Balancing conflicting operational and communications priorities: social media use in an emergency management organization

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ABSTRACT

Social media are now widely used by affected members of the public during an emergency. As these platforms have become mainstream, governments have responded to the public's expectation that information is available online, particularly during disasters. Emergency management organizations (EMOs) now widely use social media to communicate with the public alongside occasional intelligence gathering.

While EMOs increasingly use social media, breakdowns in internal communication can inhibit the dissemination of timely information to their online followers. Drawing on a two-year ethnography at the Queensland Fire and Emergency Services (QFES), an Australian EMO, this paper outlines how the organization uses social media to disseminate information during emergencies and identifies the internal tensions around its use. These tensions include the prioritization of operational duties over public information responsibilities, and the difficulties around requesting and receiving information from operational personnel located on the ground.

Keywords

Emergency management, social media, internal communication, disasters, ethnography

INTRODUCTION

Natural disasters cause significant human casualties and damage to both natural and built environments. Ill-prepared communities are often most significantly affected, particularly as disasters often occur with little or no warning. In recent years, information and communication technologies have played an increasingly vital role in emergency management organizations' (EMOs) response efforts to assist in disaster warning, preparation and relief work. As social media platforms have become mainstream in the last 6-7 years, they have opened up new possibilities for EMOs to communicate with the public and to gather on-the-ground information. The integration of social media is having wider effects on the dissemination of public information, as they challenge and reshape the roles and functions of EMOs and their communicative relationships with the public.

Social media platforms are a relatively new medium for communicating with the public. When used effectively, these platforms can provide a dynamic means of communicating that is internally and externally distinct from the "static, one-way process" (Pechta et al., 2010, p. 1) that emergency management communication has traditionally been perceived as. However, research has demonstrated that EMOs use social media primarily as a platform to disseminate information by default, which is an extension of their traditional communication strategies. What these organizations post on social media replicates or supplements existing strategies (Mergel,

2013) as they push out information rather than facilitate a two-way conversation with followers (Ehnis and Bunker, 2012). During emergencies, EMOs use social media platforms including Facebook and Twitter to disseminate warnings to their followers, as well as safety tips and information about resources. Social media are also useful for providing ongoing updates to followers as an incident is unfolding, to reassure them that the organization is managing it or that it is under control. While intelligence-gathering tools exist, investing time and resources to best utilize them is not a priority of EMOs, given budget and resource constraints alongside the prioritization of quantifiable 'on-the-ground' resources. Further complicating this issue is that the value of investment in new technologies is difficult to measure.

Based on a two-year period of participant observation in the Queensland Fire and Emergency Services (QFES), the state government department responsible for fire and emergency services in Queensland, Australia, this paper outlines how the organization uses social media to disseminate information during emergencies. It identifies that tensions may arise between 'on-the-ground' operational personnel and those personnel responsible for external public communication. Practical barriers can also prevent operational personnel who are responding to an incident from communicating updates internally. This directly affects members of the public who use social media with the expectation that they will access timely and current information from these organizations. The remainder of this paper explores the uses of social media for information dissemination in EMOs during emergencies, identifying and discussing the tensions shaping these uses. It particularly highlights how these organizations negotiate their social media engagements in the context of competing priorities and operational responsibilities.

The research questions are:

1. What are the tensions in EMOs that shape the uses of social media for information dissemination?
2. Where do social media and public information responsibilities sit as a priority (alongside operational duties) within such organizations?

BACKGROUND

Social Media and Crisis Communication

Recent academic and media attention on social media use in natural disasters and other crises has primarily focused on community contributions to an emergency response and the way community members communicate with one another during a disaster, primarily using platforms such as Twitter and Facebook. Researchers have covered a wide range of emergency events, including the Virginia Tech shootings (Palen et al., 2009; Vieweg et al., 2008), Haiti earthquake (Starbird and Palen, 2011; Yates and Paquette, 2011), 2010 Chilean earthquake (Starbird et al., 2011), 2011 Queensland floods (Bruns et al., 2012), 2011 Christchurch earthquakes (Bruns and Burgess, 2012), and Hurricane Sandy (Lachlan et al., 2014). A significant body of research has analyzed social media use from the perspective of the community (Palen et al., 2009; Vieweg et al., 2008), though this has tended to neglect the perspective of emergency management organizations (Latonero and Shklovski, 2011). There is a tendency for research to focus on the potential use of new technologies in emergency management and law enforcement agencies, rather than on how these technologies actually function and are utilized (see Mergel, 2013; Sanders, 2014; Sheptycki, 2004), a gap which researchers including Latonero and Shklovski (2011) have noted and begun to address. There is a need for further empirical research in this field, and for better knowledge sharing between practitioners and researchers, especially also drawing on embedded researchers who may examine these organizations first-hand (Plotnick et al., 2015). This paper reports on the findings of one such embedded research project.

