A Work-In-Process Literature Review: Incorporating Social Media in Risk and Crisis Communication

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This work-in-process literature review gives an overview of recent insight in the incorporation of social media in risk and crisis communication. By marrying literature and examples of social media use with best practices in risk and crisis communication, this study demonstrates how communicators can embrace social media tools to better manage a risk or crisis. Best practices in risk and crisis communication are summarized, examples of social media tools used to manage risks and crises are expounded, and recommendations for practitioners are provided to incorporate social media tools in risk and crisis communication.

1. Introduction

Technological advances are transforming how crisis management professionals and researchers view, interact with, and disseminate information to affected communities in a crisis situation. The evolution of the mobile phone and other mobile technologies, computers, Internet access, and digital video equipment are reshaping the network communications framework and the ways we connect with each other. A 2010 Pew Internet study found nearly one-third (31%) of online adults are using platforms such as blogs, social networking sites, online video, text messaging and portable digital devices (Smith, 2010a). These new media platforms are low cost or free forums for the expression of ideas, information and opinion; they offer more opportunities to communicate and new avenues for global outreach in crisis communication (Wright & Hinson, 2009).

Research shows that on-site and on-line crisis response activities are becoming increasingly 'simultaneous and intertwined' (Palen, Vieweg, Sutton, Liu, & Hughes, 2007, p. 2). While community members have always served as integral volunteers in the response and recovery efforts (Quarantelli, 1998; Scherp, Schwagereit, Ireson, Lanfranchi, Papadopoulos, Kritikos, Kopatsiaris, & Smrs, 2009), social media makes the community part of the actual crisis communication response. For example, the social-networking site, Twitter, was used to quickly share initial information and updates during the 2007 and 2008 California wildfires, 2008 Mumbai massacre, 2009 crash of US Airways Flight 1549, 2010 Haiti earthquake, and 2011 Tunisian uprising (Beaumont, 2008; Lenhart, 2009; New America Media, 2011; Robinson, 2010; Smith, 2010b; Sutton, Palen, & Shklovski, 2008). Firsthand reporting by people on the scene possessing nothing more than a cell phone provides almost instantaneous news which then spreads rapidly among peoples' networks of contacts and friends (Stephens & Malone, 2009). During the California wildfires, case in point, residents took pictures of the fire and reported their location on Twitter, reporting the fire's movement before journalists could get to the scene (Sutton et al., 2008).

Social media is at its core human communication, possessing characteristics of participation, openness, conversation, community, and connectedness (Mayfield, 2006). New media technology allows private individuals to become sources of information online 'sharing opinions, insights, experiences and perspectives with others' (Marken, 2007, p. 10). Consumers of information are simultaneously contributors of information, thereby providing the basis for *user-generated*

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media. The news of a crisis can be shared and reshared, reaching millions of people without the intervening presence of journalists. Word of mouth news is tremendously influential and even perceived as more trustworthy than mainstream media in some instances (Colley & Collier, 2009). In a recent survey, 92% of communication practitioners surveyed believe that blogs and social media now influence mainstream news coverage (as cited in Solis, 2009, p. 24). And yet, in another survey, only 13% said they have incorporated social media in their organizations' crisis communications plans (Russell Herder & ethos Business Law, 2009).

Given social media's communicative abilities and contemporary pervasiveness, scholars have called for research that bridges disciplines to accommodate these changing media conditions and combines community informatics with crisis management to understand how 'information and communication technologies should be designed and deployed to engage, inform, and mobilize volunteer and citizen networks' (Palen et al., 2007; Shankar, 2008, p. 116). This study seeks to marry literature and examples of social media use with best practices in risk and crisis communication to demonstrate how communicators can embrace social media tools to better manage a risk or crisis. Best practices in risk and crisis communication are summarized, examples of social media tools used to manage risks and crises are expounded, and recommendations for risk and crisis communication practitioners are provided to incorporate social media tools in risk and crisis communication.

