SOCIAL MEDIA USE IN CRISES AND RISKS: AN INTRODUCTION TO THE COLLECTION

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This book is about how different communicators – whether professionals, such as crisis managers, first responders and journalists, or private citizens and disaster victims – have used social media to communicate about risks and crises. It is also about how these very different actors can play a crucial role in mitigating or preventing crises. How can they use social media to strengthen their own and the public's awareness and understanding of crises when they unfold? How can they use social media to promote resilience during crises and the ability to deal with the after-effects? Moreover, what can they do to avoid using social media in a manner that weakens the situation awareness of crisis workers and citizens, or obstructs effective emergency management?

The RESCUE (Researching Social Media and Collaborative Software Use in Emergency Situations) project, on which this book is based, has sought to enable a more efficient and appropriate use of social media among key communicators, such as journalists and government actors

involved in crisis management. Through empirical studies, and by drawing on relevant theory, the collection aims to improve our understanding of how social media have been used in different types of risks and crises. Building on our empirical work, we provide research-based input into how social media can be used efficiently by different communicators in a way appropriate to the specific crisis and to the concerns of the public.

We address our questions by presenting new research-based knowledge on social media use during different crises: the terrorist attacks in Norway on 22 July 2011; the central European floods in Austria in 2013; and the West African Ebola outbreak in 2014. The social media platforms analysed include the most popular ones in the affected areas at the time of the crises: Twitter and Facebook. By addressing such different cases, the book will move the field of crisis communication in social media beyond individual studies towards providing knowledge which is valid across situations.

KEY TERMS

Social media platforms (or outlets) may be defined as Internet-based, computer-mediated communication applications with features that enable users to build up a personal profile and a group of connections, and to create, share and exchange user-generated content in real-time (micro-blogging; Boyd & Ellison, 2007; van Dijk & Poell, 2013; Yates & Paquette, 2011). Platforms vary in design and included features; some, for example, allow users to engage in one-to-one or group communication activities, while others do not. In an attempt to explain the social media ecosystems, van Dijk and Poell (2013) argued that the logic of social media is based on elements of programmability of content or platforms, popularity among users, connectivity between users and the possibility of datafication (i.e. that the platforms produce data that may be collected and used for varying purposes). Thus, social media are founded by private owners and actors, and developed by employed programmers; however, they depend on user activities and engagement to survive.

Social media have become integrated in people's everyday routines, and they interact with societal structures and traditional mass media communication processes. Hence, crisis managers and communicators need to understand their logic and benefit from their potential (Coombs, 2015; Simon, Goldberg, & Adini, 2015). For example, while social media allow

for a traditional top-down dissemination of vital information from crisis authorities to the public, they also, due to their datafication potential, provide an opportunity for collecting information from the public, thereby identifying emerging developments in the crisis or potentially harmful rumours (Latonero & Shklovski, 2011; Ruggiero & Vos, 2014; Simon et al., 2015). In such cases, however, teams need to be aware of problems that may occur with social media information overload or faulty content.

The social media connectivity element also allows crisis management teams to engage in horizontal two-way dialogue with the public or those affected. For instance, management teams can utilise social media to listen in and respond to people's concerns, or to direct support teams to those in most urgent need of help (Hughes, St. Denis, Palen, & Anderson, 2014). Another example of the connectivity element in social media is that it allows for user group mobilisation and activation for different purposes, for example, improvised crisis framing or volunteerism (Ludwig, Reuter, Siebigteroth, & Pipek, 2015). However, such mobilisation may, if not identified properly or on time by the response authorities, do more harm than good (e.g. by collectively identifying the wrong perpetrator, or when groups appear without warning at the scene of a crisis wanting to help out).

Throughout the book, a range of key terms are used. As some terms may overlap with each other or be interpreted in different ways, chapters provide short definitions of how the authors have used any concepts included. We also provide general descriptions of some of the most commonly used terms in the following text, beginning with concepts related to times of crisis.

We see an *emergency* as an umbrella term for a state of collective disruption where societal values and structures are threatened; it may be caused, for example, by a natural disaster or by man-made violence. It is usually of a sudden and unexpected nature, and limited to a specific area and time period. In dealing with an emergency, managers and policy makers need to make decisions under uncertain circumstances, and extraordinary response actions are required (Boin, 't Hart, Stern, & Sundelius, 2005; World Health Organization, n.d.).

A *crisis* may reflect a similar state of collective disruption, but can also be of a more general nature. According to the World Health Organization (n.d.), a crisis reflects a difficult situation or process, with insidious

consequences. A crisis is not necessarily sudden in nature or evident, and hence may be of a more hidden type and include several layers of intensity. Therefore, an emergency may be one form of crisis. A crisis can also be defined as an individual, psychological trauma. In this case, it is typically a threatening situation that may result in physical or psychological harm, and sudden, catastrophic loss. The situation causes significant stress that exceeds an individual's capacity to cope, and requires extreme adjustment for the person to function appropriately (Reyes, 2008).