Social Media Use in Emergency Management Organizations

While there has been reluctance within some EMOS to embrace new communication technologies, their adoption and use of social media has proven effective (Haddow et al., 2014, p. 369). EMO social media use has become commonplace as governments meet an increased public expectation that accurate and timely information is made available online, particularly during disasters (St. Denis, Hughes, and Palen, 2012). Despite this, disparities exist between the levels of activity on social media platforms by various organizations. EMOs can employ social media passively by using online platforms to monitor activity relevant to the organization, for example searching *@mentions* on Twitter to 'listen' to what people are saying about their organization. More

actively, EMOs can employ social media to respond to the public and strengthen the organization's image within the community. Similarly, at an engaged level, established social network sites can build a deeper relationship with the community by listening and responding to community and public opinion and making the organization more transparent (Rive et al., 2012, p. 6). These different modes of activity lead to inconsistencies across different EMOs in the approaches to and purposes of social media use.

The two key uses of social media—for intelligence-gathering and for information dissemination—relate to different parts of the organization. The use of social media for intelligence gathering is related to the organization's operational disaster response concerns (see Yin et al., 2012, p. 52-53). In this instance social media are used to acquire the community's knowledge of what is occurring around them, enabling decision-makers to more accurately distribute resources to those in need and plan future operations more effectively (see Crowe, 2012, p. 216). As local community members are typically the first on the scene of a disaster, it is important to involve them in disaster response efforts (see Belblidia, 2010; Palen et al., 2007; Pechta et al., 2010). A community equipped with smartphones is a valuable source of information for EMOs (Liu et al., 2009, p. 61; Palen et al., 2009, p. 478).

In contrast, the use of social media for information dissemination is linked to the organization's communication priorities during disasters, and to public relations priorities during 'business as usual' events (see Heverin and Zach, 2011, p. 28). In this scenario, social media are used as channels to regularly update the public with situational information including warnings, official instructions, road closures, and the location of vital resources. During 'business as usual' events EMOs can use social media to foster a relationship with the community in order to establish themselves as a source of information during disasters, promote the work of their organization, and disseminate key messages and safety information to build community resilience. When risk is clearly and effectively communicated to the community, they are more likely to appropriately prepare for an impending event, which ultimately influences their resilience in the situation (Mileti, 1999). Social media platforms can therefore nurture "strong community networks", as their information-sharing capabilities can "be leveraged more effectively to provide communities with robust communication networks, thereby creating more resilient communities in areas at high risk of natural disasters" (Belblidia, 2010, p. 24).

Social Media Use in Emergency Management: Barriers and Limitations

Despite a growing body of research on the *potential* use of social media to gather intelligence during a disaster (Yin et al., 2012), EMOs' actual use of social media for this purpose currently remains significantly underdeveloped. Significant barriers exist preventing these organizations from investing in social media. While technological barriers offer a challenge, it is not the primary one. In their examination of United States emergency managers' uses of social media, Hiltz et al. (2014) found "the major barriers to use of social media…are organizational even more than technical" (p. 605). In her broader examination of social media adoption in the Canadian public sector, McNutt (2014) corroborates these findings. It seems clear that the organizational barriers preventing social media adoption and use are inherently government-related and are not specific to EMOs. Resource limitations—such as budget restrictions and a lack of sufficiently skilled staff—present one such barrier (Hughes and Palen, 2012; Plotnick et al., 2015). For example, in their survey of county-level emergency managers in the United States, Plotnick et al. (2015) note that budget constraints in smaller organizations are likely preventing them from investing in the tools and staff to manage social media. However, even when larger or better-funded organizations do use social media, the cost of sophisticated intelligence-gathering tools may prove inhibitive, preventing the organization from advancing its social media efforts beyond their default one-way communication approach.