2. Best practices in risk and crisis communication

The purpose of creating a list of best practices is to improve and streamline the processes of an organization or industry. A broad overview, analysis and assessment of the current processes used by experts and leaders in the field allows for the identification of such best practices. Upon exhaustive research, a model set of standards and guidelines can be drawn to improve quality and efficiency. The overall goal of best practice research and development is to learn from the experiences of the past, detect errors, correct them, then determine ways to apply learning and practical knowledge to foster continued improvements (Veil & Sellnow, 2008).

This study reviews a set of best practices in risk and crisis communication outlined by researchers with the National Center for Food Protection and Defense (NCFPD), a US Department of Homeland Security Center of Excellence. The team of researchers also works closely with other Centers of Excellence, US government and non-government agencies, and international organizations. These practices were drawn through an exhaustive review of the literature related to crisis and risk communication and examination of a multitude of case studies (Sellnow & Littlefield, 2005). The works of numerous communication scholars as well as practitioners went into the compilation of the practices, which were featured in a special issue on risk and crisis communication in the *Journal of Applied Communication Research* (2006). The best practices have since been explained, expanded and tested in numerous other publications (e.g., Sellnow, Ulmer, Seeger, & Littlefield, 2009; Sellnow & Vidoloff, 2009; Veil & Ojeda, 2010; Veil & Sellnow, 2008; Venette, 2007). The guidelines include:

1. *Establish risk and crisis management policies and process approaches*. Communication should be involved in decisions about risk and crises both after they have occurred as well as during the planning itself. An effective policy is ongoing and involves preparedness activities such as educating the public.
2. *Plan pre-event logistics*. The second best practice involves planning for crises and analysing risk with regular updates and revisions. This practice at minimum requires identification of needed resources; recognition of potential hazards, streamlining communication processes both internally and externally, designating responsibilities for team members, and having a plan in place.
3. *Partner with the public*. During a crisis, the public has the right to know about the risks they face. Communicators should be deliberate in sharing available crisis information in a timely and accurate manner. Crises create a need for information; providing information may ease uncertainty. In addition, the public can provide essential information and assistance to mitigate the crisis.
4. *Listen to the public's concerns and understand the audience*. Not only is it important for an organization to listen to the public; it is also imperative to act upon the concerns of risk and uncertainty and to establish dialogue before a crisis, regardless of whether the perceived risk is manifested. By dialoguing, rumours can be extinguished early. Listening to and understanding a public through monitoring public opinion about risk is essential in the development of a relationship. If an organization's credibility, trust, and believability has been well-established through this relationship before a crisis, these values will be more likely to be maintained during a crisis.
5. *Communicate with honesty, candour, and openness*. Sharing available information openly and honestly before and during a crisis is vital in minimizing additional threats as well as meeting the public's need for information so they do not turn to other sources. Once an organization is no longer considered a source of trustworthy information, management of the crisis is lost.
6. *Collaborate and coordinate with credible sources*. In addition to the development of relationships with the public, another best practice is to develop and maintain strong relationships with credible sources before a crisis. Gathering and disseminating accurate and consistent messages requires continuously validating credible sources, finding experts in proper areas, and creating relationships with them in order to align the organization with other trustworthy and supportive partners.

7. *Meet the needs of the media and remain accessible*. The public typically learns information about a crisis or risk from the media, and thus, remaining accessible to these outlets is crucial. The dissemination of accurate messages through crisis spokespersons identified before a crisis should be practiced continuously with media.
8. *Communicate with compassion, concern, and empathy.* Spokespersons should demonstrate genuine concern for the situation and create a sense of legitimacy with the public. Humans respond well to other humans. Recognizing emotions as legitimate allows for an open exchange that humanizes the crisis response.
9. *Accept uncertainty and ambiguity.* Waiting until all information is known before responding to a crisis can put stakeholders and the organization in danger as other, potentially less credible, sources tell the story of the crisis. On the other hand, if a falsely reassuring statement is issued and later deemed false or exaggerated, the spokesperson risks losing trust and credibility. 'Risk and crisis communicators often feel compelled to speak with authority to build credibility and reassure their audiences' (Venette, 2007, p. 2). But, by definition, crises are abnormal and uncertain situations. Accepting uncertainty and avoiding overly confident statements allows the spokesperson to adjust messages as more information becomes available.
10. *Provide messages of self-efficacy.* The final best practice outlined by the NCFPD involves allowing stakeholders in a crisis situation to gain a sense of control through meaningful actions that promote a sense of self-efficacy. Such actions may include helping others through volunteering and donating or actions to reduce particular risks to one's self, like avoiding certain foods or particular products. Organizations should offer these recommended actions clearly and consistently and provide an explanation as to why the action is recommended.

