibly financial performance.
- In *reputation* crises, attention to reliability of information is needed to regain trust (Hiltz et al., 2011). It makes a difference if the organisation has a *history* of previous reputation damage.
- The *scope* of an organisational crisis differs and accordingly impacts more or less groups of stakeholders, such as employees and suppliers of customers.
- Even if the crisis has a clear *focus*, be it local or affecting specific public groups, people not directly affected will have concerns and questions that will need to be answered.
- If similar societal crises (in the case of natural crises like river flooding) have occurred more often in the past, there is a *collective memory* among the publics that communication initiatives can build on in the case of a

new incident. Furthermore, preparedness activities can use such repetitive crises as starting points.

- Depending on the kind of societal crisis, there are more or less possibilities to *reduce risks* by one's actions, for example, by preparedness, reacting timely or cooperating with others. This affects the atmosphere in a community and is enhanced by communication.

- Some crisis types involve *hazardous substances* that publics have little knowledge about, which adds to the challenges involved. This can include chemical, radiological or biological substances. Moreover, some risks are not visible or show consequences only after a long period of time, inspiring concerns regarding radiological risks and biological risks (e.g. because of the incubation time of infections) (Ruggiero and Vos, 2013). This makes it difficult to reach those affected.

- *Human factors* need attention. Crises often bring about rational behaviours of publics that, counterintuitively, may be counterproductive for crisis management. For example, when people begin to evacuate ahead of time, roads can become blocked, hindering the crisis response. In the case of radiological contamination, many people might attempt to visit a hospital. However, the hospital, in order to function, can't be contaminated, which calls for facilities outside hospitals to provide decontamination showers while still respecting privacy concerns.

- Some crisis types call for crisis management solutions that lead to secondary public concerns. *Evacuations* are needed in different crisis types that all prompt the same questions (e.g. Will someone take care of our houses while we are gone? Can we bring animals? What about vulnerable people? Do we really have to go? How is our transport facilitated?). Similarly, different crises call for *vaccinations* which are only effective at preventing a pandemic if enough people take them (bringing up questions about possible risks of the vaccination, e.g. What if I take it but not others? What are the costs? Will it protect me? Is it safe for children and pregnant women?).

- In severe crises, there will be a *triage* of victims and not everyone can be helped as quickly as some. This needs to be explained and can be alleviated by self-help kits in case of less severe harm.

- *Terrorism* crises arouse fear of repetition and are often intended to do so. They also threaten core values of society (Ulmer and Sellnow, 2002). These crises call for affective communication supporting societal values, rather than (or next to) instructive communication. Such crises have also given rise to the panic myth (Sheppard et al., 2006), a myth that erroneously suggests that people when faced with a threat are not capable to act. Based on this, responders sometimes hesitate to give people information, which is sure to cause anxiety. In reality, after crisis events, many lives have been saved by ordinary people.

Such matters need to be addressed when analysing a crisis and preparing communication. This can form a basis for strategy decisions that will, however,

mostly depend on the current needs experienced by the stakeholders and dictated by the situation. Planning detailed procedures for different scenarios is often not productive, as no crisis is ever exactly the same as one that came before it. Following prescribed actions for pre-defined scenarios endangers a flexible response and, thus, current emphasis should be on keeping an open mind for early warning signals and new developments and insights gained from collaboration (Falkheimer and Heide, 2010; see also Chapter 5).

The types of crises an organisation prepares for are an outcome of its risk assessment. In risk mapping, probability and severity of consequences are combined. Risks that combine high probability and low consequences are part of daily local operations, whereas the opposite combination is outside daily activities (Sheffi and Rice, 2005). The latter includes, for example, a (type of) terrorist attack, calling for cross-boundary collaboration with other organisations and public authorities. Different organisations have different risk profiles and response responsibilities in organisational and societal crises. We will address this in the next section.

4.2   Diversity of organisations and crises phases

There exists a range of organisations, from those that experience few risks and incidents because they operate in a relatively stable environment to those where disruptions regularly dominate the day, such as intergovernmental organisations where political or social crises often occur. How risks and crisis events are experienced depends on the prevalence of risks and how organisations deal with disturbances.

For some organisations, the extraordinary is ordinary. Staff members of emergency services manage events that those affected label a crisis, though they themselves see most operations as routine actions and would only call extreme situations that are hard to contain a crisis. Emergency services focus on responding to societal crises and are less acquainted with organisational crises in which their organisation is the focal point. For example, rescue services need to be accountable for how a crisis event is managed at the risk of a reputation crisis. Conversely, non-governmental organisations that focus on societal crises, for example, by providing humanitarian aid in developing countries are often little prepared for organisational crises.

Dealing with disruptions is the main task of some public organisations. Their responsibilities focus on safety or security. *Safety* means protection from harm or damage by accidents or coincidental threats, while *security* refers to protection from malicious damage intended to reach an output or consequence aimed for by the attacker (Albrechtsen, 2003).

For most organisations, attention to safety and security is part of their operations. For example, *product safety* means reducing any probability that use of a product will result in illness or other negative consequences, whereas *product*

security refers to delivering a product uncompromised by intentional contamination, damage or diversion within the supply chain (Maruchecka et al., 2011). Product safety and security are especially critical for organisations that produce food, pharmaceuticals, medical devices, motor vehicles and certain consumer products. For these areas, the importance of managing information during the lifecycle of the product from design to disposal, as well as the importance of technologies to trace products across the global supply chain, have been highlighted (Maruchecka et al., 2011).

Critical infrastructure consists of assets or systems essential for the maintenance of vital societal functions. This includes the sectors of energy, water and food supply, information and telecommunications, transportation systems, financial, governmental, health and security services, chemical industry and hazardous materials. Either their damage or them being disrupted would have negative impacts on the security and well-being of society or they are a source of materials that could be misused.

Related organisational crises might have a large impact and turn into societal crises. Therefore, reducing vulnerabilities and increasing resilience is important. This calls for a coherent approach, by one infrastructure organisation or a group of interdependent organisations, in analysing acceptable operating thresholds and monitoring mechanisms and mitigation measures (Robert et al., 2015). For example, analysis can focus on the food supply chain, including producers, retail, packaging, storage and transport, and look into securing supply and counteracting possibilities for malevolent contamination and false labelling (Stanciugelu et al., 2013).

Critical infrastructure forms the backbone of society and is to some extent under public ownership or authority control. However, many companies are also involved. Next to prioritizing prevention, preparedness in case of disruptions remains important.

Even a *high reliability organisation* (HRO), an organisation capable of having few accidents while delivering products or services that bring high risk, can only be successful if they both accept that failure cannot be avoided and learn from near misses (Weick and Sutcliffe, 2007; see Chapter 5). Industries are relying more and more on complex technological systems that, on the one hand, have created efficiency gains but, on the other hand, have also introduced new dependencies and vulnerabilities (Egan, 2007). High risk processes are often characterised by a coupling of technology and people, such as in air traffic control systems and nuclear power plants. Some industrial processes cannot be immediately stopped or shut down when irregularities need to be corrected. Industrial accidents include fires, explosions and leaks or emissions of hazardous substances. They cause injuries or illnesses of employees, harm other people (e.g. those living in the neighbourhood) and damage organisational and other assets.

Safety and security are ideals that cannot completely be achieved but need to be attended by continuous and joint efforts. The costs of measures to main-

tain and increase safety and security can be compared to the financial and social benefits gained by the production, taking also into account the costs of the fall-out of production and damage and/or harm brought about by potential disruptions. Taking precautions is also required because of laws and regulations. Risks can be lowered by allowing redundancy, for example, by using backup systems and extra checks. Moreover, industries have developed standard operating procedures and guidelines. Furthermore, realistic training is needed to ensure that what is learned will be applied in practice (Marynisse, 2013).

Safety and security in society are an outcome of the behaviour of many organisations, groups and individuals, and thus can be considered a *coproduction* of all those actors. In the various phases of a crisis, there are different roles for the actors and different actors take the lead in a crisis response. For example, directly after an earthquake, rescue services take the lead while, in the recovery phase, other actors become active in rebuilding a neighbourhood.

Communication tasks also differ over time. This can be explained by using a model according to crisis phases.

- In the **pre-crisis phase**, communication supports crisis prevention and preparedness, *engaging* people in activities that reduce risks and lower the damage risks cause if they occur. Moreover, *connections* are made to increase trust, build collaboration and create links, such as inviting people to follow a Twitter account or subscribe to stay informed through other apps or tools.

- **During crises**, when warning and crisis response are central, communication can be focused on *explaining* the situation and *instructing* people what can be done to limit damage, for example, not eating vegetables from the garden after pollution occurred in the area or bringing back products to a store in the case of a recall. Behaviour can also be *facilitated* and the *sharing* of information supported by communication platform tools.

- **After crises**, when recovery and adaptation are central, communication can help *exchange views*, support *learning and change processes*.

The crisis phases should not be understood in a linear way; actual practice is more complex. There often is no clear starting and ending point in time, the boundaries between the phases are fluid and various crises that began at different moments in time overlap. The value of noting tasks in different phases is primarily that they show a logical connection between aims and activities.

In organisational versus societal crises, the emphasis is somewhat different. Building on the Crisis and Emergency Risk Communication process model (Reynolds and Seeger, 2005; Veil et al., 2008), in the different crisis phases, the different communication tasks for organisational and societal crises can be specified as follows.

TABLE 2 Communication activities differ per phase in organisational and societal crises

Crisis phase	Organisational crises	Societal crises
Pre-crisis: prevention and preparedness	Employee communication for risk awareness and prevention; preparedness procedures and exercises	Public awareness of risks and participative decision making on risk prevention priorities; engagement for preparedness activities, and building relations
During crisis: warning and response	Warning; stakeholder communication and communication within the response network, monitoring public views and needs	Warning; instructive and effective communication with publics, monitoring public views and needs
After crisis: recovery and learning	Accountability; organisational learning	Participative decision making on recovery activities; societal learning

In the pre-crisis phase, there are prevention activities within organisations involving employees and preparedness activities including exercises for potential disruptions. Exercises should have real learning potential, be realistic and not become a routine (Frandsen and Johansen, 2017). Public organisations focus on increasing public awareness of societal risks and involve publics in decision making in which risks are to be prioritized in terms of prevention by public authorities. Moreover, public engagement for preparedness is increased, including people in educational campaigns, digital platforms and preparedness exercises. Relationships are built with other response organisations, mapping potential partnerships and resources.

In the next phase, communication tasks relate to providing a warning, ensuring an inclusive approach to reach all that need to learn about the crisis. Besides both clear, instructive communication on how to reduce harm and damage and monitoring public needs, affective communication is needed to show empathy, increase understanding of the evolving crisis situation, counteract false rumours and reduce uncertainties. In the case of an organisational crisis, communication with stakeholders and within the response network receives attention, as well as monitoring public views in order to address them.

In the phase after a crisis, the focus is on accountability and addressing reputation issues regarding the focal organisation. It is also important to evaluate and learn from what happened.

Further reading:

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5   CULTURE OF RESILIENT ORGANISATIONS

In this chapter, various aspects of the cultures of resilient organisations are discussed, including high reliability as an outcome of a particular mindset, collective mindfulness to note deviations and act on them, organisational learning and internal communication.

5.1   High reliability

High reliability means being able to avoid disruptions to a large extent, despite accident-prone operations. This takes continuous attention and a mindset characterised by a set of:

*   preoccupation with failure by detecting small discrepancies;
*   reluctance to simplify interpretations by embracing complexity and learning;
*   sensitivity to operations by staying alert and being open to feedback;
*   commitment to resilience by flexibly mobilising resources to keep functioning; and
*   deference to expertise by appreciating expertise irrespective of rank. (Weick and Sutcliff, 2007).

The first three principles help notice matters that need attention, while the last two principles help contain potential disruptions. Together, the high reliability principles have consequences for organisational processes and systems and require attention throughout the value chain, including supply and distribution. They also form a mindset where noting discrepancies, providing feedback and expertise irrespective of hierarchies are seen in a positive light. The lessons learned from high reliability organisations can help any organisation develop values that fit a resilience culture.

5.2   Collective mindfulness

It has been noted that in crisis situations there had often been warning signs, for example, an increased incident rate can indicate faulty equipment or increased graffiti can indicate disgruntled employees (Mitroff, 1988). So why are early warning signs often not seen or acted upon?

The human brain recognises regular patterns rather than deviations. Expectations can result in blind spots, as people focus on confirming their predetermined biases rather than noting unexpected differences. We often deceive ourselves because we don't wish to see a problem. Or, there could be a concealment of errors if people fear there will be negative consequences when reported. People are susceptible to status differences which often makes it difficult for them to speak up and provide negative feedback to superiors, or they believe that others will notice and report the deviation.

Mindfulness is a "rich awareness of discriminatory detail" going beyond situational awareness by continuously scrutinising existing expectations to make sense of unprecedented events (Weick and Sutcliffe, 2007, p. 32). It means to be open to new information and improve our perception of risks by adapting "our perceptual skills to account for the ever-changing world around us" (Ulmer et al., 2011, p. 187). Within an organisation, *collective mindfulness* supports the exchange of information by organisational policies that ensure that risks perceived are also acted upon. The organisation needs to actively counteract self-deception and concealment of possible errors by encouraging reporting of fluctuations that reveal unexpected threats that might escalate. The motto is 'expect to be surprised', and rather than discussing organisations while preserving the illusion of permanence, emphasis is placed on mindful organising (Weick, 2009).

As small deviations could indicate larger problems, it is important to note what is strange. Being mindful means looking at a matter from different perspectives and using different approaches, which allows one to reframe a situation (Veil, 2011). When acting on deviations, one constructs solutions by using whatever is at hand. This way of flexibly combining input is called '*bricolage*'; routines learned are combined with novel action to respond to unique input (Weick et al., 1999). Acting flexibly rather than using pre-described procedures for expected scenarios. This is important not only initially when a threat occurs but later when a crisis develops.

Crises can be seen as a process in which meaning is given to the events that occur, some interpretations changing over time. Regulations and routines are usually made with the intention to reduce error, but they spread errors around by making people less alert to what is actually happening (Weick and Sutcliffe, 2007). Through *communication*, people make sense of the events collectively (Weick, 2001). An eye for detail is important; for example, a crisis initially labelled as a particular type over time can develop characteristics of another crisis

type. Because a crisis evolves over time, flexibility in the response strategies is needed. Moreover, regulations and exercises provide a false sense of security, which could result in complacency rather than continued alertness.

The danger of over-regulating crisis response has also been underlined from the perspective of '*antifragile organisations*', which are organisations that embrace change, as always avoiding crises could make an organisation less prepared for a bigger shock (Taleb, 2014). A similar idea is also reflected in the concept of adaptability, acknowledging that disruptions will always exist, which is central to the resilience approach. Resilient organisations are dedicated to continuous change and learning. This can be both informal learning, for example, when employees correct each other and point out potential flaws, and formal learning, such as safety instructions and joint trainings.

