

European emergency managers on social media: institutional arrangements and guidelines

Social media arrangements and guidelines

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Abstract

Purpose – This paper offers an empirical overview of European emergency managers' institutional arrangements and guidelines for using social media in risk and crisis communication.

Design/methodology/approach – The authors collected and analysed material including publicly accessible relevant legal acts, policy documents, official guidelines, and press reports in eight European countries – Germany, Italy, Belgium, Sweden, Hungary, Finland, Norway, and Estonia. Additionally, the authors carried out 95 interviews with emergency managers in the eight countries between September 2019 and February 2020.

Findings – The authors found that emergency management institutions' social media usage is rarely centrally controlled and social media crisis communication was regulated with the same guidelines as crisis communication on traditional media. Considering this study's findings against the backdrop of existing research and practice, the authors find support for a "mixed arrangement" model by which centralised policies work in tandem with decentralised practices on an ad hoc basis.

Practical implications – Comparative insights about institutional arrangements and procedural guidelines on social media crisis communication in the studied countries could inform the future policies concerning social media use in other emergency management systems.

Originality/value – This study includes novel, cross-national comparative data on the institutional arrangements and guidelines for using social media in emergency management in the context of Europe.

Keywords Emergency management, Crisis, Social media, Centralisation, Vulnerability

Paper type Research paper

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1. Introduction

A central goal of emergency management is to mitigate people's vulnerability, that is, their likelihood of experiencing adverse effects due to hazards or crises (Tierney, 2019). Most recent sociological theories of vulnerability conceptualise crisis vulnerability as a dynamic characteristic that is shaped by an interplay of multiple factors: characteristics of a particular crisis situation, individual conditions of affected people (e.g. impairments, limited skills), and the availability of support structures, such as the provision of emergency services and crisis information (Hansson *et al.*, 2020; Orru *et al.*, 2022a, b). In this article, we provide new empirical evidence about the institutional arrangements of crisis information in Europe with a particular focus on the uses of social media – a means of communicating about emergencies that has become increasingly important in modern crisis management (Houston *et al.*, 2015; Reuter *et al.*, 2016; Brynielsson *et al.*, 2018; Reuter and Kaufhold, 2018; Zhang *et al.*, 2019; Reuter, 2022). We discuss the strengths and weaknesses of institutional arrangements in the light of the organisational theories of crisis management (Christensen *et al.*, 2016a, b; Christensen *et al.*, 2016).

The institutional arrangements or the coordination of emergency management generally mirrors the overall centralised or decentralised administrative system in a country (Bossong and Hegemann, 2013). In practice, these arrangements tend to be a hybrid of both centralised and decentralised coordination solutions (Christensen *et al.*, 2016a, b; Christensen *et al.*, 2016). The coordination is based on policies (e.g. laws or regulations) and operational guidelines (e.g. manuals, rules, or principles) which help officials in decision-making in emergencies (Spector and Kappel, 2012; Dreher, 2014; Pillow *et al.*, 2014; Stern, 2014). Guidelines may be seen as the apparatus behind effectively managing increasingly complex (e.g. multi-actor, multi-level, or transboundary) crises, which require efficient public support structures, coherent management mechanisms and coordinated crisis response (Ansell *et al.*, 2010).

While the best practices of coordinating emergency response have been accumulated over several decades (e.g. Bossong and Hegemann, 2013; Christensen *et al.*, 2016a, b; Quarantelli, 1988; Hart *et al.*, 1993), relatively little is known of how the use of social media is coordinated in emergency management (Su *et al.*, 2013; Flizikowski *et al.*, 2014; Houston *et al.*, 2015; Plotnick and Hiltz, 2016; Reuter *et al.*, 2016; Reuter and Kaufhold, 2018). Previous research has concluded that besides serving the regular informing function, social media can facilitate community engagement, construction of social support networks, and other informal uses that cannot be easily achieved via traditional media such as newspapers, radio or television (Alexander, 2014; Houston *et al.*, 2015; Niles *et al.*, 2019; Mirbabaie *et al.*, 2020).

To generate new knowledge about how social media use is arranged in contemporary emergency management institutions, we analysed official documents and 95 expert interviews in eight European countries: Germany, Italy, Belgium, Sweden, Hungary, Finland, Norway, and Estonia. In what follows, we first review the existing literature on institutional arrangements for social media communication and the role of guidelines in shaping crisis communication practice (section two). We then introduce our research design and data collection methods (section three) and present our data and results (section four). We discuss our findings and relate them to existing studies (section five) and conclude the article with some proposals for future research (section six).