Sellnow and Vidoloff (2009) proposed adding an eleventh best practice to the NCFPD's list: *Acknowledge and account for cultural differences*. They suggested that crisis communicators should make additional efforts to reach under-represented populations including those who are enduring poverty, are new to America, or others who have limited access to mainstream media. Understanding how messages may be interpreted in different cultures, ethnic groups, and socioeconomic groups is essential, as is determining the mass communication and interpersonal communication channels best suited to reach them.

Other researchers have analysed, criticized, and added to the list of best practices (Sellnow et al., 2009; Sellnow & Vidoloff, 2009; Veil & Ojeda, 2010; Veil & Sellnow, 2008; Venette, 2007). The purpose of this study to provide examples and directions on how social media can be used to assist practitioners in following best practices in risk and crisis communication.

2.1. Incorporating social media in risk and crisis communication

To explore the latest literature on social media related to risk and crisis communication a thorough review of academic literature, industry whitepapers, and trade publications was conducted. Three separate literature searches were performed. The first search pulled all research according to the key words 'crisis', 'risk', or 'disaster', and 'social media'. While there are important distinctions among risk, crisis and disaster as they are defined, practiced and in relation to communication, the three terms provided a broad and thorough spectrum of the literature in relationship to improving upon current risk and crisis communication best practices. The second search concentrated on 'public relations' and 'social media' and was sifted through for literature related to crisis communication. The final search was conducted just before completion of the analysis for 'crisis communication' and 'social media' to assure the most recent, relevant research was included. In addition, online resources were revisited to assure links cited were still available.

Key points and examples from the collection of articles were classified according to best practices in risk and crisis communication. Multiple sources provided similar information and some articles could have been classified under multiple best practices. The purpose was not to count or even include all information or every article, but instead to provide examples of how social media can be used to improve communication in risk and crisis management. While the NCFPD's best practices are used as the guiding structure of this next section, the best practices have been adjusted to incorporate additional literature in strategic communication and the best practices overview (Palenchar & Heath, 2006).

2.2. Establish risk and crisis management policies and process approaches that work with community members to effectively participate in decision-making systems

Having policies in place for how an organization will communicate via social media before a crisis is essential. Many crisis communication practitioners are already using social media as a push tool for organizational messages, including risk messages. For example, the US Centers for Disease Control and Prevention used widgets, games, graphic buttons, online video, podcasts, eCards, RSS feeds, microblogs (i.e., Twitter), image sharing, social networking, email, and book marking and sharing tools to raise awareness about the H1N1 virus (Aikin, 2009; Reynolds, 2010).

New media tools have much potential for encouraging preparedness, knowledge, and involvement in crisis response by making the topic visual and interactive. Social media can invite individuals to self-identify as supporters of the organization. For example, fan pages on Facebook allow the public to display awareness and support. When users choose to 'become a fan' of an organization's Facebook page they link the organization's Facebook page to their own, thereby promoting the organization within their network of Facebook friends. A February 1, 2010 search on Facebook (2010a), <3 weeks after the earthquake in Haiti, showed there were 328 Facebook pages for the Haiti earthquake with over 190,000 fans and 185 Facebook pages dedicated to Hope for Haiti with over 110,000 combined fans. The American Red Cross page had almost 170,000 fans alone; FEMA had 284 fans (Facebook, 2010b). To put the case in perspective, though, Coca-Cola had over 4.5 million fans (Facebook, 2010b).