5.3 Organisational learning

Organisational learning is a precondition for organisations to maintain resilience, legitimacy and favourable reputations (Sellnow et al., 2015a). Learning relates to analysing failures to enact changes in internal processes through small adjustments or broader renewals requiring reflection and dialogue. It also includes an organisation aligning its activities and culture with stakeholder expectations and values, which then connects learning with communication.

Crises can be seen as opportunities to learn (Ulmer et al., 2011). They add a sense of urgency and create attention and motivation for change. Moreover, they provide strong narrative elements in renewal discourse when an organisation needs to rebuild itself. Change also means that certain behaviours that led to negative outcomes need to be 'unlearned', a process deemed more difficult than learning new behaviours (Sellnow et al., 2015a). This includes changing earlier assumptions and practices and adapting underlying policies.

Learning can happen throughout all crisis phases, but it is emphasised in the post-crisis phase. Evaluation and learning should not be initiated late in time, as people are eager to forget the difficulties brought about by the crisis. Learning can be hindered by denial mechanisms, for example, managers who entrench themselves in their positions (Chekkar-Mansouri and Onnee, 2013). There are many barriers to learning. It is difficult to recognise warning signs that one cannot link to earlier experiences; people do not heed them when feeling too confident of business success, or they consider them just small matters while having been trained to continue following orders and routines (Veil, 2011). Mistakes made earlier often are not communicated either externally or internally, creating a false sense of safety.

The opposite is to apply mindful learning by being attentive to signals that do not feel right, allowing one to reframe the situation and consequently shorten the time and severity of a crisis (Veil 2011). Mindful learning also includes evaluating a crisis thoroughly rather than routinely. Near misses in one's own

organisation or similar organisations can provide a sense of urgency that can be used for learning opportunities, as these near misses could have grown into a crisis (Weick and Sutcliffe, 2007). However, if the events are labelled as a successful avoidance, learning is prohibited. In organisations, learning can be seen as a marketplace of ideas that compete for the attention of employees (Weick and Ashford, 2001). Inspiring attention to learning processes and sharing lessons learned requires communication.

Continuity plans and crisis communication plans need to be tested in simulations and exercises (Boin and McConnell, 2007). Joint exercises of public and private organisations promote collaboration, and inclusion of further actors represents the multi-actor network active in real-life situations. Trainings help develop a common mindset and language through collective reflection on simulated problems (Marynisse, 2013).

Auditing is used to identify potential weaknesses in organisational crisis preparedness. Balanced scorecards consisting of various quality indicators (based on Kaplan and Norton, 2001) have been developed to support organisational learning in crisis management (Moe et al., 2007), crisis communication (Palttala and Vos, 2011; Vos et al., 2011) and communication in terrorism crises (Ruggiero et al., 2015). Audit tools can facilitate learning when they function as ways to communicate experiences gained and goals to be set. Learning after crisis situations is not self-evident, and, alas, lessons learned are often not exchanged in the broader response network (Palttala et al., 2012).

5.4   Internal communication

A resilient organisation is one that is able to change and adapt to challenging situations. Communication with internal stakeholders is important to realise adaptation. Organisational change can either be episodic or continuous in nature. Communication strategies that facilitate change include participation and sharing of input, as opposed one-way dissemination, while emphasising the need for change and the efficacy of solutions found (Lewis, 2007). Top-down and badly communicated change processes create the most resistance throughout an organisation. Moreover, change brings more opportunities to some than to others, and risks are not equally divided. Change can be made to happen through negotiation and sense making. Resistance to change can be considered a natural reaction to perceived difficulties or a counter-balance to changes deemed ill-founded (Erkama, 2010).

Organisations are affected by changes in their environment, but they also set changes themselves. Changes are considered disruptive when they fundamentally change the market, an instance which causes some organisations to overreact in a defensive way while others focus on using the opportunities offered by the changing context. For example, the development of self-driving cars is considered to be a disruptive change.

Employees are considered a *diverse* internal stakeholder group, as besides having a formal employee relationship with an organisation they can also be shareholder, customer or, for example, member of a non-governmental organisation (Frandsen and Johansen, 2011). Thus, issues discussed outside the organisation will also be discussed inside an organisation. The internal environment of organisations can be considered an *issue arena* with networked actors, each having a more or less dominant voice, for example, when discussing envisaged changes. Internal communication, then, can also be studied through the lens of multi-actor issue arenas.

In the case of a crisis, the internal discussion will be intense as employees are highly involved. Depending on the type of crisis, employees have a different stake in the issue than other stakeholders, for example, with regards to job security and/or working conditions (Frandsen and Johansen, 2011). Some employees are experts actively involved in crisis response, and all will be asked for information by people in their social networks. For the latter, codes and instructions can be provided, for example, to restrict or focus external communication by employees or to make positive use of connections. For example, Twitter is a social medium frequently used by employees to disseminate work-related content, mostly with a neutral tone of voice (van Zoonen et al., 2016). Employees will need to be updated about the crisis situation and the status of the response, as their engagement will be needed for response, prevention and preparedness tasks, as well as evaluation and learning.

Internal communication is communication with or among internal stakeholders. Nowadays, the borderline of organisations is considered fluid, as work that was done inside becomes outsourced, or vice versa. Many employees work at a distance or have a flexible contract. Supply relations, other business partners and, in some cases, clients are closely related to the core processes of an organisation and are thus involved in resilience-strengthening activities.

Internal communication can support crisis response and a learning culture. Uncertainty calls for interaction aimed at problem solving. As *sense making* in a crisis situation happens through interpretative actions, channels for fast access of expertise can facilitate this process. Interpersonal communication skills are needed for collaboration (Laajalahti et al., 2016) and require openness to the input of others. When responding to incidents, it is important to listen actively for subtle cues, periodically exchange information and aim for a 'working' consensus rather than a 'full' consensus that postpones action (Weick et al., 1999).

Various means of internal communication can provide organisation-wide employee interaction on safety and risk avoidance (Marynisse, 2013). For example, concerning cyber security, the attitude and behaviour of staff increases or reduces threats (Alcantara and Riglietti, 2016). Moreover, the organisational culture and the way in which people communicate about earlier disruptions can promote or hinder learning. It is crucial that employees both feel accountable

for the reliability of work processes and are engaged to bring about high reliability (Weick and Sutcliffe, 2007). This requires a proactive attitude to change and a culture of both tolerance of failure and learning by doing (IRGC, 2015). Sharing experiences, asking for feedback and reporting incidents should be encouraged instead of resulting in blame, punishment or time-consuming procedures.

This relates to the *communication climate* in an organisation, which is needed for high reliability, collective mindfulness and organisational learning to thrive. The communication climate can be investigated, for example, in employee interviews and by observing intranet discussions on safety issues. The latter bring us to the topic of monitoring. In the internal environment, monitoring is done in a similar way as in the external environment. In the next chapter, we focus on monitoring public perceptions.

Further reading:

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6   CONTINUOUS MEDIA MONITORING

This chapter is about the monitoring of both issues that may turn into crises and (sub) issues that occur during crises. Monitoring of issue discourse is done regularly to note changes over time. Below, we will clarify the different aims that monitoring activities can have, the media monitored, types of framing and sentiments that can be noted and methods to implement monitoring.

6.1   Aims of monitoring

Monitoring is a listening function; it includes listening and interpreting what people are conveying (Rappaport, 2010) to gain insights into public perceptions and information needs (Vos and Schoemaker, 2006) and to track changing perspectives over time (Kavanaugh, Fox, Sheetz, Yang, Lin and Shoemaker, 2012). The aims of monitoring are diverse; one can focus on understanding changing stakeholder views or use real-time results to adjust one's policies or actions, for example, improving crisis communication and response activities as a crisis evolves. Monitoring is also used for commercial purposes, for example, to follow engagement with a brand or to detect new trends and fashions. Monitoring results provides a 'snapshot' of the discussion at a certain moment in time, whereas continuous monitoring can show developments in a discussion over time (Zhang and Vos, 2015).

On the web, social media have become more personalised; thus, looking for different views of groups makes more sense than providing average scores that erroneously assume a mass audience still exists. Finding trends is in part served by statistics but also by scanning for deviations that indicate disruptive changes in the environment. Below, we will focus on the monitoring of perceptions of risks and issues possibly related to crises.

Most organisations still focus too much on one-way dissemination of their viewpoints rather than meaningful listening to stakeholders and gaining organisational legitimacy (Macnamara, 2016). Organisations need to understand is-

sues important to stakeholders and consider disparate voices (Ciszek, 2016). Various stakeholders have conflicting interests and views. Consequently, they will evaluate organisational policies differently. As decision making affects a range of stakeholders, organisational operations have many ethical implications (Tench and Yeomans, 2017). This makes clarifying stakeholder views important.

Monitoring is considered an early warning system to identify issues at an early stage before they impact organisational operations or escalate into a crisis (Heath and Nelson, 1986; Czarneki, 2015), for example, a *paracrisis* in which an organisation is publicly charged with irresponsible or unethical behaviour (Coombs and Holladay, 2012).

Organisations can initiate interaction and follow the results as they go along. As said before, organisations can monitor the discourse in various issue arenas, though they do not need to be active in all of them. However, when monitoring, it would be advantageous to be able to become active to the level called for. For example, during a vaccination campaign, anti-vaccination groups dominated the debate in online discussion forums and, although health experts monitored the discussions, their participation was too low in frequency to have any impact (Luoma-aho et al., 2013).

Monitoring often focuses on the content of discussions by identifying and following evolving issues, but one can also follow changes in the roles of actors and in the strengths of networks links, for example, by mapping the most active Twitter accounts on an issue and the central actors in the debate who are well-linked to others (e.g. well-known bloggers). The latter relates to *social network analysis*, conducted to clarify the interconnectedness of actors and, for example, identify the core actors, earlier called hubs, and their level of centrality in the network (Rowley, 1997; Sedereviciute and Valentini, 2011).

6.2   Media platforms and issue spread

Issue arena discussion takes place in both virtual and traditional media platforms. Originally, monitoring focused on content analysis of news media, following organisations or issues over time as a forewarning to issues that needed a response and to note changes in reputation. Usually, positive news adds to corporate reputation (Oegema et al., 2000). That many people want to relate to organisations with a positive reputation is explained by the *bandwagon effect*, a phenomenon that points to groupthink; people want to join or be associated with a winner (Stone, 2002). Similarly, negative news such as making organisational failures public usually has a negative effect on the reputation of the focal organisation (Oegema et al., 2000). However, when negative news is voiced by actors who themselves have a low reputation, it is met by public mistrust, and the organisation is perceived as an underdog in the conflict, raising sympathy and possibly leading to reputation improvement (Meijer and Kleinnijenhuis, 2006). News media monitoring is still relevant and is less time-consuming than it used to be because most news coverage has been digitalised online. Clipping

and recording services of news items have been replaced by automated monitoring of online news via specialised agencies. An interesting example is the free service of the Europe Media Monitor, which follows breaking news in various languages.

Currently, the emphasis is placed on social media monitoring, as web discussions can cause *issue contagion* (Coombs, 2002), that is, the fast spread of issues. The growth of issues online can be followed in real time. Some issues quickly fade, while others become a hot topic, for example, when an issue is considered worthwhile to share, expresses needs or emotions, has entertainment or news value and/or people want to be identified with it (Zhang and Vos, 2015).

Media characteristics also matter; for example, on Twitter, issues spread widely when messages of influential (e.g. well-linked bloggers) are retweeted by followers. This is called *cascading*, when a group of social media users passes on a message to the next group and so forth (González-Bailón et al., 2013). In closed networks, such as Facebook, colliding of shorter chains occurs and a minimum of start-nodes is needed to spread a post wider (Rogers et al., 2012). There often is a time-lag for issues to transfer to a different medium (Fan et al., 2013), where *weak links* facilitate the diffusion (Granovetter, 1973) by acting as bridges to reach other groups of users (Zhao et al., 2010).

Issue arena discussion is often dispersed over different media platforms, and *issue transfer* occurs between news media and social media. This happens both ways; news items are discussed by social media users while journalists monitor social media for breaking news, for example, in the case of eye-witness reports (Zhang et al., 2014). To assist journalists in finding breaking news in social media, datamining tools have been developed (Terdiman, 2014).

When monitoring social media, one should be aware of possible bias. Similar to news media over-emphasising conflict, in social media, certain content is often either present or absent. Who is constructing and promoting the debate? In social media, multiple competing and often conflicting perspectives emerge (Ciszek, 2016), and, often, sources of online posts are unclear.

The above further explained media platforms and the online diffusion of issues. However, the diffusion of issues cannot be understood without looking at the content of issue debate, and framing is an important part of that.

6.3 Framing of issues

According to Cheney and Christensen (2001), "communication not only mediates the space between human beings and 'reality out there' but also helps to create the reality to which we respond" (p. 239). How an issue is discussed and what rhetoric is used influence how the issue is perceived.

Therefore, monitoring an issue discussion is also concerned with how the issue is framed. *Frames* are interpretation schemes that provide context to understand information and define a situation (Hallahan, 1999). Frames cause us

to see behaviour in a certain light; some aspects are emphasised and become more important than others. Framing happens at an interpersonal level, in groups and between groups.

Framing has mostly been investigated in news (e.g. An and Gower, 2009; Semetko and Valkenburg, 2000), but it is also used by communication experts (Hallahan, 1999), and, in fact, any actor in an issue arena uses framing. It is not possible to tell a story without emphasising some parts in the storyline or suggesting cause and effect relations. Framing can, thus, be used consciously or unconsciously. The frame used can appeal more or less to other actors, thereby resulting in more or less support in the issue arena. To appeal to people, a chosen frame should have enough in common with current views to fit in but should also provide enough novelty to stand out in the discussion.

A *framing typology* has been developed by Hallahan (1999). This has been adapted by Meriläinen and Vos (2013) to clarify how social issues can be framed by emphasising different aspects of an issue:
- the situation and interrelatedness of actors (e.g. who is top dog or underdog);
- context attributes, linking the issue to a context or other issues;
- risks, stressing the uncertainties involved;
- consequences of actions, depicting an action related to an issue as needed to achieve goals or avoid negative consequences;
- the kind of issue, emphasising, for example, political, legal, cultural or economic aspects;
- responsibilities of actors, attributing cause and blame; and
- newsworthy elements of the issue.

In an issue arena, both the issues and frames simultaneously compete for attention, as there are different points of view on how to attribute blame and how to find solutions. When monitoring a debate, one tries to capture the topics discussed and how they are discussed, identifying, for example, which frames dominate in the discussion, what attributions of cause are made and what directions or solutions are underlined by the different actors.

The constructed, mediated reality differs more or less from the reality, and people shape reality by discourse (Weimann, 2000). On the web, people often look for others with similar views and interests, which may enlarge differences of opinion in society. Similarly, people 'tend to believe what they want to believe' (Castells, 2009, p. 153). They also select information that supports their aims.