2. Understanding communication centralisation and the role of guidelines

2.1 Institutional arrangements for social media communication

The organisational theories of crisis management deal with how organisations structure their decision-making and distribute authority (Christensen *et al.*, 2016a, b; Christensen *et al.*, 2016). Institutional arrangements of emergency management systems, generally, can be analysed in terms of different degrees of centralisation/decentralisation. Some countries prefer top-down,

centralised models where decisions are made and tasks are handled at the national (central government) level. Others tend to adopt bottom-up, decentralised approaches where emergency management responsibilities rest primarily at local or regional levels. The matter of centralisation has not been studied specifically in terms of crisis communication; however, communication has been discussed as an integral part of emergency management (e.g. [Kuipers et al., 2015](#)). Existing research suggests that the institutional arrangements of emergency management systems are shaped by the broader administrative traditions in the country and hence mirror their overall structures and levels of public administration ([Bossong and Hegemann, 2013](#)). In a similar vein, the tasks related to risk and crisis communication, including via social media, may be more or less centralised.

Both centralised and decentralised arrangements have strengths and weaknesses that may affect the capacity of the emergency management system to mitigate people's vulnerability to crises. Centralised management facilitates rapid international cooperation during large scale crises and clarifies decision accountability ([t Hart et al., 1993](#)), but in other cases may hamper upward information flows and thus misrepresent local conditions ([Kuipers et al., 2015](#)). There is some evidence that centralised decision-making could help verify information about hazards, and balance one-way and two-way communication on social media ([Palen and Hughes, 2018](#); [Lovari and Bowen, 2020](#)). Decentralised systems are less prone to high consequence failures and are thus more resilient in fast-changing circumstances ([Ramchurn et al., 2010](#); [Thévenaz and Resodihardjo, 2010](#); [Kuipers et al., 2015](#); [Christensen et al., 2016a, b](#); [Mazereeuw and Yarina, 2017](#)). However, decentralisation may also result in uncoordinated efforts and thus wasted resources ([Kuipers et al., 2015](#)). To overcome the limitations of either, combined approaches can be adopted, befitting the scale and circumstances of each crisis ([Wise, 2006](#); [Thévenaz and Resodihardjo, 2010](#)).

Previous studies indicate that Germany, Italy, Sweden, Finland, Norway ([Bossong and Hegemann, 2013](#)) and Estonia ([Torpan et al., 2021](#)) have decentralised emergency management systems while Belgium and Hungary ([Bossong and Hegemann, 2013](#)) are rather centralised. However, many countries (e.g. Italy, Sweden, Finland, Norway and Estonia) have developed mixed systems to address crises case by case ([Bossong and Hegemann, 2013](#)). The degree to which the application of social media tools in their emergency management systems is centralised or decentralised has not been studied so far. We hypothesise that these arrangements correspond to the general institutional arrangements of emergency management.

2.2 Guidelines for social media communication centralisation

Some researchers ([Bertot et al., 2012](#); [Flizikowski et al., 2014](#); [de Graaf and Meijer, 2019](#)) have recommended developing official guidelines and regulations for emergency managers' social media communication while others suggest that strong regulation might not be the best way to adapt organisations' communication routines to new media. Instead, some argue, an explorative and experimental approach should be used to see what works and what does not ([Dekker et al., 2020](#)).

While both social media and traditional media are crucial in crisis communication, their differences in speed, reach, interactivity, and credibility make their tools and processes essentially distinct ([Xu, 2020](#); [Ogie et al., 2022](#)). Guidelines provide a framework for consistent and coordinated communication during crises ([Paek et al., 2010](#); [Medford-Davis and Kapur, 2014](#)) and could ideally ensure that communication on social media is sensitive to the needs and concerns of those whose lives may be at risk ([Hansson et al., 2020](#); [Orru et al., 2022a](#)). While guidelines may prescribe a more formal approach to social media communication, it is still possible to maintain and use the characteristic informality of social media communication like the ability to capture real-time public sentiment and behaviour ([Alexander, 2014](#); [Apuke and Tunca, 2018](#)).

In principle, guideline material for crisis communication could help prevent miscommunication in emergency management and is also useful for enshrining institutional knowledge and best practices over time. The mere existence of guidelines does not ensure their actual use, though. For example, a study in Belgium revealed that crisis communication practitioners find most theory-driven guidelines too abstract to adapt to real crises (Claeys and Opgenhaffen, 2016). A study in the United States showed that official social media guidelines may fall short in addressing important issues of information management on an operational level, such as decision-making and problem-solving based on information found on social media (Bertot *et al.*, 2012).

