

# Volunteers' Perceptions of the Use of Social Media in Emergency Management

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## ABSTRACT

The paper presents the results of interviews with representatives from Norwegian emergency management volunteer organizations on their current use of social media and their perception of the potential for extended use of social media in their operations. Our study shows that social media is currently mainly used for information to the public and for internal communication. The informants expressed some reluctance towards the concept of virtual operations support teams, and using social media to collect information from the public. Yet, based on the possible benefits reported in the literature from studies of early adopters of digital volunteer groups, we argue in this paper for establishing a similar service at the regional level in Norway that can support the local volunteer organizations.

## Keywords

Emergency management, monitoring, social media, volunteers, VOST

## INTRODUCTION

The potential of using social media for collecting useful information from the public in crisis situations has been documented in several recent studies, both in large scale humanitarian disasters such as the Haiti earthquake (Yates and Paquette, 2010) and typhoon Haiyan in the Philippines (Takahashi and Tandoc, 2014), and in emergencies of a more local nature such as floods (St. Denis, Palen and Anderson, 2014) and forest fire (St. Denis, Hughes and Palen, 2012). Yet, the uptake of this practice among emergency responders is still limited (Merrick and Duffy, 2013; St. Denis et al., 2014), and the need for research contributing to further understanding on how social media can be integrated in the work practices of emergency management organizations has been pointed out in several studies (e.g., Beneito-Montagut, Anson, Shaw and Brewster, 2013; Hiltz, Kushma and Plotnick, 2014).

In this paper we report the results of a study on the current use of social media in Norwegian volunteer organizations involved in different aspects of emergency preparedness and management, as well as on their perception of the potential for extended use of social media in their operations. The findings presented can serve as a basis for designing and planning possible further deployment of social media based services in volunteer organizations.

The article first presents a brief overview of related work that has inspired our study, and then outlines the methodological approach. The findings from our study are presented and discussed, and implications for practice are suggested.

## RELATED WORK

In the ISCRAM research community, a growing number of studies have documented the possibilities offered by social media for establishing situational awareness in emergency situations and for mobilizing resources (e.g., St. Denis et al., 2014; Tapia, Moore and Johnson, 2013). As exemplified by the request from UN OCHA to the Digital Humanitarian Network for assistance in developing a crisis map for the typhoon Haiyan in 2013, the role of digital volunteers for supporting formal emergency responders in large scale humanitarian disasters is now becoming formalized. Also at a more local level, Virtual Operations Support Teams (VOST) are growing in number, and offering assistance in collecting and processing information from social media (see <http://vosg.us/active-vosts/> for a list of active teams around the globe). Several studies document how the virtual support teams contribute to extend the support capacity of local emergency management teams (e.g. St. Denis et al., 2012). And through a case study of the Humanity Road volunteer organization, Starbird and Palen (2013) document useful experience on the work practices, training and technology support required to establish a VOST as a more formal structure serving as a virtual “disaster desk”.

However, the general uptake of social media to support two-way interaction between emergency organizations and the public is still slow, and several studies have identified barriers and challenges related to this. From interviews with U.S. public sector emergency managers, Hiltz et al. (2014) identified the following three most frequently mentioned barriers to use of social media: lack of personnel time, lack of policies and guidelines for its use, and concern about trustworthiness of the collected data. And a study by Voida, Harmon and Al-Ani (2012) of social media use by volunteer coordinators points to a mismatch between their needs and the focus of social media applications for publishing public calls for volunteers during an emergency. According to the volunteer coordinators such recruitment was covered sufficiently through other channels, and they rather suggested social media to be used for building a stronger connection between their current volunteers and fostering a community among these.

## RESEARCH APPROACH

We interviewed thirteen representatives of different volunteer organizations at regional and national level in Norway. Contact with these organizations was established based on the second author's role as volunteer in the local branch of the Norwegian Red Cross. In addition, we interviewed a Norwegian representative of the Standby Task Force, to also bring in a perspective from use of social media by digital volunteers in international disaster management. Table 1 gives an overview of the volunteer organizations included in our study and the mode of the conducted interviews.