Organisations, groups and individuals can influence public discussion by using *voice strategies*, such as informing, educating or persuading, but they can also apply *damage strategies* in the discourse arena, including defamation of reputation and spreading of false rumours (Friedman and Miles, 2009). The latter causes confusion, is unethical and decreases the transparency of the public discussion. Damaging strategies are more likely to be recognised by those with

critical thinking skills and less likely by people with the same interests as the actor using them. Insights into framing, voice and damage strategies are required when interpreting monitoring results.

Damaging discourse strategies can occur more frequently in times of controversy and lead to organisational crises. The controversies may be related to policy making of the focal organisation, for example, when it is involved in difficult negotiations, labour conflicts or debated identity changes (Elsbach, 2006). Moreover, controversy and conflict are hard to avoid in cases of renewal or disruptive change. However, this still leaves open how they are dealt with, for example, by alliance forming and de-escalation.

6.4 Sentiments

When monitoring, emotions also need to be captured. Online, people show feelings, for example, by liking or commenting a post in a distinctive way. Social media posts can show various sentiments, and the tone of voice can be positive, neutral or negative (Fan et al., 2013). Automated *sentiment analysis* uses algorithms (procedures set by predetermined rules) for textual analysis to determine sentiment scores for online items based on the words used. This shows differences in views over time, for example, when an organisation experiences a reputation crisis.

Sentiment analysis is also able to show differences between groups. This is important as stakeholders can be subdivided into 'faith holders' and 'hate holders' (Luoma-aho, 2015), indicating a positive or negative attitude, respectively, towards an organisation or brand. Attention given to differences between groups, rather than averaging across publics, helps clarify diverse views. This is especially true in crisis times, as people make sense of crisis situations in very different ways. They experience various negative emotions, including anger, fright, anxiety and sadness (Jin, 2010), and use coping strategies, such as emotional venting, to find emotional comfort and reduce stress (Jin, 2009). The way in which they express their feelings, emotional tone and intensity can explain their future actions and expectations held towards actions by organisations involved (Jin and Hong, 2010). Expressions of anger occur if the cause of a crisis is attributed to an organisation or organisations. In such cases, according to Coombs and Holladay (2007), "using the ethic of care/highly accommodative strategies should reduce the anger stakeholders feel after a crisis" (p. 309).

People use social media for different purposes, including in crisis situations, to share experiences (e.g. as an eyewitness), express emotional support or criticism, seek information or entertainment, seek or provide help and/or underline their identity (Zhang et al., 2017).

However, social media data are difficult to interpret. Online as well as offline, identities can be faked or people hired to resemble grassroots support, which is called *astroturfing* (Klotz, 2007; Malbon, 2013). Thus, incorrect information being posted forms a problem in social media and, especially during

crisis situations, also poses the possibility of malicious use such as pranks or terrorism.

6.5   Monitoring methods

A broader environmental *scanning* is conducted to reveal trends that need attention, whereas *tracking* the development of a trend is done to take a closer look at a particular issue or sub issue (Buchholz, 1990). Scanning can precede tracking, but both activities are often done in parallel. Monitoring is usually seen as tracking, although the difference can be arbitrary. In social media monitoring, the scope of the search depends on the chosen search words. As the search usually delivers big data (see also 9.1), it is recommended to carefully focus and limit the search when tracking the development of a particular issue over time.

Data collection is preceded by problems and aims definitions. This includes running search queries by setting search terms, including appropriate synonyms and other criteria such as language and frequency or period of the data collection (Ruggiero and Vos, 2014). *Boolean Search* is used to yield more relevant results by combining keyword searches with operators such as AND, OR and NOT (AND is to focus, OR to extend and NOT to exclude). When collecting and archiving data, ethics such as privacy of social media users need to be considered (see section 9.3).

Data analysis can be supported by open source tools, paid tools or programming. Besides quantitative approaches (e.g. analysing frequencies and sentiments over time), qualitative analyses using samples can be conducted. Methods include statistical analysis and activity metrics, network analysis and textual analysis (Bruns and Liang, 2012). In issues management, the focus is often on detecting issues discussed with an increasing frequency (mentions), clear positive or negative sentiment or engagement (e.g. the number of posts, likes and comments concerning the issue).

Many monitoring tools, also called *listening solutions*, have been developed to gather social media data and help interpret them (Rappaport, 2010). These include dashboard services that bring various social media data together in one overview and analytical tools often specifically designed for one particular social medium. Alas, most commercially available monitoring tools are a black box, making the samples hard to evaluate and prone to big data errors, and few frameworks for social media monitoring have been published by scholars (e.g. Semenov and Veijalainen, 2013).

Monitoring involves thematic analysis, sentiment analysis (see section 6.4) and analysis of spread patterns (Zhang and Vos, 2014). Thematic analysis includes semantic classifications after data are gathered, for example, using software-facilitated search procedures. Sentiment analysis tries to capture the tone of voice in online posts. Spread patterns can be visualised in frequency graphics that characterise how the issue is debated. In different types of crises, different

kinds of patterns become visible in social media, and identifying these adds understanding over the course of the public debate. For example, Twitter data showed an incidental shooting as a peak with a short lifecycle while a campaign by a non-governmental organisation had a long lifecycle with many moderate peaks (Zhang et al., 2014), and a corporate social responsibility (CSR) challenge with court cases showed a long lifecycle with high and moderate peaks (Zhang et al., 2016). The patterns of social media discussion can also display different (sub) issues discussed during a crisis (Zhang et al., 2016).

After data analysis reporting is done, it is important to include visualisations that help quick interpretation, such as frequency graphics over time, word clouds and network graphics. During an evolving crisis, monitoring is considered a first step in strategy making (Reynolds and Seeger, 2005), as new evolving issues can be discovered that need attention in strategy making. Thus, strategy making can follow monitoring, though the opposite can also be said, since monitoring can be done to see how crisis management strategy making is working out in practice, for example, if people comply with an evacuation plan and/or have problems that need to be answered. Monitoring and strategy making follow one another in a cyclic process.

6.6   Monitoring and strategy making

The advantages of monitoring are obvious to communication *strategy making*. Without monitoring, one would not know what objectives to prioritize; thus, one would communicate blindly, without keeping an eye on the results, likely rendering the communication activities ineffective. Time and energy get spent in the wrong direction, while the biggest problems of the population are not addressed.

Yet, crisis communication is often based on well-intended assumptions and experiences of similar cases. However, the reality of a crisis is that each crisis is substantially different from any other, and the needs of public groups and their diversity are often misunderstood. This can only be amended by monitoring and, consequently, by developing multiple strategies for multiple stakeholders (Luoma-aho and Vos, 2010).

Strategy making can be based on monitoring results and a careful analysis that helps clarify information needs, possible misunderstandings and sentiments that need to be addressed. Table 3 clarifies the focus when analysing monitoring results and how this directs strategy choices.

TABLE 3 Matters to focus on when interpreting monitoring results

Outcomes of monitoring	Analysis	Communication strategies

Overview of who are talking	Scale and if this is growing	Urgency and need for a comprehensive approach
	Localized or dispersed	Types of stakeholder groups to be reached and levels of involvement
Active actors/accounts and platforms used	Influential actors and most active platforms	Involve influential actors and choose platforms
Issues discussed	Information asked for, misunderstandings and trust problems	Address the topics, look for trusted sources
Developments over time	Identify new issues that form fast and grow	Prioritize, provide timely clarification
Tone of voice	Emotions	Empathy expressed by spokespeople
	Urgency	Address in a timely manner

Monitoring focuses on identifying those actors most active in the discussion, what issues are discussed and how the discussion evolves over time, in content and in sentiments.

Monitoring, analysis and strategy making concerning communication continue throughout all phases of a crisis. They cannot be separated in time because they are part of the ongoing process of making sense of the crisis situation. Thus, strategy choices are constantly re-evaluated based on monitoring results and analyses.

As the crisis evolves, in each crisis phase, the focus on the content in monitoring, analysis and strategy making will be different. Table 4 shows an illustrative example of how, in the case of a terrorism crises involving hazardous materials, the focus changes in the different crisis phases.

TABLE 4 Illustrative example of a changing focus during the phases of a terrorism crisis

	Preparedness	Warning	Response	Recovery
Monitoring	Level of knowledge related to hazardous materials	Both reach of and understanding of warning messages	Diverse information needs	How people get back to normal life and evaluate what has happened
Analysis	Low chance–high impact	Complex content that evokes anxiety	Ethical constraints and high pressure on health care institutions	Acceptance of solutions among the population
Communication strategy making	Integrate content in an all hazards approach	Explain very well and through credible intermediaries	Facilitate self-help options and reinforce bottom-up initiatives	Support participative decision making and lessons learned

The table shows that as the crisis evolves, the focus of the monitoring activities changes along with crisis' developments, rendering insights that in different ways contribute to communication strategy making. Monitoring and strategy making can be seen as a cyclic process, where over time attention switches from one to the other (Ruggiero, 2016).

Further reading:

Ruggiero, A. and Vos, M. (2014), "Social media monitoring for crisis communication: process, methods and trends in the scientific literature", Online Journal of Communication and Media Technologies, Vol. 4 No. 1, pp. 103–130.

Zhang, B. and Vos, M. (2015), "How and why some issues spread fast in social media. Online Journal of Communication and Media Technologies", Vol. 5 No. 1, pp. 371–383.

Luoma-aho, V. (2015), "Understanding Stakeholder Engagement: Faith-holders, Hate-holders and Fakeholders", Research Journal of the Institute for Public Relations, Vol. 2 No. 1, available at http://www.instituteforpr.org/understanding-stakeholder-engagement-faith-holders-hateholders-fakeholders/ (accessed at 10.10.2016).

Hallahan, K. (1999), "Seven models of framing: Implications for public relations", Journal of Public Relations Research, Vol. 11 No. 3, pp. 205–242.

7 COMMUNICATION STRATEGIES IN CRISIS TIMES

This chapter clarifies decision making on communication strategies in evolving crises.

7.1 Connecting to organisational resilience strategies

Strategies are ways to reach set goals (Vos and Schoemaker, 2011). They are chosen based on an analysis of the situation and after drafting objectives. Communication strategies should fit broader organisational strategies. An organisation needs to prioritise aspects of organisational resilience in a particular period, and communication follows that prioritisation. For example, an organisation may initially focus on risk assessment and audits of risk preparedness in its units, next focusing on risks in the supply and distribution, and followed by addressing new aspects such as a resilience culture and/or resilient human resources.

There are both longer term strategies (e.g. related to organisational ethics) and strategies for specific problems that evolve. Communication strategies take the diversity of publics into account. People have different cultural backgrounds and ways to deal with crises, such as accepting them or taking initiative to mitigate risks. They also have different media habits, which calls for a multi-media approach. Risk perception differs as it relates to the likelihood and consequences of a threat in a certain area, as well as to previous experiences and knowledge.

A strategy can answer to one or more than one objective. Strategies can focus on different crisis phases and related tasks such as prevention, preparedness, response, recovery and evaluation. Moreover, they may relate to one particular crisis scenario or deal with a broader range of scenarios.

Regarding societal crises, top-down preparedness campaigns are often considered less effective in reaching publics than facilitating and building on bottom-up initiatives of people (see empowerment approaches in www.crisiscommunication.fi/wiki). An example is river flooding, for which there are active citizen initiatives supported by municipalities. Resources include social capital built in collaboration with civil society actors, local groups, authorities and the private sector. In other types of crises, such as pandemics, there are less citizen initiatives, and health authorities will need to actively enhance awareness of the importance of vaccination, as is also their legal responsibility. Of course, this is done in cooperation with local doctors and assumes that misunderstandings of publics that prohibit vaccinations are answered for.

Regarding organisational crises, cooperation with partners in the value chain and other stakeholders is emphasised. It is important to demonstrate commitment and accountability rather than focus on written plans. Capability for flexible and fast recovery is emphasised, maintaining critical activities in the event of a crisis incident.

To support organisational resilience management activities, the communication perspective requires specific capabilities related to monitoring and communication strategy making and needs to be embedded in organisational policies, engaging staff and including external stakeholders.

7.2   The process of strategy making in evolving crises

The exact nature and consequences of a crisis incident are often unclear when it occurs. Crises bring uncertainty. After the initial common picture of the situation has been made, this is monitored, further updated and analysed while the crisis evolves.

It all begins with *situational awareness*, that is, being aware of what is happening through detailed observation and assessment, for example, by using tools to collect and process data. A *common situational picture* within a team and among different teams involved in crisis management activities requires sharing of information and ways to interpret the information from different sources. Social media and related technology can support common situational awareness by facilitating sharing and collating of information.

In a crisis event, communication practitioners, just like experts of other disciplines, need access to the common situational picture to be able to support crisis management, whereas they also contribute to it by collecting data about public actions and perceptions as expressed in the media. Monitoring activities form a basis for both communication activities and feedback for other crisis management activities, for example, to see how people react to the situation and measures taken.

Sense making, in a more strategic sense, is a process that makes people come to an understanding of what kind of a situation the crisis is, for example, by con-

necting factors that explain how the situation came about and evolved. Understanding can be gained by compiling and weighing information about the situation, discussing it with others and acting and following the results.

Decision making has been suggested to be a *process* that is cyclical and, to some extent, rational. In various rounds, gathering knowledge and making choices are alternated. For example, information about problems is listed and the most urgent problems chosen. Then, different factors contributing to the problem are identified and prioritised, after which alternative solutions are pinpointed and weighed, resulting in preferred solutions, and so forth. However, decision making is not a simple, rational process. For example, emotions affect perceptions of urgency of (sub) problems and thus influence outcomes of decision making.

In addition, one should realise that information to base decisions on can hardly be complete, especially in a changing environment. For example, decision makers never know all possible side-effects for an action and tend to anticipate possible reactions to a decision based on estimated guesses (Stone, 2002). During crises, decisions need to be made quickly, and the phases before and during decision making may coincide. Usually, a decision-making process is described as having three phases. Before an organisational decision is taken, input is gathered in communication with business partners and stakeholders. During decision making, interaction takes place, delegating more or less decision power. After decision making, dissemination takes place, explaining the content and context of the decision.

Organisational decision making can be interpreted from the perspective of issue arenas, as it requires communication by more actors, is competitive and involves both power play and an audience. It should be noted that it is often easier to block a decision than it is to gain support for a decision from others. Some choices are particularly hard to gain acceptance for, and providing more detailed information may not help. Mobilising commitment for a decision does not, foremost, need a rational consideration of alternatives and data (Brunsson, 1990). Instead, it is about connecting with people, and a level of ambiguity helps gain support because more people are able to relate to the proposal.

Clarity is important in crisis communication when aiming at reducing damage for stakeholders, but, in other cases, people use *strategic ambiguity*, that is, "striking a balance between being understood, not offending others, and maintaining one's self-image" (Eisenberg, 1984, p. 230). In organisations, strategic ambiguity is used at the collective level, where a sense of unity is promoted by using creative symbols and narratives, that at the same time allows for the freedom of multiple interpretations and changing views over time (Eisenberg, 1984).

