

---

# Dancing with Ignorance – Utilizing Social Media to Enhance Public Authorities' Sensemaking Abilities in Times of Crises

---

Harri Jalonen \*

University of Vaasa  
harri.jalonen@uwasa.fi

Aino Rantamäki

University of Vaasa  
aino.rantamaki@uwasa.fi

*\* Corresponding author*

## Abstract

This paper builds on the relatively underexplored yet increasingly intriguing domain of ignorance, a topic that is garnering interest within the academic community. Traditional crisis management often relies on existing knowledge, creating a restricted view of crisis nature and organizational reality. This approach can miss insights from recognizing and understanding the unknown. This paper employs a mixed-methods approach comprising a literature review, interviews, and a Security Café workshop to examine social media's role in sensemaking in different crisis stages (anticipating, responding, and recovering). The paper's findings highlight two main contributions: First, it redefines ignorance not just as a void of information but as a pivotal element affecting decision-making during crises. Strategic use of social media is presented as a means for public authorities to manage ignorance by improving their sensemaking processes. This involves the active gathering, verification, and dissemination of information, utilizing social media as a tool for early warning and analysing public sentiment. Second, the paper illustrates how social media serves as a dynamic platform for building trust, fostering public engagement, and combating misinformation before, during, and after a crisis, thereby enhancing public authorities' capacity to respond to rapidly evolving situations. The paper concludes by advocating a proactive stance in managing ignorance through social media, emphasizing the importance of strategic communication planning, fostering public trust, and collaborative knowledge creation to anticipate and respond to crises effectively.

**Keywords** – Ignorance, Knowledge formation, Social media, Crisis management

**Paper type** – Academic Research Paper

## **1 Introduction**

Crises necessarily involve limited access to (e.g., Garnett & Kouzmin 2007; Boin et al. 2017, Comfort 2022) and an abundance of false or misleading information (e.g., Bawden & Robinson 2009; Vosoughi et al. 2018; Hannah et al., 2023). Ignorance, therefore, becomes a key challenge in such situations, encompassing not only a lack of knowledge but also a limited understanding of the implications of known and unknown factors. The persistence of ignorance, despite the rapid advancements in information technology, presents a paradox: while access to information has never been easier, distinguishing relevant knowledge from the overwhelming flow of data has become more difficult. This paper explores the role of ignorance in the crisis response context. It focuses on how public authorities can use social media to confront ignorance and improve their sensemaking abilities.

The paper builds on the relatively underexplored yet intriguing domain of ignorance, a topic that is garnering growing interest within the academic community (Shaefer 2019, Scharzkopf 2020, Essén et al. 2022, Alvesson et al. 2022, Jalonen 2023). This exploration is particularly relevant given that the crisis management literature emphasizes the organization's ability to acquire existing knowledge or to generate new knowledge (e.g., Wang & Belardo 2009; Anand et al. 2023), which can lead to a restricted view of the nature of a crisis and the organizational reality. By examining ignorance, this paper aims to expand our understanding of sensemaking in crises, emphasizing the significance of recognizing both what is known and what is not. Employing a mixed-methods approach comprising a literature review, interviews, and a workshop, this paper details social media's role in sensemaking in different crisis stages.

The article makes two main contributions. First, it advances the understanding of ignorance not merely as a lack of information but as a critical component that influences decision-making in times of crisis. By examining how ignorance can be managed and mitigated through the strategic use of social media, the study sheds light on the nuanced ways in which public authorities can enhance their sensemaking abilities. Second, the paper demonstrates the multifaceted role of social media, highlighting its utility in gathering, verifying, and disseminating information, and serving as a sensor network for early warnings and public sentiment analysis. The findings offer practical insights for public authorities on leveraging social media to navigate the complex information landscape of crises, enhancing their ability to respond to rapidly changing situations and information gaps.

