

SOCIAL MEDIA AS AN EMERGENCY MANAGEMENT TOOL IN THE CONTEXT OF HUMAN SECURITY

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Abstract: The technological revolution has brought new forms of connecting and communication between people. Development of new technologies has led to the Internet based applications known as ‘social media’ that enable people to interact and share information through the media that were non-existent or widely unavailable 15 years ago. Examples of social media include blogs, chat rooms, discussion forums, wikis, YouTube Channels, LinkedIn, Facebook, Instagram, Twitter, etc.

Bearing in mind that emergencies and disasters affect people’s lives, properties and livelihoods, human security is directly concerned with reducing and, when possible, removing the insecurities caused by these phenomena. Considering the key role of crisis communication in case of emergencies, social media, with all their advantages, connect stakeholders in the emergency management. Namely, this (relatively) new concept in communication facilitates the vital two-way communication between the emergency management agencies and the public, and allows to quickly and specifically share information with state and local authorities and the public as well. Through the use of social media, especially Twitter and Facebook, someone can disseminate important information to individuals and communities, while also receiving essential real-time updates from those with first-hand awareness. Moreover, social media are considered an imperative to the emergency management because the public use these communication tools on daily basis.

There are many studies among academics that focus on the role of social media in the emergency management practice and policy. Many of these papers and reports describe how a wide range of international, state, and local organisations have successfully used social media during emergencies and disasters and how they can be used to improve response and recovery capabilities and to create disaster-resilient communities. Based on literature review, this paper summarises how social media have been used by the emergency management officials and agencies. It also examines the potential benefits as

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well as the implications of using social media during emergencies and disasters in the context of human security.

Keywords: social media, emergency management, human security, communication tool, disasters

1. INTRODUCTION

Since social media (SM) have permeated almost every aspect of social life, security domain has not remained an exception. Due attention has been paid to the nexus of SM usage and prevention of disasters and emergencies as a notable part of the security domain. Viewed through human security's lenses, natural disasters and emergencies, driven by climate and human-induced changes, increasingly reduce access to and quality of natural resources that are crucial to sustain livelihoods. Accordingly, the emergency management (EM) has become the most important tool in combating disasters and emergencies. Since the EM requires timely disposition of relevant information and coordination of all stakeholders' activities, SM use enables dissemination of relevant information to individuals and communities and receiving real-time updates from those with first-hand awareness. Most recent researches show how SM, especially Twitter and Facebook, can be used in EM. Some of them highlighted that SM "give emergency managers abilities to communicate, interact with, and respond to the public on a hitherto unseen scale" (Latonero & Shklovski, 2011: 14), that it can cross data from social media in order to visualise data and geographic analysis (MacEachren *et al.*, 2011: 2), "can facilitate the right authorities to enhance their awareness of time-critical situations and make better decisions for emergency response" (Yin *et al.*, 2012: 4238), and, last but not least, it can increase public confidence in emergency management institutions (Panagiotopoulos *et al.*, 2016: 21).¹

2. HUMAN SECURITY-DISASTERS AND EMERGENCIES NEXUS

The UNDP Human Development Report identifies two main aspects of human security: first, "safety from such chronic threats as hunger, disease and repression", and, second, "protection from sudden and hurtful disruptions in the patterns of daily life – whether in homes, in jobs or in communities" (1994: 23). Since this Report, the concept of human security has been broadly discussed in the literature. Talking about the need to establish much broader concept for analysing security issues apart from exclusively military terms, Kofi Annan stressed that "...environmental disasters present a direct threat to human security..." (2000: 4). In terms of vulnerability as a defining characteristic of the concept of human security, Astri Suhrke recognised victims of natural disasters as one of the vulnerable categories (1999: 272).

The problem of human security becomes especially tangible when it comes to the disturbance of habitat where people live. Namely, "while the focus of human security is

¹ In addition to this, Reuter & Kaufhold noticed that "...it appeared that nearly no emergency exists without articles on the use of social media there" (2018: 42).

the individual, the processes that undermine or strengthen human security are often external to the locality of communities where individuals reside” (Barnett & Adger, 2007: 641). As a result, disasters and emergencies and lack of sustainable resources as a consequence, are being framed as a security problem. This problem does not require only the actions of emergency officials, but also of the whole community. According to Birkmann, “emergency management and disaster response units play crucial role” during disasters (2006: 34-35), thus representing key security providers in crises times. Emergencies could undermine “the capacity of states to provide the opportunities and services that help people to sustain their livelihoods” (Barnett & Adger, 2007: 639). Consequently, all the mechanisms employed for strengthening human security, at individual or community level, are likely to be used in order to achieve positive results.²

3. SOCIAL MEDIA’S ROLE IN EMERGENCIES

Common characteristic of SM definitions is the view that SM, with all their performances, affect the nature of contemporary communication.³ Today, SM include blogs, discussion forums, chat rooms, wikis, YouTube channels, LinkedIn, Facebook, Twitter etc.