Plotnick et al. (2015) refer to the "information overload" issues that emerge when these organizations employ social media for two-way communication, but note that a combination of manual and automated approaches can overcome these issues. Even when suitable tools are available, a lack of staff to mine and interpret the data provides a barrier preventing the effective use of social media for intelligence gathering. The suitability of existing intelligence-gathering tools to monitor the platforms used by the community may also provide an obstacle, as intelligence-gathering tools are typically designed for Twitter. This platform is not as popular in Queensland, the site of this research, making such intelligence gathering largely redundant for an organization like QFES as Facebook is the most popular social media platform in Australia more generally (Sensis, 2015). Further, in their mapping of the Australian Twittersphere, Bruns et al. (2014) found that Australian Twitter users are clustered around metropolitan hubs (as is the Australian population overall). This is problematic in Queensland as most severe weather events occur in remote areas. With this in mind, resistance towards

intelligence-gathering tools for an organization like QFES is understandable. Furthermore, Facebook's various privacy settings make it difficult to gather useful on-the-ground information from an organization's followers using that platform. Intelligence-gathering tools that primarily mine data from Twitter render such tools ineffective in this instance. Such underutilization of Twitter makes experimentation with expensive monitoring platforms (often tens of thousands of dollars annually) unjustifiable, particularly for a product whose suitability is uncertain and must inevitably compete with more immediate resource demands.

RESEARCH METHODS

This paper focuses on the organizational tensions that exist between operational and communications personnel around public information dissemination during an incident. It is based on a two-year period of participant observation in the Queensland Fire and Emergency Services (QFES). QFES is the state government department responsible for fire and emergency services in Queensland – one of the largest, most populated and geographically diverse states in Australia. Over two years of participant observation I typically spent two days per week at the organization, however this increased during significant weather events or periods of increased activity. The data gathered through these observations included field notes, copies of numerous government policies, internal reviews and reports (obtained with permissions granted by QFES and with their full knowledge, when they were not publicly available), as well as publicly-available legislation and media releases.

I positioned myself within the Media and Corporate Communications (MACC) division from which the organization conducts its public information function. When my observations began, I embedded myself within a distinct and separate MACC social media team of four members. Following a large-scale organizational review (Queensland Government, 2013) and subsequent restructure, this distinct social media team disbanded and was reabsorbed within the existing media team where I continued my observations. This led to the media team acquiring additional and largely unfamiliar work during a time when resources were already strained.

To support my observations I also conducted 25 in-depth, semi-structured interviews across the course of my fieldwork with key organizational personnel using social media in their role. Interviews averaged 45 minutes in length. In keeping with the semi-structured nature of the interviews, although I had questions prepared I used the interviews as an opportunity to further draw out scenes I had observed, or to provide the participants with an opportunity to discuss in greater depth comments they made during my observations. I also allowed follow-up questions to emerge in response to interviewees' answers. I transcribed these interviews verbatim shortly after the conclusion of the interview, adding additional contextual information about the scene and the participant to the beginning of the transcription.

To analyze the data I borrowed from the Grounded Theory approaches outlined by Charmaz (2014), in closely reviewing my field notes and interview transcripts and identifying key themes as they emerged. During observations, I noted that tensions between different divisions within the organization could surface during an unfolding event, as these divisions attempt to balance differing responsibilities and priorities. I explored these differing priorities with members of the MACC team through informal conversations during the later stages of my observations and during in-depth interviews. This paper specifically seeks to explore these tensions, and to understand how and why they exist. Being situated in QFES and observing these tensions during major disasters (category five cyclones) and smaller incidents (such as commercial building fires), I observed first-hand the conflicting views around where public information sits as a priority between the different organizational divisions. I present and discuss the findings of those observations and interviews in the subsequent sections of this paper.