A *risk* may be defined as: 'the chance or possibility of danger (harm, loss, injury and so forth) or other adverse consequences actually happening' (Allan, 2002, p. 209). In other words, a risk reflects the probability of a crisis actually becoming a reality. However, new risks may also emerge from crises, for example when an outbreak of an infectious disease in a certain region may heighten the risk of disease transmission to other areas. In the book, we discuss risks mainly at a societal level.

Resilience refers to the capacity for positive adaptation after adverse events. Community resilience reflects this process at a societal level. In their list of factors promoting such resilience, Norris, Stevens, Pfefferbaum, Wyche, and Pfefferbaum (2008), for example, mention the importance of the authorities communicating effectively with the public, and the need for citizens to have a high level of social capital. Individual resilience centres on capacities that promote personal adaptation (Herrman et al., 2011), including both personal characteristics (e.g. personality, previous life experiences) and environmental factors (e.g. socioeconomic status).

Situation awareness addresses the potential challenges crisis communicators (or other occupational groups) face when working in high-stress surroundings that include many actors and other moving parts. Situation awareness can be defined as all the knowledge that is accessible, for instance, during the management of a crisis, and that can be integrated into a coherent picture for assessing and coping with the situation (Endsley, 2009; Sarter & Woods, 1991). Having a high level of situation awareness is, therefore, to feel in control and understand what is happening around you – and what this means to you. While the concept has mainly been used in relation to individuals, crisis management often includes collaboration in teams, and situation awareness should thus include a collaborative dimension as well (Salmon et al., 2008).

Part 2 of the book presents work on developing and testing the *usability* of a tool prototype intended to support social media information-gathering during crises. Usability means user-friendliness and reflects the degree to which a product can be used by an outspoken user group to achieve goals with effectiveness, efficiency and satisfaction – in a specified context of use, such as crisis work (ISO 9241, 2010). When applying this approach in product design, the intention is to optimise the product towards how users can, want or need to use the product, instead of forcing users to change their behaviour according to its requirements (Wallach & Scholz, 2012). A central aim in usability testing is to investigate how well the product corresponds with users' existing *mental models* of tasks the product is intended to support. Cognitive mental models are a person's adaptive understanding of, for example, concepts, structures or processes (Johnson-Laird, 1983; Norman, 1983).

THE STRUCTURE OF THE BOOK

The collection is divided into three parts: using social media in crises and risks; developing a tool for crisis communicators and recommendations for social media use in risks and crises.

Part 1 Using Social Media in Risks and Crises

In Part 1, we present empirical studies of three different cases. In particular, we analyse social media use during the terrorist attacks in Norway. In five consecutive chapters, we analyse how communicators in different roles – ranging from victims to crisis managers/responders and journalists – not only used social media, but what the disastrous 22 July event implies for their current application of social media in daily communication or crisis communication. This part also includes a chapter investigating social media use by journalists during the 2014–2015 Ebola crisis as well as a case study on online communication during the 2013 floods in Austria.

The first chapter of Part 1 provides an analysis of how Twitter was used during and in the aftermath of the Norway terrorist attack in 2011. Based on a collected material of 2.2 million messages from the Norwegian

Twitter sphere during and after the attacks, the analysis assesses how the micro-blogging service aided its users in creating awareness of the crisis event. A striking feature of the material is the absence of police, fire brigades and other public institutions from the key communicators. The study confirms previous research that highlights the importance of crowdsourcing and the efforts by amateurs in Twitter communication about sudden crises. The results show that Twitter was important for establishing situation awareness both during and after the terrorist attacks; that hashtags were of limited value in the critical phase and that unexpected actors became important communicators.

The author of the second chapter has interviewed surviving victims of the terror attack on the island of Utøya, and studied their use of Facebook in the first month after the shootings. Using Narrative Therapy as an inspiration for her analysis, the author finds that the perpetrator is excluded from the survivors' traumatic stories. On their Facebook walls, and in the interviews, they display rather their personal renarrations of fear, shock, resilience and their will to support each other in finding a way to move on.

The analysis in the following chapter of the authorities' use of Twitter during the Norway attacks (Chapter 3) testifies to the absence of official voices during the critical hours of the crisis, with the blood bank at Oslo University Hospital as the exception. The analysis reveals that there was no coordination and synchronisation of communication between the authorities. The authors infer that official silence on Twitter obstructed an efficient configuration of situation awareness for the public and the authorities. However, the analysis also points to the potential of Twitter in crises, by emphasising how the blood bank used tweets to raise situation awareness in collaboration with the public, and to mobilise blood donors in order to address the acute problem of a shortage of blood to treat casualties.

Chapter 4 follows up on these issues by interviewing crisis managers and responders in the Norwegian police and health sector, and by paying particular attention to lessons they have drawn from the inadequate use during the 2011 attacks. The police interviewees underline how they currently have established routines for engaging social media in daily communication activities to strengthen their public presence, so that they are better prepared for effective social media use during crises. The health

sector interviewees used social media to some extent when the crisis unfolded. However, like the police interviewees they stress the need for better coordination between actors in their own sector and also between emergency services in other sectors.