## **2 Theoretical framework**

### ***2.1 The intertwining of sensemaking and ignorance***

Sensemaking refers to the process of creating meaning from information and experiences. It involves understanding a situation or circumstance in such a way that the understanding can form the basis for action or knowledge (Weick 1995). Sensemaking

conventionalizes unfamiliar phenomena, allowing individuals and groups to relate the new phenomena to familiar bodies of knowledge. For example, Maitlis and Sonenshein (2010) depict sensemaking as a process of social construction that occurs when discrepant cues interrupt individuals' ongoing activities and involve the retrospective development of plausible meanings that rationalize what people are doing. Institutions are also perceived as entities with a high degree of shared meanings derived from sources and activities of sensemaking (Scott 1995).

Ignoring has received significantly less attention in research than knowing, which is both regrettable and perplexing. That oversight is perplexing given the likelihood that the former is more prevalent than the latter and regrettable because understanding ignoring could offer new insights into the challenges and opportunities of knowing. Focusing solely on what makes sense offers a limited view of organizational reality, whereas considering ignorance can uncover entirely new dimensions of it.

Sensemaking and ignorance are often inseparable, particularly in the context of crises. High levels of ignorance lead to problems in sensemaking, and conversely, issues with sensemaking can exacerbate ignorance. Ignorance can take several forms, such as defensive, designed, contingent, and emergent (Jalonen 2023). Defensive ignorance, where individuals use ignorance as a shield against uncomfortable truths to maintain a cognitive comfort zone, and designed ignorance, where ignorance is strategically used to advance personal or organizational agendas, reflect intentional approaches to managing knowledge and information. Contingent ignorance arises unintentionally due to limitations in knowledge or cognitive capacity, often leading to cautious behaviour. Emergent ignorance, characterized by complex interdependencies and uncontrollable dynamics, poses significant challenges in crises due to its expansive and unmanageable nature.

Failing to grasp the causes and various forms of ignorance may result in crises leading to phenomena antithetical to sensemaking. This can manifest as "organizational disynchronization", which denotes a departure from the ideal of shared or synchronized meanings within an organization, characterized by divergent understandings and a lack of clarification (Alvesson & Jonsson 2022). Alternatively, it may lead to sense-giving and sense-breaking, where sense-giving involves efforts to shape others' perceptions of a situation, while sense-breaking signifies a pivot in orientation when new, contradictory information disrupts existing interpretations (Mirbabaie et al. 2020).

Crises are instances where sensemaking is both critical and challenging to achieve (Christianson & Barton 2021). Social media has been identified as a significant communication channel during crises (Eriksson 2015) and as a source of sensemaking arising from the dissemination of information (Mirbabaie & Zapatka 2017). For this reason, we connect the phenomena of sensemaking and ignorance to the context of social media.

## ***2.2 Social media as an arena for interaction in times of crises***

Social media is a platform characterized by interaction and agility (Brynielsson et al. 2018) and the diversity and multichannel nature of shared information (Reuter et al. 2018). Like other channels that convey information, social media does not operate in a vacuum

but overlaps with other media and ways of transmitting information. That characteristic also presents challenges in terms of reliability, quantity, and usability of information.

Social media is useful because it allows access to voices not usually heard and also facilitates observing people's actions, thinking, and behaviour and learning from them (Alexander 2014). Both characteristics make social media a beneficial environment for communication and knowledge transfer in times of crisis.

Social media has different roles and functions at different stages of a crisis, meaning the time before, during and after the crisis. Before the crisis, indications for the use of social media include building a knowledge base, motivating preparedness, and communicating and warning about threats (Houston et al. 2014; Eckert et al. 2018). In addition, social media can be used to probe the information and attitude environment and thus identify emerging phenomena in advance of their appearance (Huang & Xiao 2015). Social media enables reciprocal communication, which strengthens the building of trust between authorities and citizens, for example (Eckert et al. 2018). Trust, in contrast, reduces the propensity to believe false information (Torpan et al. 2021) and, on the other hand, boosts faith in instructions given by authorities. Trust requires long-term work and anticipation, which means that relationships and connections – including those formed on social media – must be built before a crisis occurs (Busá et al. 2015; Jayasekara 2019).