FINDINGS AND DISCUSSION

Prioritizing Operational Duties over Public Information Responsibilities

This study found that frequently, QFES media and communications personnel would have trouble contacting operational personnel located on the ground and receiving information from them during an incident. There are two reasons for this. Firstly, on-the-ground personnel attending an incident were busy with operational responsibilities. Secondly, as outlined below, on-the-ground personnel were sometimes hesitant to provide updates from the scene. Consequently, updates were usually infrequent and dependent on the media officer's or manager's ability to reach their one contact person on the scene.

Understandably, during an unfolding incident operational personnel are engaged in their work and in the immediate tasks at hand. While they may be the appointed on-the-ground contact person for MACC, their ongoing operational responsibilities mean they do not always have time to immediately respond to requests for information or media interviews. As one media officer within the organization explained:

> *"Sometimes, you don't know because they are so operationally busy, you can't track them down. It's the nature of the beast…"oh yeah I've got to do an interview right now or I have got to go into this water and save somebody who is trapped and clinging to a tree". We're gonna get second, it's always operational first."*

This prioritization of operational duties over MACC's public information responsibilities is understandable. When members of the public are at risk, operational personnel will necessarily prioritize public safety over other responsibilities that are not ostensibly about life or death. However, this approach makes the job of the media and communications personnel responsible for keeping the public informed – whose actions may well prevent other members of the public from putting themselves in danger – much more difficult. These different roles functioning simultaneously within QFES—whose responsibilities are essentially at odds with one another—create internal tensions. The communications personnel wish to share information with the public in a timely manner, while the operational personnel need to conduct the on-the-ground incident response. However, as the communications team is dependent on those operational personnel for information to disseminate, their work is impeded for reasons outside of their control.

Although on-the-ground personnel may be confronted by community members in danger, certain contexts may call for a more pragmatic approach where they must do the greatest good for the greatest number of people. For EMOs, communicating to the public is not always obviously a second-order activity. If the officer on the ground had a choice between assisting one at-risk individual before them and providing an update to MACC that leads to an entire town evacuating, the later action clearly saves more lives. The problem is that the officer on the ground does not see the second scenario as clearly as the individual in trouble before them. EMOs must therefore challenge the mindset of on-the-ground personnel, so they recognize that communication is also an important part of their operational responsibilities.

Further, as another participant conceded, the organization does not have an existing culture of information sharing for the purposes of public dissemination. The following perspective reinforces how operational responsibilities take precedence over other responsibilities. It also suggests that the timeliness demanded of social media communication is problematic given the existing communicative structures within these organizations:

> *"…Traditionally there's never been a line of communication from a fire in that blow-by-blow sort of way. …The people who have it [the information] are busy fighting a fire and they don't have a culture of reporting it and that's for good reason. It's because things change quickly and no matter how quickly you ring somebody you can get some information and you can post it and by the time it hits people's timelines it's half an hour later at the very earliest and you've just given them information that might actually be wrong."*

The volatile nature of disasters (in this case fires) means that the spread of misinformation is a genuine risk for these organizations when using social media. Naturally, this is problematic for EMOs when this misinformation could potentially cost lives. The fear of being responsible for spreading outdated information perhaps indicates why there are internal tensions around information sharing between on the ground personnel and MACC personnel.

Even when the organization does post information in a timely manner, they ultimately have no control over when followers will receive that information, as another participant acknowledged:

> *"We can't validate when they received the information. Do they look at it immediately? Or do they look at it in two hours?"*

Consequently, the spread of misinformation during an incident may be outside of the control of the organization, because their followers may only check their social media timelines and receive that notification some time after the organization posted it. However, this does not necessarily mean that EMOs can abrogate their responsibility to provide information in a timely manner in the first place.