Decision-making processes are complex, as not just one decision at a moment in time counts. Power play often occurs when actors want to strengthen their position for future decision making (Stone, 2002). Possibly, the decision itself is not

what they are after but gaining a power position is. A first decision lays the groundwork for later decisions to come. This relates to the content of the decision but also to the consequences for the actors involved. Sometimes, actors stress their responsibility, but more often the aim is the opposite, when they want to avoid being blamed for an unpopular decision or at a later stage be held accountable for its consequences. Decision making allocates *responsibility*, either adding it by making decisions and those that make them as having influence on the choices made visible or reducing it by decreasing decisions into small steps over time and including others who absorb responsibility (Brunsson, 1990).

Some decisions are made for the audience and foremost have *symbolic value*. For example, people want to see that at least something is done about a problem to acknowledge that the situation is not acceptable (even if this acknowledgment does not solve it). Decisions provide legitimacy if visible decisions are deemed favourable outputs, possibly even compensating for action or if they are ambiguously phrased to be interpreted later (Brunsson, 1990).

Planning is a tool to facilitate decision making. Communication planning usually includes analysis of the communication climate, focal problems and which actors are involved to a greater or lesser extent; setting objectives; choosing approaches, for example, focusing on dialogue and suitable places for it; possibly involving endorsers; and developing core messages and means. The cycle is repeated while the crisis evolves alternating between, on the one hand, *monitoring and analysis* and, on the other hand, *strategy making and action*. The focus is on *gaps*, the areas between what is aimed at and what is happening, that need attention. For example, the progress of an evacuation is followed and problems that occur for people involved are noted and addressed in the communication.

It has been suggested that planning reduces flexibility in response to crises and that improvisation needs to be emphasised (Falkheimer and Heide, 2010). Indeed, crisis response cannot be prescribed rigidly for various scenarios, as every crisis situation is different, requiring ongoing enactment. Instead, planning should be agile and include a range of very different disruptions seen as examples, whereas exercises and training need to focus on flexible collaboration in unforeseen situations. In this way, scenario planning can function as collective learning about situations "for which there is no one clear solution" (Montuori and Purser, 1996, p. 199).

In addition, technological support for the process of alerting, gathering real-time info and documenting actions can be prepared for, for example, by developing platforms for fast sharing of information in the network including to stakeholders. During crises, an *agile* approach is needed, where monitoring continues while the events unfold to provides input for flexible strategy making. Finally, the activities, including the communication actions, need to be evaluated. Moreover, one is expected to be accountable for choices made.

7.3 Communication approaches and strategies

Objectives can be met through various (combined) strategies, and communication strategies can refer to different levels of application, from general approaches to situation specific strategies and message strategies.

In the literature on organisational crises, from the perspectives of issues management and organisational crisis communication, proactive and interactive approaches are recommended. A *proactive approach* means that the organisation takes a lead in the interaction with other actors rather than reacting to statements made in the media (Heath and Nelson, 1986; Coombs, 1992, 2007). Organisations often intend to promote favourable trends or adjust to expectations in the social environment to maintain long-term relationships with their stakeholders (Heath, 1998; Heath, 2002). If the crisis originates due to a behaviour of the organisation, then transparency can be aimed at, and negative news can be made public in one's own way before other actors such as the media publish about it. The latter — when the responsible organisation discusses negative news before the media do — is called *stealing thunder* (Lee, 2016). In this way, the explanation of the organisation looks less defensive, while also the timing can be chosen so that the issue gets less media coverage.

An *interactive approach* by the organisation, emphasising listening to stakeholders, is recommended to build trust (Macnamara, 2016), which can be facilitated by social media use (Wright and Hinson, 2009), for example, through consultation of stakeholders and exchange of views. Alas, the interactive possibilities offered by social media are still underused, and primarily one-way messaging seems to occur (Grunig, 2009; Coombs et al., 2015). Instead, organisations can invite interaction and bring public views to the decision-making tables in their organisation (Grunig, 2009).

In the literature on societal crises, from the perspective of emergencies and disasters, a *community approach* has been emphasised, arranging broad collaboration including between public and private organisations and civil society actors (Hyvärinen and Vos, 2016; FEMA, 2011). Currently, the level of cooperation between response organisations and public groups differs depending on the region, and opportunities for collaboration are hardly fully used (Hyvärinen et al., 2015).

To increase preparedness for crises, an approach has been developed that departs from well-known crisis types in a geographic area (e.g. flooding in the case of a river area being prone to it), and information is added about other crisis types that occur less frequently. This is called a *multi-hazard preparedness approach*, which aims at increasing the response capabilities for different kinds of disruptions (Hyvärinen and Vos, 2015; Shreve et al., 2016).

Ethical approaches have been underlined, underlining inclusiveness for all public groups and the importance of crisis experience and cultural diversity of

publics. Moreover, when addressing terrorism threats, a combination of warnings and tolerance promotion is recommended to avoid the stereotyping of minorities (Stevens et al., 2009). Terrorism tends to trigger a shift of values, resulting in either political and public demands to change existing practices or legislation in relation to privacy and human rights issues or pressure not to comply anymore with provisions of international agreements and conventions established to protect minorities or refugees.

Educative approaches aim at stakeholder-enabling, that is, to facilitate awareness of risks and support people throughout all crisis phases (Hyvärinen and Vos, 2015). This empowers publics to mitigate the consequences of crisis events (Palenchar and Heath, 2007). *Risk literacy* (i.e. the public understanding of risks) needs to be promoted. Many people find it difficult to understand what risk statistics, such as the likelihood of a risk, mean for them. They lack knowledge and have misperceptions about hazards and, consequently, miss a sense of urgency to prepare for such risks at the individual and/or household levels.

As strategy making is generally considered to be situation specific, the choice of communication strategies depends on the context and the problem solving that communication contributes to. The type of crisis adds constraints, but the focus for communication is on the *perspective of stakeholders*, including, for example, potential consequences of the crisis for stakeholders, as well as other problems or gaps that relate to stakeholders. Various areas for strategy development with their own focus can be distinguished: the internal environment of the organisation, organisational reputation and stakeholder relations and stakeholders in the external environment of the organisation (see Table 5).

TABLE 5 Areas for strategy development throughout the crisis phases

Crisis phase:	Areas for strategy development:		
	Stakeholders in the internal environment	Organisational reputation and stakeholder relations	Stakeholders in the external environment
Pre-crisis	Resilience culture, preventive action	Reputation basis	Preparedness basis, preventive action
During and after crisis	(Joint) response, learning	Responsibility, accountability	Cooperation for recalls, mitigating emergencies

In the *pre-crisis phase*, concerning, for example, organisational accidents, the focus is on preventive action primarily in the internal environment, involving employees and business partners in the value chain. Objectives can be based on safety and security audits related to risk awareness and mindfulness, while strategies including internal communication indicate trainings and preparedness exercises.

Concerning reputation threats, maintaining a sound reputation with broad groups of stakeholders forms a basis for future events. This basis also includes maintaining reputation of business continuity management among the various

stakeholders, for example, among shareholders. Objectives can be based on reputation measurement, and strategies benefit from continuous monitoring, using various communication activities and means to support a positive reputation.

Concerning external stakeholders, a basis of preparedness for disruptions is needed for high resilience organisations, for example, by informing people living in the neighbourhood, as well as preventive action such as asking clients to regularly update passwords and software to lower cyber security risks. Preparedness for societal crises is largely an educative responsibility. Risk communication also includes resource allocation decisions and acceptable thresholds for risk tolerance, which require dialogue (Sellnow, 2015).

In addition to literature on crisis management, literature on *risk governance* adds interesting perspectives on stakeholder involvement, particularly in the pre-crisis phase. Governance relates to "the multitude of actors and processes that lead to collectively binding decisions" and risk governance places this in the context of policy making about risks (Renn et al., 2011, p. 231). Particularly, it is noted that the number of stakeholders to be involved increases with the complexity, uncertainty and ambiguity of risks (Renn, 2007). For simple risk types that are more or less routine, such as a local fire, the responding organisation just needs to find the most cost-effective way to deal with it. However, for highly complex, uncertain and ambiguous risks, such as those involving hazardous biological materials, conflicting viewpoints of stakeholders need to be included in risk management decisions, as such crises require "reaching consensus or tolerance for risk evaluation results and management option selection" (Renn, 2007, p. 13).

During and after a crisis, in the internal environment, the focus is on collaboration between employees and business partners for response activities and the continuation of products and services, especially in the case of infrastructure organisations. After a crisis, evaluation and learning need attention.

In case of a reputation crisis that threatens intangible assets, for example, when an organisation is accused of unethical practices, the focus is on clarifying responsibility; strategies range from denial to apology, with afterwards potentially an adaptation of organisational policies.

In the case of a crisis that threatens to bring damage or harm to stakeholders, the focus is on threat reduction. The objective can, for example, be corrective action by arranging a recall which asks for client cooperation. The recommended strategy includes service-like facilitation and emphasises benefits of doing so and disadvantages of not (Laufer, 2016).

When there is an emergency incident, people affected are prioritised in response and communication, but people who are indirectly involved also have information needs that are addressed. There can also be behavioural objectives related to, for example, an evacuation that requires communication strategies. Larger, complex crises need multi-actor collaboration and joint strategies, especially if hazardous substances are involved (Ruggiero and Vos, 2013). During a

crisis event, one-way and two-way communication both are used. When an emergency causes a dangerous situation, response organisations focus on offering instructions for citizen self-protection, to return to an inclusive dialogue with stakeholders as soon as possible (Sellnow, 2015). After the crisis, reflection and learning are in order. Stakeholders will want to know what is done to prevent and deal with similar crises in the future.

The *literature on societal crises and emergencies* is very diverse. Many case studies have illuminated case-specific strategies (e.g. Coombs, 1992; Benoit and Brinson, 1994; Fan, Geddes and Flory, 2013). Moreover, requirements for crisis communication in different types of crises such as pandemics or terrorism incidents have been discussed (Schwarz et al., 2016a). For example, in the case of hazardous substances, educative approaches are needed to explain consequences and address possible misperceptions (Ruggiero and Vos, 2013).

A lack of knowledge can lead to unsafe behaviour. Therefore, in such cases, the content of warning messages is important. Directions for action need to be clear, and message examples can be tested before a crisis occurs. Background information provided to publics needs practical examples, for example, avoiding statistics and comparing the concentration of a chemical substance in the air to normal levels (Ruggiero and Vos, 2015). Message strategies employed on the level of communication means in emergency crises have been investigated in several studies, leading to a receiver-based approach to instructional crisis communication (Sellnow et al., 2015b). In the content of instructional messages, the diversity of the audience should be taken into account and the sources need to be credible (Sellnow, 2015). In addition, information should be made available where it will most likely be passively found or actively searched for; hence, a multimedia approach is recommended.

A people-centred approach is promoted by the UN Hyogo Framework for Action that emphasises interacting with stakeholders to determine risk awareness and needs, establishing people-focused performance standards for technical warning services, developing partnerships and creating events and other anchors for public learning and preparedness (Stanciugelu et al., 2017).

Some authors mainly address strategies to reduce *intangible reputation damage* of organisations (e.g. Benoit, Coombs), while others investigate behaviour influencing strategies to reduce *physical damage and harm* of stakeholders in the case of emergencies (e.g. Seeger, Sellnow). However, many crises are mixed-type incidents (see section 4.1) and need a combination of strategies. For example, in the case of air pollution at an industrial plant, behaviour influencing strategies would be used to warn people in the neighbourhood not to use vegetables grown in their gardens; also, reputation issues would be addressed since the organisation is likely to be blamed for causing the incident.

Specific crisis communication strategies differ over time as the crisis evolves. During a long crisis, different issues will come up, from multimedia strategies for fast warning to reputation-related and learning strategies. *Iterative*

planning and agile approaches have been emphasised for any communication activities in dynamic environments (van Ruler, 2015).

In the literature on organisational *reputation crises*, some have focused on *image repair* while other authors have emphasised *organisational renewal* (Ulmer and Pyle, 2016). After a reputation crisis, policy adaptation is often called for (Benoit and Brinson, 1994) to meet public expectations and bring the actual corporate identity closer to the desired identity (Vos and Schoemaker, 2006). When an organisation failed to meet stakeholder expectations of competence and responsibility, this creates a legitimacy gap (Spence et al., 2016). This goes beyond image repair and calls for organisational renewal, such as new organisational policies and activities that prevent occurrence of similar problems.

Image repair is relevant in situations where an organisation faces critique or accusations. Based on earlier insights, Situational Crisis Communication Theory (SCCT) identifies different response types, including attacking the accuser, denial, scapegoating, making excuses, justification, compensation and apology (Coombs, 2007). The choice of the strategy needs to take into account the public attribution of the role of the organisation in the creation of the crisis depending on if the organisation is perceived as a victim, the incident is seen as an accident or the incident is deemed a preventable crisis where organisational behaviour was lacking (Coombs and Holladay, 2002). Trivialisation or scapegoating is in any case warned against, and taking responsibility is recommended in cases where this applies (Elsbach, 2006). The strategy should take stakeholders' needs into account and, where appropriate, show expressions of concern (Romenti and Valentini, 2010). Taking care of potential harm caused comes first.

Some organizations show 'goal displacement' after a crisis when they feel great pressure to account for what happened (Jacobs, 2014). The previous goals of the organisations are overruled by the basic goal to survive and defend the organisation against accusations. Consequently, a shift of goals takes place. Jacobs (2014) investigated the relation between the accountability process and the performance of organizations under pressure for accountability in the aftermath of mediatised incidents. She concludes that the accountability process can be used to strengthen the organisation by creating urgency to learn from mistakes. Usually, for organisations that face too many mediatised incidents, it is very difficult to learn and benefit from the events, as their only concern becomes survival (van der Molen, 2015).

Strategy making is complex as, during a crisis, different issues evolve, calling for a combination of strategies. For each issue, following a contingency approach, a position is chosen on a continuum of organisational stances, from persuasion to collaboration or from advocacy to accommodation (Cancel et al., 1997, 1999).

7.4 Crisis communication practices

In crisis situations, as mentioned previously, monitoring is important to clarify perceptions about the crisis and the impact of the response activities undertaken. Organisations collect data using listening solutions such as dashboards that show results from various social media, such as Twitter, Facebook, Instagram and YouTube. Other input comes from phone services and at the location. It is important to prioritise those people directly implicated by the crisis, although those indirectly involved also need attention. Communication experts contribute by providing: (a) an analysis of public perception, (b) advise to response organisations and (3) implementational communication activities. In large crises, these tasks are done by different teams (van Achte and Vergeer, 2015).