During a crisis, the strength of social media is that it enables multi-directional communication in real time. In a crisis, social media serves not only as a tool for internal coordination but also as a channel for sharing situational information and communicating ongoing activities (Alexander 2014; Kankanamge et al. 2020; Abedin et al. 2014; Pourebrahim et al. 2019). Those applications can reduce the uncertainty inevitably associated with crises and support shared meaningfulness (Appleby-Arnold et al. 2019; Jayasekara 2019). In the acute phase, communication should be both accessible and understandable. Crises challenge cognition (the ability to receive, understand and internalize the information received), so it is important to identify which information is essential and how it should be presented (Cheng et al. 2020; Busá et al. 2015). In the acute phase, in particular, operations are challenged by the gap between information needs and available information (Abedin et al. 2014; Bui 2019), which also creates fertile ground for false information. Another challenge is information overload, which has the potential to drown essential information (Arora 2022; Karanasius et al. 2019).

After the crisis, social media plays a role, especially as a channeler of coordination and feedback on aftercare measures (Chatfield et al. 2014). Social media provides information on where help is needed and the measures that could aid recovery from the crisis (Houston et al. 2014). In addition, social media can provide a low-threshold contact channel through which to convey information on operational progress during a crisis and thus collate key lessons on crisis management. Social media discussions can also be monitored to identify reactions and attitudes to the measures taken (Akbar et al. 2021). The period after the crisis is also an opportune time to create an impression of presence and community, which increases both trust and faith in the future.

### **3 Data and methods**

Employing a mixed-methods approach comprising a literature review, interviews, and a Security Café workshop, this paper details social media's role in the interplay of sensemaking and ignorance at different stages of a crisis. The literature review aimed to produce a comprehensive view of how social media can be utilized in support of official communications and data collection in crisis situations. The data consist of peer-reviewed studies collected through a database search and grey literature, such as studies and reports commissioned by the authorities. The preliminary understanding formed through the literature review was deepened with expert interviews (n=22). The interviews drew on incidents that occurred over the preceding few years (the coronavirus pandemic, a forest fire, and a stabbing incident), which illustrated the temporal, spatial and responsibility variability of crises. In the third data collection phase, experts (n=19) whose duties encompassed crisis communication were invited to participate in a Safety Café workshop facilitated to discuss the challenges and opportunities related to the use of social media in crises.

The data were analysed in a dialogue between theory and empiricism. Accordingly, the underlying framework of the analysis was built on the understanding of the temporal dimension of crises. The data reveal the interconnected nature of social media and ignorance and how it appears at different stages of crises in the three cases studied. Therefore, the analysis is an abductive form (see e.g. Aliseda 2006). Observations related to the stages of the crisis were extracted from the data. Those observations formed their own entities, and from those, we identified subcategories delimiting the interconnection of ignorance and sensemaking in the context of social media.

### **4 Results**

The results of our study show that social media plays different roles in framing sensemaking and ignorance at different stages of a crisis. At its best, social media is a channel that supports sharing information, relaying decisions, answering questions, and providing feedback. Social media has the potential to increase two-way interaction that produces an understanding of the activities, knowledge, and information needs of different parties. These activities support the reduction of ignorance in various ways. It is also possible for social media to increase ignorance, especially by creating information overload or noise that drowns out relevant information, providing a platform for spreading false information, increasing informational contradictions, or inciting feuds involving different points of view.

#### ***4.1 Anticipating a crisis***

Prior to a crisis manifesting, the emphasis might be on communication planning, informing of responsibilities, and building and maintaining interactive relationships. Social media can be used to remind people of the desired ways of acting in crises, which increases

citizens' confidence in their ability to act and thus reduces ignorance of the options available.

Planning of communication refers to the selection of channels, the perception of target groups and the building of cooperation between authorities. Creating networks and connections in social media in advance and before crises creates opportunities to build a common understanding. Doing so also expunges ignorance, for example, about who to contact during a crisis or where information can be obtained (Chatfield & Reddick 2018). At the same time, actors can form an understanding of the audience and its preferred social media platforms and manner of engagement.