Requesting and Receiving Information from Officials on the Ground

While operational duties typically took precedence over public information responsibilities, MACC personnel also experienced difficulty receiving information and updates once they had made contact with personnel on the ground. This study found that often on-the-ground personnel were reluctant to provide any update until they had confirmation that the information was correct. For example, in the case of a fire incident, this confirmation may only come from operational personnel when they are certain they have completely extinguished the fire. One media officer recalled an incident where this inhibited their work, as they could not provide information to the media or the public via social media:

> *"We rang them every five minutes for half an hour, so that's six phone calls. "Is the fire out?" "We believe the fire is out we can't confirm yet." "We believe the fire is out but we can't confirm yet." "Do not release that the fire is out because we cannot confirm yet". That's a thing that's always gone through their operational capabilities, that you must confirm that the fire is out 100% and it's been verified before you release that information…"*

This situation was worsened by the fact that the fire was occurring in the center of a city and media were on the ground observing the incident and reporting live. The media team did eventually post a tweet, but only to confirm that the fire was out once they had received confirmation from operational personnel on the ground. According to one media officer this occurred twenty-five minutes after on-the-ground media had reported the fire was almost out as they witnessed it themselves. This incident not only demonstrates the difficulty in receiving information from operational personnel, but also the difficulty in disseminating public information as an incident unfolds. Unfortunately, this is at odds with the public's expectation of these organizations' social media presences. As one media team member explained:

> *"…The community expects us to provide information to them, during incidents in particular, because we are the emergency services. [They] should be able to see an incident of almost any hazard and naturally think, "The emergency services will be involved" and therefore they should be able to come to our page, no matter what the hazard or what the response is, or who the lead agency is."*

As this interviewee explained, when the organization maintains a presence on social media their followers rightly expect that they will receive timely information about incidents as they are unfolding. However, providing timely information to the public is also about fulfilling what many within the media team perceive as their role during an incident:

> *"…We want people to come to us as a point of authority, it looks silly at a fire if [other agencies] are tweeting but the people who are the lead agency on the fire are not."*

As this participant articulates, not only must the organization provide information to the public to meet their expectations, but it is also important to ensure that the public perceives them as a primary source of authoritative information. As the organization responsible for public safety during times of crisis, it is paramount that the public trusts them, views them as the authority, and turns to them in the first place for information and warnings. Consequently, breakdowns in internal communication flows can prevent the public and the media from viewing the organization in this way.

While responders' concerns around the timeliness and validity of information in changeable situations are understandable, there are risks associated with their failure to provide information. In some cases, this may create more harm. The proliferation of social media platforms, however, has meant that members of the public now disseminate and search for updates and information through their online networks, no longer utilizing official organizations as their sole source of information (Hughes and Palen, 2012, p. 1). The risk of misinformation around an incident potentially increases as the mainstream media and social media users look to others located on the scene of an incident as a source of information. Furthermore, in uncertain and dangerous conditions, at-risk members of the community – who may not even turn to other sources for information but instead rely only on authorities – may instead make ill-informed decisions when they do not have regular updates and information. Consequently, in the current crisis communication climate EMOs must find a balance between meeting the public's expectations to deliver valid information in a timely manner, and satisfying their internal information dissemination approval processes.

Maintaining a Consistent Level of Communication

Some participants also raised concerns about their ability to maintain a consistent standard when disseminating information via social media during an unfolding incident. Currently, media officers are rostered to different

shifts within a window from 6.30am until 5.30pm from Monday to Friday. Outside of these hours, the team operates on an on-call roster, with one media officer and one manager rostered at any given time overnight and during weekends. Outside of office hours an 'out of office' auto-reply is switched on to the team's email, instructing media to call the on-call phone number for any inquiries. The on-call media officer does not check social media overnight, however they do check social media at set times thrice daily during the weekend.

When a smaller incident such as a building fire unfolds during office hours, the team has the resources to provide ongoing updates to the public and mainstream media. Their workload may increase, they may experience an increase in calls from media, and they may have a greater (yet largely manageable) amount of traffic on their social media pages. Despite this, by having an adequate number of team members rostered during the day, and managers whom they can call on for additional support, the team can manage such incidents.

In contrast, during overnight and weekend incidents the on-call media officer works in isolation, except for the support of their on-call manager. During weekends in particular, when an incident may receive the same degree of public and media attention as on a weekday, the responsibility for single-handedly responding to media enquiries, issuing warnings, and monitoring social media can become unmanageable. During an event, managers call in "off-duty" communications personnel or roster them in advance when they anticipate a protracted event. Even then, their workload, with the addition of social media responsibilities, is occasionally unmanageable. In some cases, regular social media monitoring—checking and responding to comments, providing updates as the incident is unfolding—is neglected. There is a conscious effort to ensure that team members work fixed shifts (albeit longer than usual given the circumstances) to avoid the onset of fatigue. With this in mind, there is the potential to train and pull in communications personnel from other government departments, assuming that they are not busy with their own work. Latonero and Shklovski's (2011) case study of the Los Angeles Fire Department (LAFD) demonstrates that such concerns are not limited to QFES, but are an issue with which many EMOs must contend. They note that while constant two-way communication strengthens the organization's relationship with their audience, it "implies constant vigilance and a level of attention that is unheard of from large government organizations" (p. 9).