When monitoring, communication experts focus on three areas: (1) *information* provision about the crisis and the response, (2) *behavioural instructions* to reduce damage and (3) *sense making* to connect to public emotions and views. People often have difficulties finding information, hear false rumours or misjudge the impact of the crisis. They also have concrete questions about what they can do to reduce risks for their family, or they may express fear or anger (van het Erve, 2015). Thus, monitoring activities show strategic gaps in the three above-mentioned areas that need to be addressed by communication objectives and activities.

Scholars have brought together *best practices* in risk and crisis communication, which include listening to public concerns, being accessible to news media and collaborating with credible sources (Seeger, 2006; Veil et al., 2011). Best practices are considered inspirational points of departure rather than prescriptions or rules, as every crisis is different. Practitioner literature on crisis communication is wide and describes recommended practices.

Preparedness activities relate to including communication in emergency plans, arranging a detailed crisis communication plan and preparing for a mass notification system with receiver groups such as employees, customers and people living in the neighbourhood. Internal awareness programmes, crisis training and education programmes and exercises of emergency plans with realistic communication content are supported. However, a flexible approach is needed that can include new information on the emerging crisis. Training can focus on how teams deal with uncertainties throughout the process and ensure a strong stakeholder orientation.

When a crisis occurs, a fast activation of crisis plans is important, escalating to higher levels in the organisation. Communication practitioners need to be involved from the start to support the organisational response, encourage stakeholder response, monitor stakeholders' information needs and facilitate cooperation with stakeholders. Warning messages need to be timely and accurate. In the case of casualties, statements of concern are given. While monitoring stakeholder views, statements are released and updated as the crisis unfolds. A

multimedia approach is used including mobile messaging, call trees and call centres, websites and social media and press releases and conferences. Internal media are utilised including internal emails and enterprise social networking (earlier called the intranet). Reaching staff who are traveling needs attention. Similarly, stakeholders may be traveling in an area they are less familiar with when a crisis occurs (e.g. if they are on holiday). In some cases, trauma teams will be necessary. After the crisis phase, it is important to prioritise aftercare and evaluation.

Nowadays, next to information via news media and an organisation's own websites, social media increasingly receives attention as a means to connect with stakeholders. Organisations use multiple channels to make use of opportunities offered by the different platforms. To connect the channels, they add links in social media posts to a dedicated organisational website for background information, and they embed easy to update social media tools inside crisis websites such as running tweets and link to video footage on, for example, YouTube. The use of video-sharing websites for an organisation's own materials has been recommended (Spence et al., 2016). Naturally, one needs to build followers in social media before an incident happens.

Cooperation with other organisations is made visible, for example, in Twitter by cotweeting, retweeting and using the same hashtags. In societal crises, people are often asked for eye-witness reports or to upload pictures of damage, for example, on Flickr or Instagram. Assistance is requested and sharing of information facilitated through, for example, wikis that people contribute to, Facebook pages such as "I'm okay", people finder bulletin boards, *crowd sourcing* (soliciting contributions from the public) and tools for interactive mapping of resources.

In societal crises, social media activities are initiated by response organisations and citizens for different purposes. Organisations should be aware of the different aims of stakeholders when using social media. During crises, people look for the following:
- if they are exposed to danger and how they can reduce this for them and those near to them;
- the background of the crisis and if the crisis is under control;
- information regarding what's happening around them; and
- tools to arrange matters, for example, to find lost people or contribute to memorial sites.

Response organisations have a different focus; their intentions are to:
- warn, instruct and inform;
- reach many people in different ways and quickly;
- explain what is being done;
- see what stakeholders say about what's happening; and
- seek cooperation, engage or mobilize (e.g. evacuation).

Table 6 gives examples to illustrate social media use in societal crises. When response organisations initiate social media activities, based on an analysis of monitoring results, they need to take the perspective of social media users into account and follow the results of social media attention by keeping in touch with stakeholders, utilising continuous media monitoring.

TABLE 6 Examples of purpose, strategy and social media use in crisis situations

Purpose	Communication strategy	Social media use
Initiated by response organisations		
Awareness and preparedness	Arrange educational activities for a better understanding of hazardous materials, integrated in an all hazards approach including local organisations	Wikis and blogs; snippets in social media that link to general preparedness information on a website; arrange accounts, hashtags, followers and cooperation within the response network by re-tweeting
Early warning for a possible threat	Clarify the situation and increase preparedness (e.g. by promoting vaccination), using many channels and contacts in an inclusive approach	Brief Twitter and network posts supporting agenda setting, with links to clear background information on a website about how to prepare
Warning for an immediate threat	Provide clear instructions, using many channels and contacts; address groups with specific threats (first ring of those most at risk)	Multi-channel alerts, possibly with feedback options, inclusive approach; engage influential actors or trusted intermediaries
Collecting data	Engage citizens in gathering and reporting data	Crowd sourcing through, for example, locating citizen messages on a map or collecting damage photos via Instagram
Continued crisis	Provide updated information about the situation with instruction on further actions needed; give attention to those mostly affected; update news and own media; make sure online search finds main websites; continue a high capacity of websites and call-centres	Multi-channel approach, credible sources; updates continue
Response organisations asking for assistance	Tell what is being done to mitigate the situation and what is needed (e.g. blood donors)	Tweets with short, concrete requests that link to websites with background information
Recovery and evaluation	Arrange participative decision making on recovery; promote lessons learned and sharing of experiences	Interactive discussion forums on recovery plans; memorial sites
Purpose	**Communication strategy**	**Social media use**
Initiated by citizens		
People that want to be prepared	Share tips and experiences, face-to-face and online	Wikis and blogs, networks
People that need assistance	Ask assistance from rescue authorities or volunteers	112 or related apps, open access crowd maps (set up by professional volunteer organisations such as Humanity Road), WhatsApp (e.g. neighbourhood groups)
People that want to tell others they are	Inform family and friends	Facebook group "I'm okay", networks like WhatsApp

okay		
People that want to arrange solutions	Post what one needs or offers; create or support spontaneous initiatives like donation competitions	Social networks like WhatsApp, message boards like Person Finder
People that want to share what they see	Share to all, or to close-ones	Twitter, YouTube, Instagram, Flickr, and social networks like WhatsApp and Facebook
People that look for (confirmation of) information	Follow different media use habits; look for trusted sources; take (cultural) preferences into account	Online search, search engines, trusted platforms
People that need emotional support	Provide face-to-face support in health care or online sharing of experiences	Blogs, social networks, online psychological services, memorial sites
People that want to have a say in recovery activities	Support initiatives in local neighbourhoods and online; facilitate and answer to online complaints	Various networks, Twitter

There are several practical guides online concerning the use of social media in crises and broader crisis communication (e.g. www.crisiscommunication.fi/criscomscore/guides and http://emergency20wiki.org/wiki/index.php/Main_Page).

7.5 Crisis communication means

Crisis communication calls for comprehensive approaches to reach all those affected by a crisis or that otherwise need to be informed, often using multiple communication means to ensure that many are reached and can find the information they need where and when they are looking for it. Means include direct communication using websites, diverse social media platforms, newsletters, reports and community meetings, as well as indirect communication via news media and talks with intermediaries trusted by the public groups involved. Communication should be timely and inclusive, taking ethics into account. Spokespeople can be trained for news media interviews and on-site interviews. Internal communication means also need to be included to reach personnel.

Crisis communication requires means for communication that are readily available, accessible, reliable and functioning. However, in extreme events or incidents, the communication often is *technically disrupted*, at least temporarily. Floods and storms, for example, often affect the functioning of information and communication technology, causing power outages and discontinuing phone and Internet connections. Moreover, in crisis situations, the *capacity* of Internet sites and phone lines are tested to the limit. Therefore, it is necessary for organisations and, in particular, those responsible for the operation of critical infrastructure and hospitals, to assess the risks of not being able to use specific, or even all of their, means of communication and to be prepared to use alternatives. Questions to be asked include:

- What are the legal requirements and policies in terms of means of communication, in relation to operational communication and emergency communication?

- To what extent does the information and communication technology of an organisation continue to function in extreme circumstances? The functioning is assessed in terms of coverage, accessibility, reliability, availability, back up facilities, capacity and variety.

- What are the risks, uncertainties and impacts of operational dysfunctionality under extreme circumstances? Which measures should be taken to mitigate these risks, and how much uncertainty about the operational functionality is left after implementation of these measures?

- Does the use of new technologies to respond to these challenges require changes in the organisational strategy, policy or regulatory framework?

Further reading:

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8 TURBULENT TIMES: CONSEQUENCES FOR CRISIS MANAGEMENT AND RELATED FUTURE RESEARCH *by Irna van der Molen and Marita Vos*

In this chapter, we will address the idea that organisational resilience calls for management across organisational and discipline borders. We will also discuss the need for related applied research and technological development. Finally, we will look into future research design.

8.1 Across organisational and discipline borders

In this section, we will discuss various ways in which organisational resilience requires activities across borders. We will begin by addressing the fading borderline between the fields of sustainability and resilience, next address multidisciplinary approaches in the context of organisations, and finally discuss collaboration among multiple actors.

Sustainability and resilience initially were seen as distinct areas, as threats related to, for example, climate change are relatively easy to identify and assess, whereas the broader approach of resilience is called for in cases of high uncertainty (Lechner, 2015). However, nowadays, the borderlines between sustainability and resilience are fluid. Threats related to climate change often interfere with other types of crises and human factors, making their development less easy to predict. In the case of high uncertainty, the aim is to increase resilience as such capabilities create preparedness in a broader sense. For example, natural crises such as river flooding interfere with human factors such as increased building activities near the rivers and other kinds of threats that, together, generate complex crises. Such complex crises need collaboration of expertise, raising of awareness and community resilience.

Similarly, within organisations, sustainability and continuity management used to be seen as distinct areas, but it is now recognised that there are overlapping interests that need to be identified and call for joint practices.

To understand and mitigate complex and mixed-type crises requires a multidisciplinary approach, involving different kinds of expertise within organisations. Moreover, internal and external stakeholder communication call for an integral approach, combining response strategies with adaptation processes. Communication needs to be strongly embedded in the organisation to be able to support organisational resilience.

Cooperation and related communication competencies that facilitate organisational resilience need to be emphasised. A flexible response style forms the basis for cooperation within the multi-actor response network. In such a context, interpersonal communication skills are enhanced, as one needs to be open to the input of others to be able to coproduce safety. Different resources are mapped, for example, within a region, including expertise and capacity that add social capital to be able to mitigate crises. In community resilience, stakeholders, such as citizens, are not merely seen as target groups but rather as active actors, and collaboration among organisations, groups and individuals calls for interpersonal crisis communication competence (Laajalahti et al., 2016).

The concept of a *balanced organisation* was introduced to address the fact that a pluralist society and its members need to embrace change and a high tolerance of uncertainty, "being open and willing to learn, and to adjust as they go along" (Scheuer and Jensen, 2013, p. 242). This is an approach of stakeholder management that emphasises being responsive to stakeholder views.

Communication should not be seen as a function maintaining stable, bilateral relations based on goodwill with the organisation as the focal point but instead as a driving force behind organisational interactions in competitive dynamic multi-actor issue arenas. Moreover, communication experts need to understand the ongoing developments in the complex networks in which organisations function, including the value chain, sector relations, public–private collaboration, new labour relations and outsourcing.

8.2   Need for applied research and technological development

Communication practitioners need to stay in touch with multiple stakeholder groups during volatile times. This requires them to implement monitoring and analyse measurement results to initiate interaction and gain feedback. This calls for applied research capabilities using monitoring technology, as well as advanced insights regarding communication processes in multi-actor issue arenas during evolving crises, for example, recognising power play and framing.

Social media interaction needs to be further integrated in risk and crisis communication (Veil et al., 2011), and analysis of issue patterns (as in Zhang et al., 2016) needs to be developed further to support strategy making.

As addressed earlier, information technology supports monitoring measurements of online issue debates (see Chapter 6). There are also numerous other ways in which information technology tools contribute to communication with stakeholders in crisis times. Technological development increasingly offers opportunities to support communication activities; however, for such innovations to be realised and used requires collaboration between information technology and communication experts to result in applicable human technology. Innovative tools need development and testing, with attention given to people–machine interaction. For example, *augmented reality* (i.e. technology that augments the real environment for virtual content in real time) is useful for training purposes. Furthermore, virtual assistants (like Siri, Cortana, Alexa or Google Now) can function as a remote expert for people affected by a crisis (Schwarz et al., 2016b).

There is much attention for technological solutions, as these are expected to deliver economic value and solve problems related to safety and security. Indeed, technology can be a blessing in crisis mitigation, even though problems such as criminal cyber-attacks have also been created by technological developments.

The purpose and consequences of the services provided are more important than the technological tool itself. Does, for example, a platform that facilitates sharing of information in an unsafe situation in a city fulfil the aim of lowering crime, and does it appropriately fit the multi-actor city situation and related human behaviour? Does it fit the way of working in the response network, or does it increase feelings of unsafety among citizens, making them more aware of unsafety rather than promoting safety? A proactive approach taking a social perspective is more than just looking at requirements of pre-chosen users for a concept already decided on. It also goes far beyond mere technology acceptance and nudging to promote technology use. A proactive approach calls for much earlier involvement in the first stages, before and when concepts are made. Of course, feedback about use also remains useful.

Another interesting focal point is how behaviour changes because of technology, as there often are consequences not anticipated that are similar to or worse than the original problem. For example, problems may not be taken away by improved surveillance but rather move to other areas, for example, perpetrators of cybercrime looking for other weak spots. Some solutions do not work or bring negative side-effects that need to be counteracted, such as web-facilitated internationalisation of crime.

Technology supports organisational industrial processes and logistics by using a system approach to take supply and distribution chains into account. New communication services have been added so that, for example, people see when goods are ready for delivery. Such an integral approach is also needed

when developing technology for other human and societal processes, calling for multi-disciplinary collaboration. For example, the Internet of things brings smart applications that arrange control at a distance. In addition, information is given when, for example, maintenance is needed, changing the interaction between people and machines but also bringing new risks of interference by hackers. Initially, communication expertise was needed to provide a written guide for technological products, whereas these days the tools themselves need to become more communicative. Furthermore, attention is needed for the interfaces between humans and machines, for example, by speech recognition and virtual agents.

The motivation to conduct applied research or develop new technology can be problem-based (typically by knowledge institutes), demand-based (e.g. from policy makers or consumers), supply-oriented (by SMEs and industry) or have a more fundamental character. Scenario development has been used for strategic knowledge and innovation agendas, for preparatory planning (what-if questions) and also in relation to security issues and crisis management. Overviews of many of the existing scenario techniques—including the (dis)advantages of these techniques—are available (see Bishop et al., 2007; Börjeson et al., 2006).

8.3 Need for awareness of shifting norms and values due to new technology

The ethical and social implications of emerging technologies are not always clear at the outset of new products and services. An example of this is the impact that smartphones have had on our behaviour and lives. The constant access to information—including incentives for continued communication through social media, possibly distracting attention from other tasks—is just an example of how new technology has changed our lives both for the better and for the worse.