In recent years, SM have been quickly revealed as an emergent, significant and often accurate form of public participation and backchannel communication (Palen, 2008: 76). The emergency management organisations (EMOs) have started to integrate SM services into their communication practices, either in a day-to-day communication or during emergency events. Various studies and European countries’ practises show that the SM can be useful tool in the emergency communication when the emergency authorities are expected to provide timely and reliable information as a signal of keeping the situation under control. Using such information, SM users (and not only them) interpret emergency risks and make decisions about their own actions (Comfort, 2007: 189). “Social media is being used as an alternative way for emergency managers to communicate with the public and with each other” (White, 2011: 2); furthermore, existing studies focus both on natural (earthquakes, hurricanes, floods, tsunamis) and human-induced disasters (terror attacks, uprisings). Testifying to the increased use of SM in emergencies, White *et al.* point out

² Ehnis has noticed a shift in emergency management sector from seeing the general public as something that needs to be protected to strengthening communities as a valuable resource to mitigate the effects of an emergency event (2018: 41). This shift is nearly connected with the concept of strengthening community resilience where the community is actively prepared for potential emergency events. According to this author, social media services are one aspect through which emergency management organisations are supporting community resilience (2018: 42).

³ According to Boyd and Ellison, social network sites are “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (2007: 211). Kaplan and Haenlein offer definition of social media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (2010: 61). More straightforward determination of social media reads “Internet-based applications that enable people to communicate and share resources and information” (Lindsay, 2011: 1).

that numerous emergency response institutions use Facebook⁴ for disseminating information, communicating with each other, and coordinating emergency management activities (2009: 377-378). For example, Facebook and Twitter took an ever growing role in disaster response during Hurricane Sandy⁵ (Cohen, 2013; Simon *et al.*, 2015) and Katrina, Haiti earthquake⁶ (Sarcevic *et al.*, 2012), 11/9, Boston Marathon bombings, Serbian floods⁷, etc.⁸

Especially important issue when it comes to SM usage is the *situational awareness* of the public in time of emergencies. Namely, studies have shown that many citizens across Europe are already using SM to share and look for information during emergencies and it is expected that their usage will only increase in the future (Reuter & Spielhofer, 2017: 176). The main beneficial reasons for using SM as an information source during emergencies is that they have been seen as faster (76%) and more accessible (54%) than conventional media (*Ibid.*).

Lindsay points out that SM usage for emergencies and disasters on an organizational level may be conceived as two broad categories. First, SM can be used somewhat passively to disseminate information and receive user feedback via incoming messages, wall posts, and polls.⁹ However, SM presence is not limited to disseminating information to a wider public; it can be used to *interact* with the audience which makes the SM presence a valuable two-way communication channel during emergency events. Thus, second approach involves the systematic use of SM as an EM tool. Systematic usage might

⁴ Interesting fact is that the creators of social media recognise their importance in crisis communication. Thus, Facebook has developed a research platform (*Facebook Research*) where great attention is paid to inquiries on the use of new technologies in the emergencies.

⁵ According to Simon *et al.*, Hurricane Sandy in 2012 was a “turning point where the majority of emergency authorities and first responders from the East Coast in the United States adopted social media as the main communication channel with the public” (2015: 615).

⁶ Yates and Paquette stressed that Haiti earthquake was the first time ever that the U.S. Government extensively relied on the social media to coordinate knowledge and action between cooperating response agencies including the U.S. Agency for International Development (USAID), the U.S. State Department, and the U.S. armed forces (2011: 7).

⁷ For example, during the floods in Serbia in 2014, in the period from 14 to 21 May, Twitter users exchanged 814.751 tweets (558.301 with #poplave and 256.450 with #SerbiaFloods) (Numbers are available at: http://www.tvitni.me/index.php?strana=blog&blog_id=181).

⁸ In line with the above, Rasmussen and Ihlen conducted a research on published literature on social media’s usage in risk and crisis communication (2017). The results show that the number of studies on social media, risk, and crisis communication are increasing – in 2009, there were only 9 academic articles published in relevant academic journals related to crises and disasters or information management. But in 2015, that number increased to 49 articles (2017: 6). Additional research conducted for this purpose through *Google Scholar* has shown that in period 2016-2017 at least 50 academic articles on this topic (the research was conducted by keyword search, according to a custom, two-year range (2016-2017)) were published. In Rasmussen and Ihlen and in our research as well, Twitter dominates the articles which analyse particular social media in crisis. Still, in Serbia there is no research (qualitative or quantitative) on SM role in emergencies.

⁹ This is how most emergency management organisations, including the Federal Emergency Management Agency (FEMA), have used social media.

include: (1) a SM usage as a medium to conduct emergency communications and issue warnings; (2) using SM to receive victim requests for assistance; (3) monitoring users' activities and posts to establish situational awareness; and (4) using uploaded images to create damage estimates, among others (2011: 1).¹⁰¹¹

Broadcasting, engagement, intelligence and dispatching are seen as main social media capabilities of EMOs, according to Ehnis (2018: 278). Broadcasting refers to the information distribution through social media, engagement is related to the interaction with the audience, intelligence is concerned with the utilisation of social media channels as a source of information for the organisations, while dispatching relates to the utilisation of a social media channel as the basis for dispatching emergency resources to respond to an event (2018: 276).