It is not clear what effect guidelines have on the actual working routines of emergency managers or how do they contribute to centralised or decentralised communication on social media. But we can hypothesise that crisis communication practices regarding social media remain rather experimental, rely on past experiences and are loosely guided by more general guidelines on crisis communication using traditional media (i.e. radio, TV, newspapers).

3. Method and data

Our analysis was guided by two research questions.

RQ1. How is social media communication institutionally arranged?

RQ2. How are formal guidelines used to coordinate risk and crisis communication in social media?

To answer the research questions, we collected and analysed empirical material including publicly accessible legal acts, policy documents, official guidelines, and press reports in eight European countries – Germany, Italy, Belgium, Sweden, Hungary, Finland, Norway, and Estonia. The representation of countries reflects the variety of international researchers engaged in this study, as well as the diversity and specifics of past crises experienced across Europe. The empirical material was found with purposive sampling, with the pre-specified inclusion criteria being documents concerning emergency management. We then did a thematic content analysis, focussing on themes about institutional regulations, guidelines, and practices for using social media.

To complement this material, authors carried out 95 semi-structured expert interviews (approximately 60 min each) with emergency managers in the eight countries between September 2019 and February 2020. Interviewees were selected on the basis of a convenience sample with attention to their specialisation and experience in emergency management and crisis communication. We interviewed informants from local governments, national ministries and government offices, national and international NGOs, social security agencies, cyber security agencies, national and local rescue boards, vital service (e.g. electricity, water) providers, civil protection agencies, and police forces. The semi-structured questions for the informants followed these analytical themes: general organisation for the use of social media within institutions tasked with resilience/crisis management; formal guidelines or regulations on how to use social media in the context of resilience/crisis management; officials/units/agencies with tasks to manage social media with regard to resilience/crisis management. The interviews were carried out in local languages and were then transcribed, after which the authors shared the task of undertaking preliminary analyses of interviews and documents, and summarised them into country case study reports in English. The first author of this article then did a comparative qualitative content analysis on the country reports to identify major commonalities and differences in institutional social media use (for “comparative thematic content analysis” see Kohlbacher, 2006).

Admittedly, any comparison of different administrative systems and varying cultural contexts has limitations. To overcome the language barriers, data for this study was gathered by researchers based in respective countries who were familiar with the language and local context. It is also inevitable that the document analysis and interviews reflect the overall accessibility of information in each country. Similarly, the use of convenience sampling for the interviews means that our data represents the experiences of practitioners who were not too difficult to access. Nevertheless, the study provides a useful empirical snapshot of institutional arrangements of social media use in risk and crisis communication in European emergency management systems in the beginning of 2020.

4. Institutional arrangements of social media use in emergency management

In this section we present our findings on (a) the degree of centralisation of social media communication and (b) the use of crisis communication guidelines in eight countries.

4.1 Centralisation of social media communication

Countries like Estonia, Finland and Norway have a decentralised emergency management system in which communication specialists/teams at each institution responsible for the management of a particular type of crisis are tasked with crisis communication (also in social media) in their field (NO1, 12/2019; NO2, 12/2019; NO3, 12/2019; [Emergency Act, 2017](#); [Finnish Prime Minister's Office, 2003](#)). In Estonia, the Handbook on Government Communication stipulates that the choice of media is up to the institution “as long as it serves the aim of reaching varied publics” ([Government Communication Office, 2018](#)). In Finland, for instance, municipalities are responsible for informing the public about municipal services during a crisis while the municipal steering committee is responsible for crisis communications in social media (FIN2, 1/2020; FIN3, 1/2020; FIN4, 1/2020; [Franzén, 2017](#); [Regional State Administrative Agency, 2019](#)). As a Finnish Regional Emergency head (FIN1, 11/2019) put it, “in practice social media is so new that coordination responsibilities are not clear yet”.

In Italy, social media is managed both at the central level (directly by the Civil Protection Department) and at the regional level (by the Regional Civil Protections). Each institution (national or regional) is thus responsible for its own social media management. However the Italian emergency managers recommend using social media preventively to prepare the public for possible risks. An Italian official explained in more detail: “. . . in order to prepare people through an official accredited voice, to avoid falling into the trap of the false information, during a crisis . . . social networks are not a rescue channel, they serve to inform” (ITA1, 1/2020). The same applies in Norway, where each institution may choose which social media tools they want to use, but the national DSB recommends to only use the social media tools in crisis communication that the institution normally uses in non-crisis times ([DSB, 2016](#)). Even though Belgium has a centralised emergency management system, social media usage varies based on the responsible institution (BE1, 12/2019). However some topics require consideration prior to informing people – a civil safety cell manager from Brussels stated that “when communicating about the number of victims in a certain situation, the authority concerned is the only one that can determine which information to pass” (BE1, 12/2019). Germany has implemented a somewhat similar hybrid solution. Emergency management and crisis communication are decentralised and federal in Germany. However, in 2011, Virtual Operations Support Teams were launched that centrally monitor and respond to emergencies in social media from a national level. Additionally, German crisis communication intensity via social media varies between different types of institutions (aid organisation, public agency, emergency management authority) as well as regions (due to the