Volunteer organization	Interview mode
Norwegian Forum for Volunteer Rescue Organizations*	Individual
Norwegian People's Aid (central office)	Pair
Norwegian People's Aid Health and Rescue Service (local office)	Pair
Norwegian Radio Amateurs* (local office)	Individual
Rover Scouts Preparedness Crew* (local office)	Pair
Norwegian Sea Rescue* (local office)	Individual
Norwegian Red Cross (central office)	Individual
Norwegian Red Cross (local office)	Pair
Norwegian Search and Rescue Dogs (central office)	Individual, phone
Norwegian Aerial Services*	E-mail
The Standby Task Force (Norwegian coordinator)	Individual, skype

**Table 1. Volunteer Organizations interviewed**

\*For organizations that do not have an official English name, a translation from the Norwegian name has been suggested.

Unless otherwise specified, the interviews were conducted individually or in pairs at the organization's office. The informants were selected based on snowball sampling, being pointed to as volunteers who could provide relevant information on the subject. The interviews were semi-structured, lasting from 40 minutes to

1,5 hour. All interviews were taped and transcribed in full. The interview data was then analyzed for similar and contrasting viewpoints related to the organization's existing and possible further use of social media, guided by existing research literature on the subject.

## KEY FINDINGS

### Current Use of Social Media in the Volunteer Organizations

Except for the Norwegian Aerial Services, all the volunteer organizations represented in our study reported use of social media in varying degrees. The main areas of use included:

- Profiling of the organization and information about its operations to the public (Facebook, Twitter, Instagram).
- Donation campaigns related to international crisis (Facebook and Twitter).
- Internal communication (closed groups in Facebook).
- Monitoring of Twitter messages from first responders.
- Retweeting of officially confirmed information in crisis situations.

Social media was seen as an important channel for reaching out to the public, related to marketing the organization, fund raising, and recruiting members. Informing the public about the organization's operations and contributions was considered important, and the discussion around this also revealed some rivalry and competition among some of the volunteer organizations on getting credit related to different rescue missions.

Most of the organizations also used closed groups on Facebook for sharing information on duty schedules, meetings and courses etc., and for giving praise to members for good work. Some of the organizations have developed general guidelines for use of social media, but these guidelines were not focused on emergency management operations. Also, these guidelines were not yet well known among the members.

None of the organizations reported use of social media for supporting their

operations during a crisis. This was explained by the fact that the volunteer organizations normally operate per request of a formal authority such as the police, who is then the "owner" of the crisis. This restricts the role of the volunteer organizations, and information monitoring and communication with the public is then regarded as the responsibility of the formal responders.

None of the organizations had any service implemented for monitoring social media information from the public. But several of the organizations were monitoring Twitter for information from the police, to be able to mobilize resources when an emergency occurs. Some informants also pointed out that the police was not always effective in alerting the volunteer organizations: "*As you know the police are the weakest link in the rescue services. They are not able to do their task regarding alerting other resources. They have enough with coordinating themselves*". However, there were different views on whether one should start mobilizing resources before getting a formal request from the police or other authority. Some informants stated that they had sometimes contacted the police to offer their assistance, when they had not been called out. While others had a more reactive stance, thinking they should wait for a formal request: "[...] *we do not call the operations centre and ask if they have forgotten us. We should not degrade to this, I know others have done it and that the operations centre does not appreciate this*". Yet, all organizations were being clear on that even if they did mobilize their resources in advance, they would not start acting before getting a formal request.

### Perspectives on Extended Use of Social Media in Emergency Management

Informed by the experiences reported in earlier research, the discussion on possible extended use of social media covered pros and cons of the following aspects of use:

- Establishing situational awareness through collecting information from the public.
- The possible roles of digital volunteers and VOSTs in supporting emergency management.
- Use of social media for mobilizing non-organized volunteers.

Several informants pointed to use of social media for establishing situational awareness during emergencies as a possible benefit. For example, during the fire storm in Lærdal in Norway in 2014, the mobile telephony network was partly down and information from social media could here have given useful information about the range of this fall-out. A representative from the Rover Scouts also saw a potential in collecting information from people in an emergency area where getting an aerial view from a helicopter was not possible, and the informant from the Norwegian Forum for Volunteer Rescue Organizations suggested establishing an information center during a crisis where information from locals could be gathered to develop a situational map: *"If you could collect this information without having to go out for yourself to see and bring the information back, this would save resources"*. Two of the informants also pointed to that social media could be used for seeking advice on different questions, and for requesting equipment during crisis situations. However, several of the informants were somewhat skeptical towards the value of collecting information from the public.