According to Simon *et al.*, SM as a tool of our daily lives may serve as an integral and significant component of crises responses. Authors underline several findings on the benefits of SM usage in emergencies: (1) during disasters, SM provides access to relevant and timely information; (2) SM has changed the information dissemination pathways in emergencies; (3) SM enables transformation of the ways in which emergencies are tracked; (4) Social media are reliable during disasters when other channels are overwhelmed; (5) SM can self-regulate misinformation in emergencies through the masses (2015: 609-619).

4. DISADVANTAGES OF SOCIAL MEDIA'S USAGE IN EMERGENCIES

The risk of missing those parts of population who are most vulnerable in emergencies and with limited access to the Internet and, thus, most in need for relevant information, is recognised as the biggest disadvantage of SM usage in emergencies. Particularly, citizens with low socio-economic status are those with the lowest Internet accessibility (Zickuhr, 2013: 3).

The possibility of the escalation of a problem where obsolete, incorrect or false information can be distributed through SM during emergencies is another problematic issue.¹² Apart from having a negative impact on the reaction of the authorities, incorrect

¹⁰ Lindsay points out that most emergency management organisations have confined their use of social media to the dissemination of information because of the underdevelopment of different stages of their systematic use (2011: 2). Regarding this, there is an attitude that all stakeholders in charge of emergency management that want to use social media should reach a consensus on the goals that are to be achieved by using these applications (White, 2011: 32).

¹¹ Summing up 'lessons learned' and 'best practices' in the domain of social media's usage in emergencies, Lindsay highlights the need to: (1) identify target audiences for the applications, such as civilians, nongovernmental organisations, volunteers, and participating governments; (2) determine appropriate types of information for dissemination; (3) disseminate information the public is interested in; and (4) identify any negative consequences arising from the application – such as the potential spread of faulty information – and work to eliminate or reduce such consequences (2011: 6).

¹² For example, in the case of a Japanese earthquake and tsunami in 2011, tweets referring to requests for victim assistance were retweeted after the victims had already been rescued (Acar & Muraki, 2011: 398).

information can obscure the perception and level of awareness of the current situation, jeopardising the security of both first responders and a wider population.

Another disadvantage refers to the deliberate attempts to provide incorrect information in order to interfere with or disable an adequate response in emergencies. Therefore, as the main preventive mechanism, it is recommended to adopt a comprehensive initiative, strategy or system of sanctions aimed at minimising the effects of disinformation and such intentions (Lindsay, 2011: 7). Latonero & Shklovski's findings have shown that the validity of user-based information is very questionable when it comes to officials' acting on the basis of this information (2011: 10-12). Increasing amount of public information can produce less control over the particular situation by officials, thus resulting into the validation of their authenticity under pressure (Zook *et al.*, 2010: 27-29). Therefore, the knowledge and ability to utilise SM effectively within EMOs is of paramount importance.

Technological limitations of SM are considered as another disadvantage of social media's usage in emergencies. In other words, "Although social media may improve some aspects of emergency and disaster response, overreliance on the technology could be problematic under prolonged power outages" (Lindsay, 2011: 7), primarily due to the inability of smartphone and tablet batteries to last for more than a couple of hours, thus confronting us with the need to reconsider alternative options for alarming in these circumstances.

5. CONCLUSION

Existing studies highlight global and extensive usage of SM during emergencies, influencing people's communication in day-to-day interactions and during crises. As the literature review has shown, SM have a significant role in enhancing human security in disasters and emergencies, both on individual and community level.

Beside few disadvantages, social media have been a driver of emergency communication so far. Nevertheless, their role in peacetime should not be neglected. It can be used in informing, educating and promoting relevant content to the EMOs activities, thus raising awareness and public confidence in authorities. It is important to point out that not everyone uses SM, hence it can be only upgraded, but certainly not as a replacement for conventional warning and informing systems.

Concrete benefits of SM usage in emergencies can be outlined as follows: (1) SM provide access to relevant and timely information; (2) SM are reliable when other mechanisms are overloaded; (3) SM provide transformation of the ways of emergency monitoring; (4) officials can regulate disinformation in emergencies through SM and disseminate information the public are interested in; (5) SM enable visualisation of relevant data (maps, statistics, infographics, photos, videos, etc.); (6) Surveys can be distributed anytime through SM in order to get quick feedback, (7) SM are cheap, timely, adaptable, available, and transparent way of communication which makes them additional and reliable channel of emergency communication. Considering that SM are of increasing importance to EMOs, which are still in the stage of learning and evaluating their effectiveness, there is certainly a need to create and establish the best know-how practices.

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