One of the uses of social media is crowdsourcing; that is, user-centred problem-solving (Harrison & Johnson 2019; Arora 2022) to establish sensemaking by creating common understanding, forming meanings, and seeking solutions. The opportunity for participation created by crowdsourcing can increase commitment to preparedness measures and reduce ignorance.

#### ***4.2 Responding to a crisis***

Sensemaking is constructed by sharing information (e.g. Pentina & Tarafdar 2014). Social media can be used to share situational information, reduce uncertainty related to crises, and support joint meaningfulness of the situation and problem-solving (Appleby-Arnold et al. 2019; Jayasekara 2019.) Sharing situational awareness can also serve as a warning and instructive communication that increases awareness of potential risks and the coping measures required for them (Alexander 2014; Elsamni 2018). Social media creates opportunities for coordination between authorities and building a common understanding of the situation with citizens. At the same time, social media enables citizens to be involved in crisis management. Public authorities can request help, information, or feedback through social media, which can help them better understand and respond to the impact of the crisis. In addition, following citizens' dialogue can identify issues in crises that the authorities would not otherwise discover.

The early stages of crises are an opportune time to spread misinformation owing to the gap between the growing need for information and the lack of information resulting from the situation (Abedin et al. 2014; Bui 2019). It is important to note that if an authority does not fill the information void, another party will. Social media enables active information sharing and agile correction of incorrect information. It can therefore serve as a channel for correcting ignorance caused by both the lack of information and misinformation. The rapid flow of information catalyses the process of obtaining help but also means that initial observations and information are inevitably incomplete. Not acknowledging ignorance can be problematic if the inadequacy of initial observations is not recognized and incomplete information is interpreted as accurately reflecting the big picture.

### ***4.3 Recovering from a crisis***

The aim of post-crisis communication is to build and strengthen trust in society. Doing so requires open interaction and addressing difficult issues. Open communication, even on negative issues, inspires trust in the audience. The sense of security is strengthened by open and truth-based communication, including the communication of ignorance and shortcomings. An authority that actively communicates on social media and shares situational information can increase citizens' sense of security. The means of communication and empathetic encounters also have their place, especially in communication that supports post-crisis recovery.

Following a crisis, there is an opportunity to learn and renew. Analysing social media discussions and creating feedback channels can provide valuable information on the public reaction to official actions and areas of development identified in operations and communications, for example.

## **5 Conclusions**

This paper has demonstrated that dealing with a crisis is metaphorically akin to dancing with ignorance. The paper argues for the inseparability of managing ignorance and knowledge in crisis management. Effective crisis navigation involves applying existing knowledge, identifying and addressing non-knowledge areas, making ignorance management a continuous part of sensemaking and something critical to evolving crisis response mechanisms. Public authorities can enhance their sensemaking abilities by deploying social media before, during, and after a crisis. The paper presents three conclusions.

First, by leveraging social media for strategic communication planning, fostering public trust, and ensuring wide-reaching accessibility, public authorities can actively ameliorate ignorance before a crisis unfolds. This proactive approach is integral to ignorance as it involves disseminating crucial information and also engaging with the public to collaboratively construct a knowledge base. Such engagement aids in identifying gaps in understanding and potential areas of misinformation or lack of awareness. By addressing these gaps pre-emptively, authorities can significantly enhance crisis anticipation, and early response and information capabilities among citizens.

Second, during a crisis, social media utilization transcends mere communication and evolves into a crucial component of dealing with ignorance. This progression is pivotal in addressing the unknowns and uncertainties inherent to a crisis. By establishing cooperative networks via social media, authorities actively manage ignorance by collating and interpreting diverse information, an action that is critical to ensure accurate situational awareness. Distinguishing reliable information from misinformation and disinformation is key to reducing the unknown and delivering an effective crisis response. The self-correcting nature of social media helps identify and quash false information.