Apart from the informant from Standby Task Force, the informants were not familiar with the concept of digital volunteers although some could relate this to more general crowdsourcing activities. When explaining the concept to them, most of the informants were negative to this. Arguments against such practice were that detailed reports from "every house corner" were not really needed, and that the volunteer organizations anyway needed to be on site for providing trusted reports. Further, it was considered as the responsibility of the formal responders, e.g., the police and the national Joint Rescue Coordination Centres, to gather the needed information.

The potential use of social media for mobilizing non-organized volunteers was also considered to imply more challenges than benefits. "Who should organize these and how?" were raised as questions here, and several also pointed to that non-organized volunteers were not prepared for taking part in search and rescue operations, lacking both training and appropriate clothing. This then corroborates the concerns regarding "all call" recruiting of volunteers through social media voiced by the volunteer coordinators in the study by Voida et al. (2012).

Several barriers to extended use of social media were also mentioned, including limited resources in terms of time and members with interest and knowledge in

social media. Being dependent on technology during large scale disasters was also considered vulnerable. Finally, the risk for disclosing sensitive information was also brought up, and that it could be challenging for some members to be clear on their roles when using social media.

## DISCUSSION AND IMPLICATIONS

Our results show that the volunteer organizations in our study mainly use social media in the phases before and after an emergency, and that use in the operative phase during an emergency is basically non-existing. In general, the level of use is varying some according to the size and available resources for the volunteer organizations, as well as the competence and interests among its members.

The potential for using social media to collect information from the public to support situational awareness is currently not exploited, and several of the informants expressed skepticism towards this practice. Their subordinate role in the emergency operations, acting under command of the police or other formal responders, was stated as a major reason for this. But some of the informants also did not see a need for this type of information to support their operations. It was here pointed to that Norway has not yet experienced any large crisis of a similar scale as the humanitarian disasters in Haiti, Fukushima and the Philippines. However, there have recently been several examples of major (in a national sense) emergency situations in Norway, such as large wildfires (even during winter time), floods and extreme weather conditions causing major outages of the power and communications grids, where quickly getting an overview of the evolving situation has proved difficult. The positive experiences documented from digital volunteers' use of social media in similar emergency situations in other countries, such as floods and wildfires (St. Denis et al., 2012; St. Denis et al., 2014), lead us to argue for making use of this concept in regional emergency management operations in Norway.

As argued by Hallberg, Hallberg, Granlund and Woltjer (2013), the development of emergency management systems should be driven by perceived user needs and adapted to the practical context of use. In this respect, our study has presented important limitations that should be taken into account. With the limited resources

and competence in each of the local voluntary organizations, it is not realistic to develop an information service for monitoring social media information from the public that should be deployed in each individual volunteer organization. Rather, a centralized service modeled after the 'virtual disaster desk' (Starbird and Palen, 2013) could here be envisioned. The Norwegian Forum for Volunteer Rescue Organizations could be a natural host organization for such a service, although this will require additional resources and competence development. Such a service could then provide relevant information that the volunteer organizations could use as needed. By gradually demonstrating the usefulness of this service, acceptance and inclusion of this in the work practice of the volunteer organizations could hopefully be the result. Establishing such a joint service would also imply a need for increased collaboration among the volunteer organizations, rising above the current rivalry. Several of the informants expressed a wish for more collaboration between the organizations, making this seem within reach. Finally, integrating such a service with the information monitoring practices of the police and other formal responders is here also vital.

## CONCLUSION

Our study has presented an overview of current use of social media in emergency management volunteer organizations in Norway, and how they perceive the potential for increased use related to their operations. Overall, the study shows that the utilization of social media is still in an early stage, characterized by reluctance towards going beyond its use as a one-way information channel to the public. This is then similar to the current situation in other countries.

Based on the positive experiences documented from early adopters of digital volunteer groups working with social media, we argue for establishing a similar service at the regional level in Norway. In our further work with emergency management practitioners, both in the volunteer organizations and the formal responders, we will continue to market this concept and present current best practice as examples of what can be achieved. Our study has contributed important understanding of the possibilities and limitations of this type of practice for volunteer organizations, and how such a social media based service could be organized.

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