federal system). The German Federal Ministry recognises the potential of social media, stating that “quick reactions to problems that were brought up in social media might help to prevent the spreading of misinformation” (BMI, 2014, p. 24).

Sweden, Italy, and Hungary all have specialised institutions who manage institutional crisis communication in social media, but only in Sweden and Italy are social media communications with citizens organised at the local, regional, and national levels. In Hungary a special institution called the Governmental Information Centre centrally coordinates the communication policy of the National Directorate General for Disaster Management (NDGDM) (Dobos *et al.*, 2018).

4.2 Guidelines for social media communication

In our country studies we found no separate guidelines for using social media in crisis situations. There are no national regulations or policy including specific requirements for social media communication. At most, we identified some rules for using social media within broader guidelines that address crisis and risk communication in a general sense.

The Estonian Handbook on Government Communication (Estonian Government Office, 2018) states that as a rule, any employee of a given institution can represent their establishment within their own competence. The Estonian “Civil Protection Concept” states that for each crisis *ad hoc* solutions should be used (Estonian Government Office, 2018). Finland has the “Security Strategy for Society” (2017) that states: “Communications preparedness means that the actors involved must be familiar with the communications practices of citizens, the media and stakeholders and that they must monitor and consider their views, attitudes, knowledge and information needs” (Turvallisuuskomitea, 2017, p. 89).

Our study of Germany revealed reports that emphasise the importance of social media (e.g. BBK, 2013, 2014). Although the German Federal Office for Civil Protection and Disaster Assistance has formulated guidelines on how to deal with unaffiliated volunteers on social media (Krüger and Albris, 2020), there are no guidelines or regulations for emergency managers’ use of social media.

The Swedish Civil Contingencies Agency (MSB), runs an app and a public information website (www.krisinformation.se) to help the public during crises and most government agencies in Sweden have guidelines that include communication in social media (Jendel, 2016, p. 15). Although many government agencies have integrated social media platforms into their communication means, it is evident that the readiness to communicate through these channels in crises remains limited compared to the government websites (Jendel, 2016, p. 15). In Norway, social media guidelines are a part of DSB’s (the Norwegian Directorate for Civil Protection) guidance on crisis communication. The use of social media is usually one of several tools employed by the communication department in any institution tasked with resilience (NO1, 12/2019; NO2, 12/2019; NO3, 12/2019).

In Italy, the increasing regulation of social media usage dates back to an awareness campaign (#socialProCiv) by the Civil Protection Department of Italy in 2015. Each civil protection related institution which participated in the campaign had to build their own policy and publish it on their social account/profile (Italian government, 1992). Today, crisis communication via social media by the Italian Civil Protection Department must follow a dedicated “social media policies” document (Protezione Civile, 2020). The Civil Protection’s social media accounts are updated by the press office, communication office, spokesperson, delegated assessor or front-line workers (Protezione Civile, 2020). However, there are no guidelines and no information on social media use in Hungarian official policy documents.

In short, our analysis of official texts and expert interviews in the selected countries show that emergency management institutions’ social media usage is not centrally controlled and is regulated only within guidelines for crisis communication pertaining to traditional media.

This might imply that for some countries (i.e. Estonia, Finland, Sweden, Norway, Belgium, and Italy) social media has either been seamlessly integrated to the countries' emergency management crisis communication systems, and thus separate regulations are not needed. However, this finding might suggest that for other countries (i.e. Germany and Hungary) both fast-changing social media trends and experimentation shapes *ad hoc* and widely varying approaches that do not lend themselves to strong guidelines.

We now discuss our findings within a broader context, relating them to existing research especially on the question of how different administration systems may impact upon countries' risk and crisis communication practices via social media.

5. Discussion

Our findings lend support to the idea of mixing centralised and decentralised arrangements of social media communication in crisis management systems (Wise, 2006; Thévenaz and Resodihardjo, 2010) to benefit the scale and circumstances of the emergency (see Christensen *et al.*, 2016; Orru *et al.*, 2022a). As such, Italy, Sweden, Finland, Norway, and Estonia have developed mixed systems to address crises on a case-by-case basis. This approach helps to grasp local conditions more accurately compared to fully centralised emergency management systems. From an organisational theory perspective, a better overview of the available national emergency management resources (e.g. personnel, equipment) could help to coordinate various local efforts without wasting resources (Kuipers *et al.*, 2015).