Third, in the post-crisis phase, which focuses on fostering community resilience and trust, public authorities can use social media to expose areas of ignorance, such as

misconceptions, gaps in knowledge, or unaddressed community concerns that may have surfaced during the crisis. That reflective process permits authorities to both assimilate lessons from recent crises and identify unknowns or areas of incomplete understanding. Managing these aspects of ignorance is instrumental in refining future crisis response strategies and policies. Doing so enables authorities to anticipate potential challenges, prepare effective communication strategies, and adopt proactive crisis management measures.

Every study opens new research avenues. Future research could explore how public authorities use social media to navigate the intertwined dynamics of sensemaking and ignorance during crises. Such research could also use specific case studies to uncover how sense-giving, sense-breaking, and the management of different types of ignorance influence public perception and response in crises. Another research avenue might be to investigate how organizations' sensemaking processes are affected by various forms of ignorance during crises. Such research might aim to understand how defensive, designed, contingent, and emergent ignorance impact the creation of shared meanings and decision-making in crises. Studying the role of social media in bolstering information resilience that helps people act in the uncertainty of a crisis (Rantamäki et al. 2023; Rantamäki 2024) could unveil the connections between social media, crises, and the framing of ignorance.

## References

- Abedin, B., Babar, A. and Abbasi, A. (2014) "Characterization of the use of social media in natural disasters: A systematic review", 2014 IEEE Fourth International Conference on Big Data and Cloud Computing, pp. 449–454.
- Akbar, G. G., Kurniadi, D. and Nurliawati, N. (2021) "Content analysis of social media: Public and government response to COVID-19 pandemic in Indonesia", *Jurnal Ilmu Sosial dan Ilmu Politik*, Vol. 25, No. 1, pp. 16–31.
- Alexander, D. E. (2014) "Social Media in Disaster Risk Reduction and Crisis Management", *Science and Engineering Ethics*, Vol. 20, pp. 717–733. Doi:10.1007/s11948-013-9502-z.
- Aliseda, A. (2006) *Abductive reasoning. Logical investigations into discovery and explanation*. Dordrecht: Springer.
- Alvesson, M., Einola, K. and Schaefer, S. M. (2022) "Dynamics of wilful ignorance in organizations", *British Journal of Sociology*, Vol. 73, No. 4, pp. 839–858. Doi:10.1111/1468-4446.12963
- Alvesson, M. and Jonsson, A. (2022) "Organizational dischronization: On meaning and meaninglessness, sensemaking and nonsensemaking", *Journal of Management Studies*, Vol., 59, No. 3, pp. 724–754. Doi:10.1111/joms.12790
- Anand, A., Buhagiar, K., Kozachenko, E. and Parameswar, N. (2023) "Exploring the role of knowledge management in contexts of crisis: a synthesis and way forward", *International Journal of Organizational Analysis*, Vol. 31, No. 7, pp. 2953–2978. Doi:10.1108/IJOA-02-2022-3156
- Appleby-Arnold, S., Brockdorff, N., Fallou, L. and Bossu, R. (2019) "Truth, trust, and civic duty: Cultural factors in citizens' perceptions of mobile phone apps and social media in disasters", *Journal of Contingencies and Crisis Management*, Vol. 27, No. 4, pp. 293–305.