Based on interviews with news workers, photographers, desk editors and front editors at VG, the leading online news provider in Norway, Chapter 5 discusses whether and how media workers and managers take advantage of digital technology and social media. The study looks at how two different discourses of professionalism, the occupational and the organisational discourse, informed journalists' use of digital media's affordances during the terror crisis in Norway. It analyses how online journalists and management reflect upon their use of the affordances five years after the crises. The affordances of digital media may be seen, for example, as interactivity with users, the speed of digital media, social media platforms and real-time chatting. Although new organisations in the current digital and social media climate find they have less control over agenda setting, they compensate for this through various enhanced forms of news presentation, such as interactive graphics, that engage users. At the same time, management looks to social media platforms for financial opportunities by learning from, and innovating with and alongside them.

Chapter 6 follows up on the topic of news media's use of social media by examining the manner in which three UK media sources – the BBC, the *Daily Mail* and *The Guardian* – used Twitter during the 2014–2015 Ebola crisis. The chapter's key research question concerns how these established media used and responded to the distinctive nature of social media during the Ebola outbreak. The author finds that these media used social media in a fairly conservative manner. Content was largely factual, occasionally opinion led, but always signposted to stories elsewhere – suggesting that Twitter was not seen as a medium in its own right, but as a means of promoting content elsewhere. Moreover, there was no exploitation of the dialogical potential of social media.

The authors of Chapter 7 use the 20 semi-structured interviews they conducted, and an analysis of online data, to reconstruct the online communication of different stakeholders such as the authorities, rescue organisations and journalists during the 2013 European floods in Austria. They conclude that social media was a weak point in official crisis management and communication related to the floods. A flood

has a long lead time and is therefore easy to predict compared with other crises such as terror attacks. Nevertheless, rescue organisations, the authorities and journalists were surprised by the enormous impact of the floods, in particular with the new flows of online information, and the more active and prominent role of the public in crisis communication.

Part 2 Developing a Tool for Crisis Communicators

The two chapters in this section show how user-centred design and usability testing are vital components in developing technological tools for occupational groups who work in monitoring, assessing, identifying and sharing important social media content during crises. Few of the many new tools developed to monitor and assess social media content are actually used by key communicators in crisis and risk situations. This is partly due to a lack of usability testing and cooperation with potential end-users in the design phase of the tool development. Chapter 8 focuses on how usability testing in controlled laboratory studies was applied when developing a tool for gathering social media information, from the pre-production planning phase to the final phase. Chapter 9 pays particular attention to how biometric measurements (e.g. skin conductance and eye tracking) can provide detailed clues about a tool's usability. The authors conclude that these measurements are helpful when trying to identify and understand the user's emotional and cognitive reactions to tool features. The two chapters in this part offer insights into how research and technological innovation may go hand in hand in the design of new tools.

Part 3 Recommendations for Social Media Use in Risks and Crises

Based on the empirical studies presented in Part 1 of the book, on studies published by the RESCUE researchers in other scholarly publications, and on previous research and theories on social media use in crises, the chapters in the last section of the book offer recommendations to key communicators in their application of these media in different types of risk and crises.

Chapter 10 summarises communication processes during the central European floods in Austria and the insufficient use of social media by the authorities and rescue organisations during the crisis. The authors recommend that professional communicators develop a proactive communication and publishing strategy that provides information already in the pre-crisis phase, to avoid accelerating the dissemination of misleading information on social media. They also recommend that crisis communicators develop a content strategy for social media communication that can help them understand the kind of content their audience needs, together with the tone and voice used in their content. Finally, they emphasise the importance of training communicators to develop practical skills in dealing with social media platforms and communication processes.

In the following chapter (11), the recommendations are based on findings from two sets of case studies: one on the use of social media by health authorities in the UK and Norway during the 2014–2015 Ebola outbreak; the other on how established media in the UK used Twitter during the Ebola outbreak. The recommendations for health authorities emphasise, for instance, how they need to develop a strong social media presence and monitor the wider social media conversations in order to deal with rumours and questions; furthermore, that they can use messengers with local authority to offer advice via social media to people in affected regions when urgent measures need to be taken. As for the established media, one of the suggestions is that, where social media content is signposted, journalists should consider signposting to primary sources rather than to their own reports.

In the final chapter, the authors' recommendations are based on findings from the Norwegian Twitter sphere and newspaper content, and from interviews with Utøya survivors, journalists, information officers, crisis managers and responders. Among the recommendations offered for the different key communicators are: acknowledge social media as important; master cross-social media monitoring and features; be aware of non-hashtagged content; implement verification tools and practices; and, last but not least, engage with and learn from celebrities.

CONCLUDING WORDS

Crises pose an immediate risk to life, health, property or the environment and require urgent action. The public's use of social media has important

implications for contingency policies and practices. Social media have the potential for risk reduction and preventive interaction with the public. They can provide crisis managers with an understanding of what information people want in emergencies. However, for efficient crisis communication, social media should be seen as channels which are integrated with established news media outlets, the authorities' own web pages and other communication channels. Furthermore, communicators need to tailor their strategies according to each chosen social media platform, as different social media have different features.

Potentially, the results and recommendations we publish in this book will help broaden the understanding professionals have of social media crisis communication and, ultimately, reduce the impact on society of future emergencies.

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