Response organisations use citizen reports to answer requests for assistance in crisis times. Together with other information, this complements the situational picture. Authorities often see this as a *closed system* and do not make the content directly public, because the input provided needs to be checked. Alternatively, citizens' input can be shown on an interactive map. This is called *crowd mapping*, a form of crowd sourcing (gaining input of social media users), where, using geolocation, social media posts of citizens are placed on a geographical map. An interactive platform or app can be used for this purpose, or input can be selected from social media (for example, tweets with a particular hashtag). Citizens report if they need assistance or to contribute to crisis management. This is often used in international disasters where response organisations have difficulty gaining a picture of the crisis situation. However, it should be noted that open

systems are vulnerable to manipulation by, for example, terrorists and to misuse of sensitive information (e.g. when thieves learn a person's house is evacuated).

So far, in western countries, most authorities do not directly share maps, while in developing countries volunteer organisations (such as Humanity Road) often use open software for crowd mapping in open systems, with algorithms and volunteers checking for reliability. It is likely that closed systems of response organisations will continue to exist next to open systems that citizens can co-create and consult.

Open, interactive systems are increasingly developed also to show a continuously updated picture of security incidents in cities, despite concerns regarding the reliability of the accuracy of the inputted data. The aim is to contribute to feelings of safety, as such systems enable people to select safe routes, although seeing multiple incidents mapped may conversely result in the opposite. Thus, the conditions for such platforms have not yet been clearly outlined.

Related to new technology, privacy considerations are considered important. They are often emphasised in relation to potential government control on our lives, but much less so in the private domain, where providers and other companies circumvent public privacy concerns by offering comfort, ease of communication and fun, while collecting information on peoples' contacts, agendas, locations, photographs, sounds and—increasingly—biomedical information including sports activities, heart rates and sleeping patterns. Moreover, the Internet of things creates extensive data using sensors, with very diverse consequences. This creates risks, for example, when thieves discover that a person's location is not at their home or, in the case of a car crash, providing directions for paramedics.

Technology can play an unfortunate mediating role in triggering crises and emergencies, but it can also play a positive role in crisis management and emergency response. For example, it is not difficult to imagine how drones could be misused for terrorist purposes. However, police and fire brigades use drones to rescue lives. Each new technology and application with potential to play an important role requires strategizing to anticipate its impact, not only in the design phase of the technology but also, or in particular, in relation to policies, regulation and human behaviour. The focus is on creating legal and policy conditions under which misuse of technology for criminal or terrorist activities can be avoided, traced and discouraged.

8.4 Investigating issue arena discourse in turbulent times

Crisis management uses insights from many disciplines; Mitroff (1988) calls it "one of the most interdisciplinary fields that exists" (p. 20). In the field, since the late 70s, interdisciplinary and inter-organisational collaboration has increasingly been researched from a systems perspective (Quarantelli and Dynes, 1977).

This has enabled, for example, the development of insights into cooperation between different response organisations. In addition, for example, qualitative research with a constructionist approach has brought insights into individual and community resilience.

Many areas need further investigation, which could, for example, include conducting applied research in collaboration with practice organisations. Scholars can focus on research problems with high social added value or from an economic perspective. Special funding instruments focus on areas for fundamental research with breakthrough potential. This requires identifying research areas with a status in the field that make them primed for breakthroughs. Nowadays, most renewal needs a broad collective basis and enough weight behind it (e.g. for expensive research infrastructure), as the possibilities for and impact of solitary inventors is limited.

Crisis communication studies initially showed a sender perspective, for example, investigating press releases, and later adopted a receiver perspective, for example, testing messages for impact on receivers (Coombs and Holladay, 2014). The emphasis was on individual actors or bilateral communication between the focal organisation and its stakeholders and the content of messages.

Currently, data are gathered primarily by case studies of crises, surveys and expert-interviews. To analyse the data, mostly thematic or content analyses are used. The attention is shifting to observing stakeholder reactions in social media, which opens possibilities for analysing interplay between various actors.

Here, we look at communication in turbulent times through the lens of multi-actor communication in issue arenas. An analytical model has been introduced that proposes that research should pay attention to issue-related aspects, the actors, places of interaction and course of the debate (see section 2.2; Vos, Schoemaker and Luoma-aho, 2014). Looking at these different elements provides a fuller understanding of how multi-actor communication evolves. Further research can be inspired by the theoretical areas that the issue arena approach has been based on. Each of the theoretical areas illuminates parts of the research topic, as shown in Table 7, a comprehensive overview of how the sub topics are addressed from the perspectives of stakeholder approach, network theory, agenda setting and issues management.

TABLE 7 Comprehensive overview of how the theoretical areas inspire issue arena research (Vos, forthcoming)

		Levels of analysis for issue arenas			
		Issue-related aspects	The actors	Places of interaction	Course of the debate
Theoretical areas	Stakeholder approach	Perceptions of issues and stakes	Characteristics and interdependencies of actors	Stakeholder mapping	How relationships are displayed in the debate

Network theory	Interconnections of issues	Roles of the actors in the network, which actors are most active	Diffusion of issues in and between different social media	Issue spread patterns over time
Agenda setting	Which issue aspects gain attention	Which sub issues are promoted by the different actors	Transfer between public and media agenda	How framing is used in the debate to gain attention
Issues Management	Issue attention cycle and context	Monitoring of different strategies used in the arena	Prioritizing most suitable places for intervention	Response strategies

Communication in issue arenas can be further investigated from the perspectives of one of the theoretical areas. The stakeholder approach helps understand the different stakes at hand, as well as stakeholder relations and interdependencies. Network theory highlights actor roles and diffusions of issues. The perspective of agenda setting clarifies issue transfer between agendas and how issues gain salience. The issues management approach emphasises issue lifecycles and links with organisational policies.

Cross-cutting research can combine different theoretical perspectives to clarify elements of issue arena debate (Vos, 2018):

- for issue-related aspects, especially perceptions of issues and stakes, interconnections between related issues, which aspects of the issue are put forward to gain attention and phases of the issue in the attention cycle;
- regarding the actors in the debate, primarily the characteristics and interdependencies of the actors, their roles in the network such as that of a gatekeeper, which sub issues are promoted by the different actors and which communication strategies are used in the arena;
- for the places of interaction, stakeholder mapping identifying active groups in the different media, issue spread in and between different media, how the public and media agendas interrelate and what the most suitable places are to participate in the issue discourse; and
- regarding the course of the debate, developments and outcomes, relationships as they become visible in the interplay in the arena, how the issue spreads over time, how framing is used in the debate and response strategies of organisations.

It is challenging to clarify how issue discourse is co-created in issue arenas, as an issue is discussed in different places and by multiple actors who react to other actors, though often without explicitly referring to them. Various methods are used. Qualitative analyses scrutinise framing strategies observed in the debate, for example, on an online platform or during crisis preparedness simulations. Quantitative methods can be used to further investigate issue spread over time, taking big data problems into account as large datasets potentially bring

large statistical errors. They provide significant capacity to search and aggregate information but are also prone to outages and losses while often providing unreliable data from unknown sources (e.g. some Twitter accounts are 'bots', accounts that produce automated content) (Boyd and Crawford, 2012). Attention is needed for privacy issues, as often online discourse observed is not initiated for research purposes and needs anonymization and the accountability of the researchers who use the data. Recommendations have been developed by the Association of Internet Researchers (see aoir.org).

A promising line of research is using *simulations and gaming* to investigate behaviour in crisis situations. It is often difficult to focus on research during a crisis, and simulations can offer a controlled laboratory-like context to investigate multi-actor interaction. The potential of serious gaming for crisis communication has been demonstrated; for example, participants of a serious game (in this case without computer simulations) showed increased risk awareness and information seeking behaviour (Cremers et al., 2014). However, serious gaming could also be used as a research design, built on technology developed for augmented reality creating a simulated but realistic environment to study behaviour by multiple actors.

This could lead to research environments where citizens are asked to participate in research, using proper *ethics* procedures, as well as applications for the training of crisis communication experts that also can be used to investigate, for example, strategy making. Such a simulation would provide a positive and interesting experience that appeals to the users, because it has the character of a narrative that involves problem-solving. The game design could be developed using existing scenarios and expert input, a try-out of a paper version of the game where cards replace developments on the screen, followed by a digital mock version and a prototype to be further tested (Brouwer et al., 2012). To make a serious game interesting for users, insights from other computer games need to be used. For example, the player could be motivated by earning credits, seeing a progress bar and different tasks or targets, gaining feedback to see the consequences of their actions, experiencing uncertainty as a challenge, gaining confidence in interaction with other players and getting better in the game behaviour, leading to neurological engagement.

8.5   Towards new research design

Communication in turbulent times calls for comprehensive approaches investigating multi-actor interaction. This means looking beyond bilateral communication and acknowledging the dynamics of multi-actor interaction. The dynamics of the issue arena interplay influence the course of the debate and even affect evolving crises. Therefore, media monitoring activities to understand issue spread and information needs in crises are emphasised.

To investigate multi-actor interaction, simulations could provide new possibilities. Under controlled conditions, strategy choices can be observed and their effects on the course of the debate investigated. As the perspective of multi-actor communication in online environments is new to crisis communication, this has breakthrough potential to uncover new insights regarding complex online debates. A research design could focus on complex problems in issue arenas that have so far been hard to solve, including, for example, response to damage strategies (see section 6.3) and de-escalation in the case of a polarisation of opinions that blocks problem solving of social issues.

In Chapter 9, a research paper is provided that explores the possibilities for research design using *serious gaming*. Serious gaming is learning based on game technology. It often uses augmented reality (see section 8.2). Trends in the literature on simulations and games related to crisis management show that current use of serious gaming is mostly done for educative purposes and applies to, for example, pedagogics, crisis management and medical training. The overview also shows opportunities for research, as different roles are assigned to analyse multi-actor interaction, and strategies observed throughout realistic scenarios that show evolving discourse over time.

Such research would clarify how actors in issue arenas cope with the diverse strategies of others, as inspired by game theory. For example, an actor may see a situation as a zero-sum game, where the loss of one actor is the gain of another and, thus, take risks to gain the upper hand, or as a situation with possibilities for win-win outcomes which could lead an actor to implement negotiations to minimise damage (Murphy, 1989). Although game theory mostly focuses on mathematical analyses of rational choices being made, its focus on multi-actor interaction also inspires qualitative approaches that are not restricted to rational behaviour.

Game theory underlines that the outcomes of the interaction depend on the perceptions and expectations that actors have about each other, which issues people connect on in the public debate and how they anticipate the future behaviour of other actors, sorting out 'what ifs' (Bueno de Mesquita, 2009). Understanding issue arena behaviour means taking the logics of other people and how they anticipate the behaviour of others into account. This will bring new insights into public discussions on organisational and societal issues.

In addition, monitoring measurements can be further developed to enhance real-life observation of social media interaction offering, for example, visualisations that clarify interactions and facilitate strategy making. Applying such research results calls for advanced insights into the complexities of communication in turbulent times.

Further reading:
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9   SERIOUS GAMES, LEARNING AND CRISIS COMMUNICATION *by Markus Mykkänen and Marita Vos*

This chapter elaborates on the use of simulations and games for crisis communication. It is a research paper based on a structured literature review and comprises an addition with a different style than the rest of this book. As the previous chapter noted the potential of gaming for new designs of research and training, we wanted to provide a basis for this by bringing together previous scholarly insights on the topic. The purpose of this study is to clarify how serious games, gaming and virtual simulations can be used to enhance crisis preparedness and better understand communication in multi-actor networks in turbulent times.

9.1   Introduction

Serious games and crisis simulations can generally be considered important examples of media. They use the impact of entertainment to communicate a serious message, as Gee (2003) and Prensky (2005) have earlier argued. Serious games and crisis simulations can be applied to a wide variety of situations and conflicts such as natural disasters, prison riots, kidnappings and international conflicts (Boin, Kofman-Bos and Overdijk, 2004). Still, the simulations and games typically serve a limited number of purposes.

Simulations and games are often used to illustrate the patterns and pathologies of crisis decision making. They have also proven to be powerful tools to generate awareness among participants. Boin et al. (2004) underline that crisis simulation and serious games can be very helpful in bridging the proverbial gap between theory and practice. Simulations present participants with a setting that generates real-life experiences and enables them to directly apply theoretical insights to crisis problem solving (Kleiboer, 1997).

Communication skills and the management of information chains need to be trained and assimilated into crisis managers and response teams (Reuter et al., 2009). Reuter et al. (2009) argue that this is needed particularly for crises of sizes that require inter-organisational coordination. In many cases, the training could be supported by simulation and games. Reuter et al. (2009) highlight the strategic preparedness of actors in crisis management. Although process modelling and improvement techniques can be used, there will always be situational aspects that the actors need to respond to. This requires coordination and communication, as well as skills to interact appropriately with others (Reuter et al., 2009).

When an institutional crisis with conventional crisis theories is analysed by academics and practitioners, it has been noticed that many of the concepts and explanatory frameworks do not fit the problem at hand (Boin et al., 2004). Simulations and games could help to shape a frame of reference for crises. This could enable the participants to work together and contemplate potential crisis management strategies. Simulations can also support the development of flexible cooperation and the related crisis communication competence (Laajalahti et al., 2016). New formats of crisis management are needed, as the classic simulation formats tend to focus on reactive decision making. Boin et al. (2004) argue that institutional crisis management is more about long-term strategy considerations, which require new formats and very different scenarios.

The major challenge for crisis simulation designers, according to Boin et al. (2004), has always been the inherent tension between inconceivability and credibility. They emphasise that an unthinkable crisis scenario is easily discredited by participants, while a credible crisis scenario usually presents only a familiar, complex problem rather than a crisis. As Weick et al. (1999) point out, the great challenge to crisis simulation designers is to connect crisis performance with overall organisational performance. "A good crisis simulation benefits the organisation as a whole: It is a great team-building instrument, it solidifies a culture of reliable performance, and it signals to the relevant environment that the organisation in question is robust and well deserving of external trust and resources" (Boin et al., 2004, p. 391).

Simulations and serious games have seen extensive use in the industry (Smith, 2004). Smith (2004) underlines that the aviation and nuclear industries, for example, has made extensive use of simulators to make personnel familiar with the procedures around emergency response. He emphasises that both industries use simulations because of the difficulties involved in trial-and-error learning for real-time operations. Smith (2004) also remarks that simulations or serious games serve "as a useful audit mechanism for organisations as well as a validation tool for contingency plans and organisational crisis teams" (p. 349). Simulations provide a safe environment for organisations to engage in trial-and-error learning and the opportunity to learn within a safe environment within the limits and capabilities of their organisations. Bogost (2007) under-

lines educational goals of serious games, referring to them as 'persuasive games'.