Consequently, many within the team expressed concern about their ability to maintain a consistent level of communication with their social media audience during an incident, irrespective of the time of day or week. While the team usually has the resources to do this during the day, the existing on-call staffing arrangements make this task more difficult overnight and at the weekend. As a result, the inability to guarantee a consistent level of communication with their social media audience prevents some within the team from wanting to use social media for this purpose at all. Therefore, the team often prioritizes mainstream media over social media channels in order to communicate with the public during an incident.

CONCLUSION AND FUTURE RESEARCH

This study has shown that some EMOs continue to use social media primarily as a platform for disseminating information, despite the amount of social media intelligence generated during an emergency that an organization could use to inform their disaster response. The lack of availability, limited usability, and high cost of intelligence-gathering tools continue to be a problem for these organizations. The development of more user-friendly and more powerful tools in consultation with these organizations will continue to be an important task for researchers, public and private sectors.

This paper has raised a number of issues that emerge when EMOs use social media, however, there are possible solutions. Firstly, changing the approval procedures would make it easier to give progress updates from emergencies. These updates would need to include appropriate disclaimers that explain the update is unconfirmed, putting the responsibility back on the information receiver to treat the information cautiously. As the public expects EMOs to change the way they communicate, organizational policies need to adapt to support this expectation.

Secondly, EMOs should explore ways to remove or hide outdated posts from their social media accounts during an emergency, to avoid information from going stale. They could achieve this by working with platforms like Facebook or Twitter to create a tool that automatically removes posts after a set period. This would stop the spread of outdated information, as posts that followers have shared on Facebook or retweeted on Twitter would also disappear. It would be important for multiple EMOs to come together to fund a tool for their circumstances, to provide solutions that work across multiple organizations and to share knowledge about what is useful for their industry. This solution could create government record-keeping issues; therefore collaborating with social

media platforms could be beneficial as they could include a record-keeping feature to the tool to ensure evidence of the original post remains.

Thirdly, EMOs must challenge the deep-set beliefs held by emergency responders that their on-scene activities are always more important than providing communicable information that could ensure that others leave and stay out of the danger zone. This solution is more complicated and requires widespread cultural change within these organizations. However, by challenging and adjusting these beliefs EMOs can potentially save more lives in the long-term as affected members of the public can make better-informed decisions for their own safety, instead of relying on on-the-ground personnel for assistance.

Finally, changing the rostering system to 24/7/365 would help these organizations maintain a consistent level of communication via social media. This would prevent media officers from working in isolation, particularly during incidents where their workload increases. This solution may introduce resourcing challenges, as the organization would likely need to hire additional staff to avoid the risk of burnout. It may also be unpopular with existing team members who are resistant to shift work.

This study provides a close analysis of the use of social media in one EMO, the Queensland Fire and Emergency Services (QFES). While points of comparison exist between this organization and similar organizations elsewhere in Australia, it is important not to generalize the findings of this study. Differences such as organizational protocols, geographic variations, and disaster propensity may result in conflicting views about social media and its uses. Thus, there is a need for more ethnographic research in other EMOs: for example, comparing Queensland with New South Wales or Victoria, the two most populated states in Australia. We know that these states routinely manage significant bushfires that often pose more of a threat to lives and property than Queensland, while Queensland endures more significant storms and cyclones that these states do not experience. These different types of disasters and geographic differences between the states mean that members of the public and emergency responders may use social media differently. Nonetheless, we can learn from the experiences of QFES and apply these lessons to other organizations where appropriate. Going forward, improved knowledge sharing across EMOs is important to ensure that these organizations continually evolve and refine their use of social media (Flew et al., 2015).

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