- Arora, S. (2022) "Post-disaster communities on social media: citizen participation in crisis communication after the Nepal earthquake, 2015", *Journal of Applied Communication Research*, Vol. 50, No. 1, pp. 1–18.
- Boin, A., 't Hart, P. and Kuipers, S. (2017) "The crisis approach", in Rodríguez, H., Donner, W., & Trainor, J. E. (Eds.) *Handbook of Disaster Research*, pp. 23–38. Springer.
- Brynielsson, J., Granåsen, M., Lindquist, S., Narganes Quijano, M., Nilsson, S. and Trnka, J. (2018) "Informing crisis alerts using social media: Best practices and proof of concept", *Journal of Contingencies and Crisis Management*, Vol. 26, pp. 28–40.
- Bui, L. (2019) "Social media, rumors, and hurricane warning systems in Puerto Rico", *Proceedings of the 52nd Hawaii International Conference on System Sciences*, pp. 2667–2676.
- Busà, M. G., Musacchio, M. T., Finan, S. and Fennel, C. (2015) "Trust-building through social media communications in disaster management", *Proceedings of the 24th International Conference on World Wide Web*, pp. 1179–1184.
- Chatfield, A. T., Scholl, H. J. and Brajawidagda, U. (2014) "#Sandy tweets: Citizens' co-production of time-critical information during an unfolding catastrophe", *47th Hawaii International Conference on System Sciences*, pp. 1947–1957.
- Cheng, S., Liu, L. and Li, K. (2020) "Explaining the factors influencing the individuals' continuance intention to seek information on Weibo during rainstorm disaster", *International Journal of Environmental Research and Public Health*, Vol. 17, No. 17, pp 1–16.
- Christianson, M. K. and Barton, M. A. (2021) "Sensemaking in the Time of COVID-19", *Journal of Management Studies*, Vol. 58, No. 2, pp. 572-576. Doi:10.1111/joms.12658
- Comfort, L. K. (2022). "Cognition, collective action, and covid-19: Managing crises in real time", *Public Performance & Management Review*, Vol. 45, No. 4, pp. 894–915. Doi:10.1080/15309576.2022.2036204
- Eckert, S., Soporya, P., Daya, A., Wilkinsa, L., Donyale, P., Novaka, J., Noyesb, J., Allenc, T., Alexanderc, N., Vanderfordc, M. and Gamhewagec. G. (2018) "Health-related disaster communication and social media: Mixed-method systematic review", *Health Communication*, Vol. 33, No. 12, pp. 1389–1400.
- Eriksson, M. (2015) "Managing collective trauma on social media: the role of Twitter after the 2011 Norway attacks", *Media, Culture & Society*, Vol. 38, No. 3, pp. 365–380. Doi:10.1177/0163443715608259
- Essén, A., Knudsen., M. and Alvesson, M. (2022) "Explaining ignoring – working with information that nobody uses", *Organization Studies*, Vol, 43, No. 5, 725–747. Doi:10.1177/0170840621998720
- Garnett, J. L. and Kouzmin, A. (2007) "Communicating throughout Katrina: Competing and complementary conceptual lenses on crisis communication", *Public Administration Review*, Vol. 67, No. 1, pp. 149–159. Doi:10.1111/j.1540-6210.2007.00824.x
- Hannah, A., Tchilingirian, J., Botterill, L. and Attwell, K. (2023) "The role of 'non-knowledge' in crisis policymaking: A proposal and agenda for future research", *Evidence & Policy*, Vol. 19, No. 1, 116–130. Doi:10.1332/174426421X16552882375377
- Harrison, S. and Johnson, P. (2019) "Challenges in the adoption of crisis crowdsourcing and social media in Canadian emergency management", *Government Information Quarterly*, Vol. 36, No. 3, pp. 501–509.
- Houston, J. B., Hawthorne, J., Perreault, M. F., Park. E. H., Goldstein Hode, M., Halliwell, M. R., Turner McGowen, S. E., Davis, R., Vaid, S., McElderry, J. A. and Griddith, S. A. (2014) "Social media and disasters: a functional framework for social media use in disaster planning, response, and research", *Disasters*, Vol. 39, No. 1, pp. 1–22.