Our findings suggest that the existence of specific guidelines for social media communication is characteristic to decentralised emergency management systems. Guidelines that include instructions for utilising social media in risk and crisis communication exist in Estonia, Finland, Sweden, Norway, and Italy. This list coincides with the decentralised emergency management systems of Estonia, Finland, Sweden, Norway and Italy (Bossong and Hegemann, 2013; Torpan *et al.*, 2021), with the exception of Germany, which in addition to a decentralised emergency management system, has a federalised governing system. Belgium and Hungary, both countries with a centralised emergency management system, have specific agencies for managing social media during crises, but neither country has guidelines for social media communication. It seems that decentralised systems may be relying more on guidelines to mitigate the risks arising from various barriers to communication (e.g. debunking disinformation on social media; providing relevant crisis information via a multitude of online channels to reach broader audiences).

The relative paucity of social media policy guidelines found in our study seems to indicate that technological change is outpacing governments' regulatory capacity (Mackenzie, 2010), allowing and even forcing governments to decentralise and leave risk and crisis communication practices unregulated and perhaps more informal. This has advantages in terms of favouring *ad hoc* and flexible solutions by local authorities who possess useful contextual information (e.g. about local resources, real-time local conditions like the magnitude of hazards), but it can also lead to confusion and governance failures if a multitude of actors employ contradictory practices. Ideally, the use of guidelines could support emergency management organisations in building capability to reach particular vulnerable groups via social media messages, tailor these messages to the needs of individuals who may be in danger, and consider whether these individuals have the capacity to react adequately to official risk and crisis information. In that way, official social media communication could function as an integral part of an institutional support structure that mitigates people's vulnerability to disasters (Hansson *et al.*, 2020; Orru *et al.*, 2022a). Issues of distrust towards official sources may increase social vulnerability to crises (e.g. when people disregard official risk and crisis information and behave in ways that put their lives at risk), so emergency management institutions need to find ways to improve their credibility in the eyes of social

media users. Considering the creativity and informality that is characteristic to personal social media communication and the rapid pace by which social media platforms develop and users' habits change, crisis communicators would also need to update their guidelines rather frequently – not least against the backdrop of potentially harmful, contradicting or false information that spreads on social media during crises (see [Torpan et al., 2021](#)).

6. Conclusion

Our analysis of documents and expert interviews show that in spite of a strong degree of regulation in some countries, the general use and choice of social media tools in emergency management is not centralised, and social media crisis communication is regulated with the guidelines for crisis communication on traditional media. Social media usage in crisis communication is spread amongst different governmental actors, even in countries like Belgium and Sweden that have a centralised emergency management system. Our results support the “mixed arrangements” solution to address emergencies case by case (e.g. before communicating, properly identifying individuals who have become vulnerable). Depending on whether an emergency is transboundary or local, multi-level or contained, multi-actor or concerning only a narrow domain, slow-paced or fast-evolving – both arrangements have their advantages, such as facilitating rapid decision-making or accounting for local conditions.

Since instructions for using social media for emergency management are included in guidelines that address crisis and risk communication in a general sense, European policymakers and practitioners could find ways of developing cross-national guidelines on social media approaches. With increasingly complex transboundary, multi-level and/or multi-actor emergencies and omnipresent Internet, clear and understandable guidelines are becoming more important across countries increasingly required to work together, as in the European Union, for instance. However, since different crises in European communities vary considerably by their cause or scope, overregulation could backfire. Overly prescriptive and detailed guidelines risk ignoring emergency managers' actual experience and thus prohibit the use of local knowledge and prevent the use of innovative and effective *ad hoc* solutions. Therefore, instead of creating step-by-step instructions, emergency managers might benefit more from systematically documenting and sharing their best social media communication practices as well as experiences of failure to foster a culture of continuous learning and growth among practitioners.

Future research into social media use in emergency management would benefit from considering theories of institutional arrangements from organisation studies and theories of social vulnerability from sociological literature. It is necessary to keep growing the existing corpus of case studies on the evolving crisis communication practices on social media. For example, comparative analysis of the content and reception of social media posts in emergency management systems with different degrees of centralisation might provide new insight about the strength and weaknesses of particular organisational arrangements. The effects of social media communication guidelines on the actual performance of emergency management organisations also deserve further studies.

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