Serious games and *game-based learning* (Connolly et al., 2012) are sometimes used synonymously. Connolly et al. (2012) argue that, originally, serious games were developed for the broader purposes of training and behaviour change in organisations, as well as in education. Only a few empirical studies have explored how engagement affects learning in the case of a game-based learning environments (Jabbar and Felicia, 2015), for example, combining experimental design with surveys. The findings of Connolly et al. (2012) indicate that a games-based approach to learning is being used across many different curricular areas, especially in health, business and social issues; however, as Jabbar and Felicia (2015) state, the topics are often limited to understanding the nature of engagement in games for entertainment purposes. Players like the game-based approach to learning and find it enjoyable and motivating, but more studies are needed from this field to study the motivational features of serious games and game-based learning in more detail.

The evidence that games lead to more effective learning is not strong, as Connolly et al. (2012) argue. They add also that there is still confusion concerning the characterisation of serious games. However, Jabbar and Felicia (2015) note that conflicts such as obstacles, scenarios and puzzles are designed within game-based learning environments to challenge and force players to exert effort by employing their skills and knowledge. But, as Shute (2011) argues, when facing complex problems, the ability to think creatively, critically, collaboratively and systemically, and then to communicate effectively, is essential. She found that learning and succeeding in a complex and dynamic world is not easily measured by multiple-choice responses on a simple test. "Instead, solutions begin with rethinking assessment, identifying new skills and standards relevant for the 21st century" (Shute, 2011, p. 506). She concludes that well-designed games could act as transformative learning tools to support the development of competencies and skills across a range of critical educational areas.

In a game-based learning environment, players can form a network of relationships (Eseryel et al., 2014). By establishing a common language and working towards common goals, peer relationships can be strengthened. Eseryel et al. (2014) explain that a game-based learning environment fosters relatedness, as complex problems are solved together. The findings of their study showed that, within game-based learning, motivation and engagement have crucial impacts on problem-solving competencies. They also argue that educational games do not necessarily lead to improved problem representations. Eseryel et al. (2014) emphasise that "there is a critical need for empirically-validated instructional design frameworks to leverage the affordances of game-based learning to design effective situated learning environments that can engage learners and support their development of complex problem-solving competencies" (p. 50).

The *purpose of this study* is to clarify how serious games, gaming and virtual simulations can be used to enhance crisis preparedness and communication in multi-actor networks. Games and gaming as a platform to further develop crisis preparedness education can be useful tools, as games are a form of narrative that can be to a greater or lesser extent fictitious to suit simulated crisis situations. A game can be a simulation of real-life events or create totally new, fictitious scenarios. Games and virtual simulations can provide freedom to experiment with forms of behaviour, and they often include problem-solving which is motivating for users. Crises are extreme situations, but the skills learned are also useful in less hectic times. Serious games, gaming and virtual simulations can teach and enhance these skills, but how and to what extent? The research questions of this study are the following.

RQ1: How is serious gaming used to enhance competencies of citizens, in particular related to crisis preparedness?
The aim was to find out what could be learned from the literature about gaming used in educating citizens and how citizens could, for example, be involved in crisis exercises.

RQ2: How is serious gaming used to enhance competencies of experts, in particular related to crisis management and communication?
The aim was to find how the literature addressed gaming used in the training of experts, for example, of crisis managers and communication experts.

RQ3: How is serious gaming used to investigate behaviours of citizens and experts, in particular related to crises?
The aim was to see how in the literature the use of gaming for research purposes was addressed, for example, to investigate how citizens make decisions on what to do in crisis situations or how experts decide which communication strategies to employ in crisis situations.

RQ4: What are the trends visible in the scholarly literature on this topic?
This research question focused on investigating which kinds of trends can be identified from studies on serious gaming, gaming and simulations. This also concerns changes over time that appear when following the timeline of the published papers.

9.2 Methodology

For this study, a computerized search of relevant scientific articles was carried out in November 2015, followed by a thematic analysis of the data. The search was limited to peer-reviewed articles in two databases: EBSCO and ProQuest. As a first step, several keyword combinations were tested. The final keyword combinations for the search are presented in Table 8. As not one focused combination produced enough results, a broader set up was chosen, allowing for later manual selection. The first search combined gaming with crises, citizens and crisis communication. The second search added sources by combining gaming and simulation research with communication. An overview of the literature found is provided in Table 8.

TABLE 8 Overview of search results on serious gaming

Main search for RefWorks database	EBSCO	ProQuest	Other sources
a. (Gaming) AND ('crisis communication' OR 'risk communication')	3	13	
b. (Gaming) AND (crisis OR disaster OR emergency)	35	20	
c. (Gaming) AND citizen*	27	10	
d. Snowballing results that fit the criteria			7
Total number of articles after taking out duplicates and screening based on criteria (search #1)	18		
Extra sources for second RefWorks database			
e. (Gaming OR 'Simulation* research') AND 'public relations'	15	43	
f. (Gaming OR 'Simulation* research') AND 'crisis management' AND communication	2	2	
g. Snowballing results that fit the criteria			2
Total after taking out duplicates and screening for relevance based on criteria (search #2)	8		
h. Suggestions by game researchers			2
i. Manually picked articles from the Simulation and Gaming Journal			1
The final sample	29		

For the first search (search #1), the EBSCO databases Academic Search Elite, Business Source Elite and Communication and Mass Media Complete, as well as E-journals, were used, yielding 65 results. The search in the database ProQuest yielded 43 results. All the initial results (n = 108) were then transferred to RefWorks. After this, exact matches and close duplicates were removed. Although the search had included the keywords presented in Table 8, the impression was that the sample contained some non-relevant items that did not address serious gaming in the contexts of crisis management concerning communication or citizens.

Therefore, further selection had to be done manually. In the first phase, based on the abstracts, the articles that clearly had no gaming, serious gaming or crisis context were excluded. After initial scanning, 34 articles remained. In the second phase, the abstracts and titles of all these articles were read carefully to ensure that they were scholarly articles that had a connection with the keywords. This procedure resulted in 11 remaining articles. The inclusion criterion in this phase was that the paper offered at least 6 references, to focus on scholarly work. After this phase, snowballing based on the sources mentioned in the articles was used. This resulted in new sources, of which 7 fulfilled the criteria to be included in search #1. Thus, overall search #1 (database search and snowballing) resulted in 18 articles.

The second search (search #2) in the EBSCO databases Academic Search Elite, Business Source Elite and Communication and Mass Media Complete, as well as E-journals, yielded 17 results. The search in the database ProQuest yielded 45 results, leading to an overall total of 62 initial results. The same scanning process was applied for the results as in search #1, which resulted in 21 articles that were read more closely. Once again, the sample contained some non-relevant items related to gambling, marketing and branding. Finally, 6 articles fulfilled the relevance criteria and were included in the sample. In addition, 2 articles were added to the sample after snowballing, resulting in search #2 providing an overall 8 articles.

After this, 2 articles suggested orally by Finnish gaming researchers were added to the sample. As a final search method, 1 manually picked article from the Simulation and Gaming journal was also included. The articles in the final sample, 29 articles overall, were then read through and a thematic analysis was conducted. The main findings and conclusions of each article were transferred to a data-extraction table, and additional notes were made.

9.3 Findings

In this section, the main results derived from the sample of articles are presented.

Serious gaming used to enhance learning and education of citizens
In this section, the findings for RQ1 are presented. The articles found that address this topic discussed serious games mostly from a civic educational perspective and were seldom related to crisis preparedness education of citizens.

The findings revealed that gaming could orient players towards citizenship by engagement in virtual worlds. Even if the worlds were fictive, they could still expand players' ability to envision the real world they inhabit (Davidsson and Gehm, 2014) or serve as both agents and products of social change (Lin, 2013). In serious games, as Davidsson and Gehm (2014) found, the combination of narratives and rule-based procedures make the virtual world a unique rhetorical tool for imagining participants as citizens and acting out that imagination. They argue that playing games with different rules facilitates taking on roles in those worlds, making decisions within the constraints they impose and then reflecting about living in them. Davidsson and Gehm (2014) conclude that video games can enhance different modes of engagement that develop into a player's imagination of citizenship.

As Davidsson and Gehm (2014) found, educational use of video games can be used to simulate systems generated by, for example, political institutions. Systems generated for games could mirror aspects of the real world and political processes in which citizens could participate. For example, as Davidsson and

Gehm (2014) mention that in the context of the rituals of civic life in video games, games could teach a community's core values and the process to participate. They argue that "one is able to see the broader arguments this civic education makes about the nature of good citizens and good societies" (Davidsson and Gehm, 2014, p. 56).

Greenberg (2012) argues that, in educational games, the designers do not assume that a game substitutes real-world complexities, actions and experiences. She discusses transformative politics and gaming, that what the game does claim to do is "give the player tools and techniques for thinking about, approaching, categorizing, and analysing that complexity" (Greenburg, 2012, p. 376). This way, gaming could be a tool to produce systems of thought concerning cause and effect. Greenberg (2012) also adds that games function from the perspective of agents rather than spectators.

Digital games can visually represent how real and imagined systems work. Serious games can reveal complex situations in a relatively simple way. According to Neys and Jansz (2010), this is what distinguishes games from the other, more traditional, media forms. This conclusion is supported by Prensky (2005), who argues that, in games, issues are presented in a way the younger generation of 'digital natives' likes and understands. Hilton (2006) focuses on simulation games for young people and argues that games are learning tools that could help increase collaboration between young people, enable them to work in a team and develop a sense of community.

Neys and Jansz (2010) state that, when comparing the technology of games to television, games enable the developers to visualise the complexities in a sophisticated way. They see games as an important example of a form of media which uses the impact of entertainment to communicate a serious message. Their paper presents how political games affect knowledge and opinions. Their findings suggest that the "construction and expression of a 'political self' through the act of playing a political game may have consequences in the real world" (Neys and Jansz, 2010, p. 227). They suggested that digital games are an expressive medium that invites players to explore and interact.

Neys and Jansz (2010) elaborate on the player's emotional experiences and argue that games have "the functionality of the laboratory" (p. 230). Players can use games to experiment with emotional experiences. In the context of political games, the game itself can function as a social facilitator, which constitutes an enhanced context of civic engagement.

Political games can be used to drum up nationalistic and patriotic longings, as well. Kshetri (2009) found that, for example, in China, online games have been an important platform to express nationalistic longings, which has led to a rise in nationalism among Chinese youths. Notably, in 2005, China developed a game called Anti-Japan War Online, based on the Japanese invasion of China during 1937–1945 in which players can simulate the key battles of the invasion but only play on the Chinese side. Kshetri (2009) states that games, apart from

promoting patriotism and combating foreign influences, are also used to fight social problems such as corruption.

Serious gaming used to enhance expert competencies
In this section, the findings for RQ2 are presented. Several articles that addressed this topic discuss serious gaming in the context of training for medical professionals or learning in organisations. Although crisis communication was hardly mentioned, many sources addressed gaming used to train crisis responders.

Graafland et al. (2012) reviewed 25 articles that addressed how serious games are used to train medical professionals. Their findings suggest that serious games allow team members to train simultaneously on one case, as well as allowing one professional to concurrently train on multiple cases by multitasking. Graafland et al. (2012) argue that serious games are cost-effective and readily available environments that could provide alternatives to expensive high-fidelity simulators. They found that serious games also present training environments for disaster situations and mass casualty incidents. Graafland et al. (2012) conclude that, "alongside the training of crisis management, serious games can be used for training everyday clinical activities and skills for junior doctors, such as decision-making abilities in surgical procedures or care of patients with burns" (p. 1329). They also acknowledge that non-technical skills are recognised "as critical in reducing medical errors in dynamic high-risk environments, such as the operating room or the emergency department" (Graafland et al., 2012, p. 1328).

Khatri et al. (2014) argue that gaming in general enhances the skills of surgeons. They found that exposure to gaming should "enrich aptitude for surgical skills, which requires attention to multiple skills in hand-eye coordination, manual dexterity, ambidexterity and triangulation while also accounting for non-technical skills of communication and monitoring the patient" (Khatri et al., 2014, p. 7). Besides surgical skills, broader training has also been addressed. Ferracani et al. (2015) emphasise that using medical simulations in training can be used to enhance the communication, situational awareness and personal skills of participants and allow them to confront scenarios that range from usual to extreme.

From the organisational point of view, serious games could offer far-reaching opportunities for learning. According to Wyld (2010), the use of virtual worlds is especially interesting for organisations for virtual training and simulated collaboration among experts. Wyld (2010) suggests that, for organisations, virtual worlds could offer a place "to virtually participate in formal and informal meetings, collaboration sessions, and training programmes" (p. 550).

The many articles found indicate that simulation games can play a useful and even pivotal role in crisis management planning and training. Virtual environments were already found useful by Tate, Sibert and King (1997). Their research

on developing a virtual environment for shipboard firefighters for better situational awareness resulted in effective and safe training and mission rehearsals. They conclude that training in virtual environments "provides a flexible environment where a firefighter can not only learn an unfamiliar part of the ship, but also practice tactics and procedures for fighting a fire by interacting with simulated smoke and fire without risking lives or property" (Tate et al., 1997, p. 28). Similarly, Wouters et al. (2009) found serious games to enhance collaborative learning. They argue that collaborative learning leads to a deeper level of understanding and long-term retention of the learned materials. Moreover, the social and communicative skills are emphasised in environments where teams have to work together on tasks that go beyond the capabilities of one individual, for example, in the case of firefighters.

The importance of soft skills in crisis management was investigated by Haferkamp and Krämer (2012). They found that soft skills in crisis management teams are a central precondition for efficient and successful communication. Disaster situations urgently need efficient and successful communication, but trainings and simulations are costly in terms of time and money. Serious games and virtual environments allow more people to participate in the multi-user game by using their workstation computers. In their paper, Haferkamp and Krämer (2012) present a project that provided a serious game in a virtual environment which simulates the work of crisis management teams during a disaster situation. After testing by students and experts on crisis management, Haferkamp and Krämer (2012) conclude that virtual environments are suitable as effective training grounds for group dynamics and cooperation in disaster situations.

Reuter et al. (2009) conclude that the central element of collaborative training in serious games is interaction. They emphasise communication skills and the outlining of information chains by crisis managers. Collaborative training in crisis management has theoretical and practical requirements, including proactive policies, defined organisational structures, infrastructures and crisis simulations. The training could use constructivist methods and be realized by social simulation games integrated in a crisis management system (Reuter et al., 2009).

Kleiboer (1997) found that simulations offer a method to plan and become more familiar with crisis management issues, the flow of events and the approximation of stress. This way, the participants could be saturated with different policy conundrums and demands. Simulations could also reveal weaknesses in existing plans and resource planning and improve coordination among operational elements of the plan. Kleiboer (1997) also emphasises that, via simulations, higher levels of individual performance in carrying out disaster plans can be achieved and can gain public recognition of a community's emergency operations capability. By gaining public recognition, the public faith in this capability could be raised and assured such that the implementation of emergency plans and procedures are effective. In this sense, communication with publics was addressed, albeit indirectly.