- Huang, Q. and Xiao, Y. (2015) "Geographic situational awareness: Mining tweets for disaster preparedness, emergency response, impact, and recovery", *ISPRS International Journal of Geo-Information*, Vol. 4, No. 3, pp. 1549–1568.
- Jalonen, H. (2023) "Ignorance in Organizations – A Systematic Literature Review", *Management Review Quarterly*. Doi:10.1007/s11301-023-00321-z
- Jayasekara, P. S. (2019) "Role of Facebook as a disaster communication media", *International Journal of Emergency Services*, Vol. 8, No. 2, pp. 191–204.
- Kankanamge, N., Yigitcanlar, T., Goonetilleke, A. and Kamruzzaman, M. (2020) "Determining disaster severity through social media analysis: Testing the methodology with South East Queensland Flood tweets", *International Journal of Disaster Risk Reduction*, Vol. 42, pp. 1–13.
- Karanasios, S., Cooper, V., Poblet, M. and Hayes, P. (2019) "Inter-organizational collaboration, information flows, and the use of social media during disasters: a focus on vulnerable communities", *Proceedings of the 52nd Hawaii International Conference on System Sciences*, pp. 2995–3004.
- Maitlis, S. and Sonenshein, S. (2010) "Sensemaking in crisis and change: Inspiration and insights from Weick (1988)", *Journal of Management Studies*, Vol. 47, No. 3, pp. 551–580. Doi:10.1111/j.1467-6486.2010.00908.x
- Mirbabaie, M. and Zapatka, E. (2017) "Sensemaking in social media crisis communication – A case study on the Brussels bombings in 2016", In *Proceedings of the 25th European Conference on Information Systems (ECIS)*, pp. 2169-2186.
- Mirbabaie, M., Bunker, D., Stieglitz, S., Marx, J. and Ehnis, C. (2020) "Social media in times of crisis: Learning from Hurricane Harvey for the coronavirus disease 2019 pandemic response", *Journal of Information Technology*, Vol. 35, No. 3, pp. 195–213. Doi:10.1177/0268396220929258
- Pentina, I. and Tarafdar, M. (2014) "From 'information' to 'knowing': Exploring the role of social media in contemporary news consumption", *Computers in Human Behavior*, Vol. 35, pp. 211–223. Doi:10.1016/j.chb.2014.02.045
- Pourebahim, N., Sultana, S., Edwards, J., Gochanour, A. and Mohanty, S. (2019) "Understanding communication dynamics on Twitter during natural disasters: A case study of Hurricane Sandy", *International Journal of Disaster Risk Reduction*, Vol. 37, pp. 1–19.
- Rantamäki, A. (2024) "Hallintaa epävarmuudessa – Informaatioresilienssi kriiseissä ja niihin varautumisessa" [Governance in uncertainty – Information resilience in crises and preparedness], *Acta Wasaensia 530*, Academic dissertation, University of Vaasa. <https://urn.fi/URN:ISBN:978-952-395-133-4>
- Rantamäki, A., Uusikylä, P. and Jalonen, H. (2023) "Information resilience in networks – An analysis of a national security legislation evidence base", *Scandinavian Journal of Public Administration*, Articles in Press. Doi:10.58235/sjpa.2023.14068
- Reuter, C. and Kaufhold, M-A. (2018) "Fifteen years of social media in emergencies: A retrospective review and future directions for crisis Informatics", *Journal of Contingencies and Crisis Management*, Vol. 26, pp. 41–57. Doi:10.1111/1468-5973.12196
- Schaefer, S. (2019) "Wilful managerial ignorance and symbolic work: A socio-phenomenological study of managing creativity", *Organization Studies*, Vol. 40, No. 9, pp. 1387–1407. Doi:10.1177/0170840618772600
- Schwarzkopf, S. (2020) "Sacred Excess: Organizational Ignorance in an Age of Toxic Data", *Organization Studies*, Vol. 41, No. 2, pp. 197–217. Doi:10.1177/0170840618815527
- Scott, W. R. (1995). *Institutions and Organizations*. Thousand Oaks, CA: Sage.

- Torpan, S., Hansson, S., Rhinard, M., Kazemekaityte, A., Jukarainen, P., Meyer, S.F., Schiefflers, A., Lovasz, G. and Orru, K. (2021) "Handling false information in emergency management: A cross-national comparative study of European practices", *International Journal of Disaster Risk Reduction*, Vol. 57, 102151.
- Vosoughi, S., Roy, D. and Aral, S. (2018) "The spread of true and false news online", *Science*, Vol. 359, pp. 1146–1151. Doi:10.1126/science.aap9559N
- Wang, W.-T. and Belardo, S. (2009) "The role of knowledge management in achieving effective crisis management: A case study", *Journal of Information Science*, Vol. 35, No. 6, 635–659. Doi:10.1177/0165551509104234
- Weick, K. E. (1995) *Sensemaking in Organisations*. Thousand Oaks, CA: Sage.