Mendonça et al. (2006), in their paper about group decision support systems (GDSS), emphasise the degree of realism of a game. They found it extremely important to ensure that the interests of the participants are covered and the educational benefits of the simulation enhanced. Mendonça et al. (2006) found also that "having experienced emergency managers take part in the simulation prior to the actual exercises can lead to improved realism if their reactions to the simulation are captured and analysed" (p. 533). They note that simulations can be designed as learning experiences. This way, the participants will understand that the training is an important precondition for managing an actual emergency. Mendonça et al. (2006) conclude that gaming simulations and serious games have "the potential for assessing a decision support system and its impact on the group it is designed to support" (p. 533).

Van der Spek et al. (2011) raise the question of how to make serious games more effective instructional media. In their literature review on serious games, they found only 28 scientific publications with any empirical evidence pertaining to clearly stated learning goals. They also express their concern that there is little consensus on how to evaluate the merits of a serious game. Van der Spek et al. (2011) argue that serious games can educate the player in an engaging way, and the findings of their study revealed that games did improve the knowledge of experts, although there is still much room for improvement. Van der Spek et al. (2011) found that games seem to be an appropriate training environment for crisis experts for two reasons: "First, games enable a high level of interactivity that enables a player (i.e., the learner) to act in the game and be confronted with the consequences of his or her actions in real time. […] Second, contemporary games can be made highly realistic by means of sophisticated visual graphics, sounds and even tactile sensations. This leads to a sensual, and thereby cognitive, load more akin to the real situation, which is unattainable by training on paper" (p. 442).

Van der Spek et al. (2011) discuss various determinant factors in the domain of crisis management. These factors, such as the inherent complexity of crisis situations and the limited cognitive capacity of humans, need to be included in the design of a serious game to ensure that it "facilitates the necessary mental model construction within the player" (van der Spek et al., 2011, p. 443). The authors conclude that serious games are a promising instrumental method to train for crisis situations.

Walker et al. (2011) provide background knowledge about the use of simulation and gaming in crisis management training. They also describe the architecture used and present a case study to illustrate how virtual environments can be applied in crisis management training. They propose the use of real-time information, which is captured either from historical events or in managing a crisis in real time. This would provide both "the context and the crisis script to enable significantly enhanced training and crisis management capability" (Walker et al., 2011, p. 165).

Walker et al. (2011) list several purposes for serious gaming as a tool for improving crisis management. Games can be used to assist in pre-crisis resource requirements determinations and resource allocation decision making, response planning and training for crisis management in actual crises. In addition, they help manage an ongoing crisis in real time and analyse and re-run a crisis after resolution to learn from the experience and modify the crisis management system for future deployment. Walker et al. (2011) point out that serious games could benefit from new capabilities, new ways of operating and potential for real-time decision support tools being developed, which could enable a range of possible time lines for developing crises. They argue that a range of scenarios developed and driven by real-time events increases the credibility of a game. Walker et al. (2011) emphasise that "important for crisis management is that games can be used as "dress rehearsals", just as in the theatre" (p. 168). In this case, serious games are aimed at preparing for the coordination of players who cooperate in team action on a temporary basis.

Reuter et al. (2009) reviewed serious gaming and simulation literature and found that 'simulations can be classified into simulations of natural dependencies and dynamics, and social simulations' (p. 2). They conclude that for crisis training, where social and cooperative dimensions of communication are challenged but the collaboration of different actors does not always result in well-qualified decisions, simulations fit better. 'Crisis management training should contain collaborative communication oriented elements and scenarios to model the context in advance, but with the opportunity to decide which scenario should arise in the training' (Reuter et al., 2009, p. 8).

Walker et al. (2011) note that organisations responsible for crisis management are already constructing crisis management systems to coordinate response to a crisis. The systems provide decision support during a crisis and support activities prior to the crisis and after the crisis. They argue that if such technologies are designed with gaming in mind, those same crisis management systems could be easily used in a simulation mode to learn from a simulated crisis management game. In the game, the crisis situation would be described (e.g. by weather or political events) before, during and after the specific crisis. The crisis management system must provide the sequenced events.

Walker, Giddins and Armstrong (2011) propose that "the game would provide several parameters that are vital to the scenario, such as the setting, potential list of actors, and many of the "rules of the game" (p. 165). They also emphasise "the use of real-time information (either captured from historical events or in managing a crisis in real time) to provide both the context and the crisis script to enable significantly enhanced training and crisis management capability" (Walker et al., 2011, p. 165).

Walker et al. (2011) see major benefits from simulation games, as they allow experimentation in a realistic environment in situations that would be hard to create in the field. Moreover, the visualisations help to involve people in learn-

ing and discuss matters with decision makers. The authors also list features of simulation games that enable or form a barrier for learning; for example, the game should enable realistic visualisations of a range of players and avoid representations that do not fit the culture of the participants.

Furthermore, Van der Spek et al. (2011) argue that setting up serious games in the domain of crisis management is a complex task. They list three components that determine the task's complexity: 'the inherent complexity of gaming, the specific characteristics of the domain at hand, and the limited cognitive capacity of humans' (van der Spek et al., 2011, pp. 442-443). These components need special care when considering the instructional design of a serious game to guarantee that the game facilitates the necessary mental model constructions. Van der Spek et al. (2011) conclude that the ability of the designer is of central importance for the effectiveness of serious games in crisis management.

Stolk et al. (2001) found that interactive game simulations can support the training of crisis units, including the crisis phases of preparation, execution and evaluation. Game simulations could also improve trainees' environmental awareness without any risk to the simulation participants (Ferracani et al., 2015). Ferracani at al. (2015) discuss that, currently, most of the simulated training sessions in medicine occur in real environments such as laboratories, whereas realistic digital simulations could facilitate learning in a safe environment. In customised disaster scenarios, one can include the events as set in advance, and observe the actions and decisions of the participants.

Nilsson et al. (2011) found that augmented reality technologies and simulations have been used to support collaboration between rescue services, police and military personnel in crisis management. They note that collaborative work across organisational borders is not simple. Challenges include confusion emerging from differences in terminology, symbols or organisational structures. The information presented to the different actors needs to be simple enough to support cooperation. The information needs to also be rich enough to facilitate communication and decision making between actors from different organisations. Nilsson et al. (2011) conclude that if the augmented reality technologies and simulations are carefully designed, they could be successful in proving a platform for collaboration.

Stolk et al. (2001) mentions that, in military world simulations and computer-based training, tools are used for task training and in so-called command post exercises. However, similarly, simulations could also be used for criminal purposes. Wyld (2010) warns that virtual environments such as Second Life (an online three-dimensional world launched in 2003) and others could also be used by real-world terrorists. He argues, "both inside and outside of the intelligence community, experts have speculated that virtual worlds will be conducive for real-world terrorist groups to recruit, organise, and even simulate possible attacks" (Wyld, 2010, p. 546). He emphasises that such criminal activities will be

very difficult to monitor and track due to the relative anonymity of virtual environments.

Serious gaming used to investigate decision making and behaviour
In the following section, the findings for RQ3 are presented. A few articles were found that used games to investigate the societal effects of crises. More articles addressed using games to investigate behaviour and decisions made by experts, medical professionals and crisis managers.

Szell and Thurner (2012) investigated the interactions of 350,000 players in large scale multi-relational games and reviewed recent studies concerning this topic. Their review revealed that using gaming as 'virtual laboratories' has the potential to lead to new discoveries and contribute to managing human-induced crises. Szell and Thurner (2012) also conclude that, through gaming studies, the investigation of human phenomena can be carried out. Concerning crises and disasters, they mention the role games could have on, for example, cooperation and ethical behaviour in conflict situations such as war or terrorism. A similar conclusion is made by Wyld (2010) who concludes that "virtual worlds may thus be a safe environment to test hypotheses as to how to react to real-world health and other emergencies, putting avatars—not humans—at risk" (p. 552).

Serious games, as Mohan et al. (2014) found, can in principle simulate representative task environments in which cognitive processes can be revealed while allowing the experimental manipulation of task conditions. The authors focus on physician training to provide proof-of-concept that serious games have the potential to serve as an important method of studying the decision making of physicians, if the virtual decisions are realistic and consistent with actual practice. Mohan et al. (2004) conclude, "allowing the observation of decision making under different task conditions, serious games permit insight into the cognitive processes that inform judgment" (pp. 6–7).

Mohan et al. (2004) found similar practice patterns in the game simulation when compared with real life. According to them, serious games can open up new insights into the processes of physician performance about which various stakeholders expressed a high priority for improvement. Mohan et al. (2004) conclude that serious games could "replicate the task environment, allowing us to manipulate cognitive load, and reveal the possible role of heuristic thinking on trauma triage decision making" (p. 7). Through this, serious games technology possesses potential as a method to evaluate decision making.

The behaviour of participants, decision making and communication were investigated by McDermott, Cowden and Rosen (2008) in a study in which participants played a real-time, interactive conflict game. In this crisis simulation game, each person played the role of a leader of a country in conflict with its neighbour. The players were asked to resolve the crisis without being told how to do so. The game was 'winnable' either through successful negotiation or by

accomplishing military dominance. The findings of McDermott et al. (2008) indicate that participants who engaged in friendly communication were more likely to negotiate, whereas those who exchanged hostile messages were more likely to prolong the crisis to a war.

Walker et al. (2011) examined serious games used for crisis management and conclude that simulation games might be used to study the decision making of crisis managers under stressful and overloaded conditions.

Trends in the literature

The findings indicate that the volume of these studies has increased in recent years. For the first search, 9 papers out of 11 were published during the last 5 years. Snowballed articles for this search yielded results from a broader time-scale, where the oldest was from 1997 and newest from 2012. Findings from search #1 indicate that the research concerning serious gaming and gaming overall is mingled. The themes of both the articles in search #1 and the snow-balled articles mostly covered serious gaming or gaming from certain perspectives (such as concerning political aspects or medical care). The papers that discussed serious gaming and simulation from the crisis management perspective were either focused on case studies of medical care, literature reviews or crisis simulation case studies.

For the search #2, 6 papers out of 9 were published during the last 5 years. The 2 snowballed articles for this search had a long time-span of 18 years between their respective publishing. In this search, the themes of the papers primarily discussed how gaming and simulation could be a beneficial tool for learning and collaboration. The papers that focused on crisis management discussed how gaming and simulation work as training tools. Papers suggested by other researchers and picked by hand from a specialised journal based on the inclusion criteria discussed generally serious gaming and game-based learning.

9.4   Conclusions

Digital games and environments are expressive mediums which invite players to explore and interact. The combination of narratives and rule-based procedures make the virtual world a unique rhetorical tool for imagining and acting. Participating in digital games and virtual worlds with different rules facilitates making decisions, taking new roles in those worlds and reflecting about living in them.

Learning and participating via digital games and virtual worlds gives new tools and techniques for thinking about, approaching, categorizing and analysing the complexity of the world. Eventually, this will help citizens educate themselves and be more prepared for crisis situations. Digital games and virtual worlds are cost-effective and readily available environments that provide alternatives to expensive high-fidelity simulators. These can be used to train both

the skills and decision-making abilities of crisis response units and the non-technical, soft skills of participants.

Games and virtual environments play an important role in enhancing crisis management planning and training, leading to a deeper level of understanding of interaction in crisis response. For the crisis experts, digital games and virtual environments could be used to emphasise the communication skills and information chains needed in crisis. They could also reveal weaknesses in existing plans and resource planning. This way, the coordination of different operational elements can be improved and public faith for emergency capabilities gained.

Well before a crisis occurs, the resources, decision-making abilities, response planning and training for crisis management can be enhanced. After a crisis, digital tools such as games and virtual environments could help participants learn from experiences and modify the crisis management system for the future. Overall, crisis experts and citizens together, via digital games and virtual environments, could facilitate the learning regarding how to prepare for and respond to crises in safe environments.

Serious games technology could be used to study human phenomena. For crises and disasters, this involves the cooperation and ethical behaviour of participants. Virtual tools like games and simulations are safe environments to test hypotheses of how citizens and crisis response experts react without putting anyone in real risk. These kinds of environments also provide the possibility to manipulate task conditions and, thus, permit insight into the relevant cognitive processes. This creates the possibility to test and evaluate decision making under stressful and overloaded conditions.

This review into the literature of serious games, virtual environments and gaming simulations can be used as a basis to study a wide range of communicative aspects related to crisis, crisis management and human behaviour. The overall findings indicate that interest in the topic is recent, as most papers found were published in the last 5 years. Although the focus on crisis management yielded many articles, little attention was given to communication with publics. The use of serious gaming for preparedness of citizens and for investigating citizen behaviour can be considered a significant gap in the research so far. However, considering the growing interest in the topic, this gap is expected to be addressed in the near future.

Acknowledgements

Further reading:

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ABOUT THE AUTHOR AND CONTRIBUTORS

Author

Marita Vos, PhD, is since 2007 full Professor in Corporate Communication at the Jyväskylä University School of Business and Economics, Finland. She is also visiting professor at the University of Twente, Netherlands. Her research focuses on communication in turbulent environments, organisational resilience and multi-actor debate on social issues and crises. She has authored or co-authored 12 books and headed several international and multidisciplinary research projects on innovation and crisis management (see www.crisiscommunication.fi). Previously, she has worked as a communication manager and strategic consultant, coordinated a research group on governmental communication and initiated the Master in International Communication Management in the Netherlands (see www.vos-schoemaker.com).

Contributors

Irna van der Molen, PhD, is Coordinator of the Centre for Risk management, Safety and Security at the University of Twente, Netherlands. She is interested in risk management, safety and security at the regional, national and international levels. She holds an MA in Public Administration, an MSc in Risk Management (Cum Laude), and a PhD in Water Resource management. Prior to her current position, she worked for IDEM Consult on Institutional Development and Environmental Management and Geoplan International, Amsterdam. She has conducted research in Pakistan, Sri Lanka and the United States and has paid visits to India, Bangladesh, Indonesia, Palestinian Territories, Israel, Egypt and Lebanon, as she has been responsible as project leader for several international projects in the Middle-East.

Markus Mykkänen, MA, is a doctoral researcher at the Department of Languages and Communication at the University of Jyväskylä, Finland. He investigates communication contributing to organisational decision making. His dissertation is currently in review, titled 'The Contribution of Public Relations to Organisational Decision making and Autopoiesis of Organisations – The Perspective of the Luhmannian Social System Paradigm'. He also works as a freelance journalist and communications consultant.

Communication in Turbulent Times:
Exploring Issue Arenas and Crisis Communication to Enhance Organisational Resilience

Marita Vos

with contributions by Irna van der Molen and Markus Mykkänen

This book 'Communication in Turbulent Times' is characterised by a broad approach towards corporate communication, emphasising change and crisis. These are turbulent times indeed. Scholars talk of disruptive changes resulting in dying industry branches, and black swans, meaning unforeseen large crises, that both will challenge society. How can private and public organisations deal with such major changes in their social environment? One thing is certain: such situations call for communication with all stakeholders involved, as this book further explains.