Another example includes increasing dialogue in the midst of a crisis to help mitigate damages. New media technology allows for question-and-answer reciprocity. The Facing the Mortgage Crisis web site, launched by the St. Louis public broadcasting station, helped publics deal with foreclosures and invited people to ask questions. The reciprocal nature allowed for citizens to receive expert answers and professional advice regarding the crisis. Online elements mapped heavy areas of foreclosures and directed individuals to further help (The Center for Social Media, 2009). Dialogue about the crisis took place online but assisted some individuals in responding personally to the mortgage crisis.

Using social media to educate the public regarding risks, encourage visible support of an organization or cause, and establish a venue for open dialogue online are all approaches to incorporating social media in risk and crisis communication. Additional examples will follow. The key point is that establishing how the organization intends to engage social media during policy formation can increase communication opportunities, and, as with other pre-event logistics, minimize the confusion and errors bound to occur in the midst of the crisis.

2.3. Plan pre-event logistics developed in partnership with stakeholders in an attempt to mitigate severe outcomes

Easy updating of information is a chief advantage of using new media tools in preparing for a crisis. In real time perpetually updated reports, manuals, plans, information related to a crisis, statements, and contact lists need to be available to internal, and sometimes external, stakeholders. By setting up some of these documents as wikis, information can be provided with little effort (González-Herrero & Smith, 2008). Wikis are gaining wide acceptance, as the 'primary tool for intra-team communications' (Rand & Rodriguez, 2007, p. 8). The platform allows multiple people to access, edit, and contribute to content on a web site or document.

Other logistics to consider include space for dark sites, hidden web sites with pertinent crisis response information, ready to be launched as the link is diffused among important stakeholders through social media (González-Herrero & Smith, 2008). Individuals skilled in graphic design, video, and audio should be identified before a crisis to anticipate the social media on which to post multimedia information when needed because interactive media are often preferred sources of information (González-Herrero & Smith, 2008; Guth & Alloway, 2008). Early development of an online contact list will also prepare a company to reach those stakeholders who most desire information at the time of a crisis. Because most social media is an opt-in service, the disseminated links are immediately provided to those stakeholders who already 'trust the messenger' (Seo, Kim, & Yang, 2009, p. 125). From this point, peer-to-peer diffusion of the information proceeds.

Most importantly for planning pre-event logistics, social media allows for monitoring the environment in search of warning signs. Marken (2007) suggests that users trust social media and heavily use it to gather information. As the most 'undiluted, most direct and most cost-effective means of learning about customers' (Marken, 2007, p. 10), the medium provides a lens through which companies can view these exchanges. Social media web sites like MySpace and Facebook are particularly suitable for mass monitoring as they provide a feed that displays discussions of a myriad of users at any particular moment. Organizations can quickly learn what publics are saying about them or issues in which they are involved (Wright & Hinson, 2009). Twitter is also useful for learning about public perceptions (Goolsby, 2009). Twitter is a microblog social networking platform through which individuals can post or 'tweet' comments to those who subscribe or 'follow' the blogger. A large aggregate of tweets (posts) on the same issue can provide a snapshot of public opinion. While only 8% of all Americans use Twitter (Smith & Rainie, 2010), 51% of Twitter users follow companies, brands or products through social media (Edison Research, 2010)

To those who are sceptical about monitoring and engaging social media, 'a great wake-up call' according to Jacques (2009) 'is to put the name of your brand in Google and look at that first screen . . . those are the people and groups who are forming the first impression for your brand' (p. 30). If organizations are not using social media to monitor these posts and conversations, he says, you are resigning: 'It's OK. We're going to outsource our reputation, and we're comfortable with our customers defining it for us' (p. 31). Conversations about organizations take place constantly, 'without our knowledge and perhaps worse, without our participation' (Solis, 2008, p. 2). Organizations can attempt to understand their audiences through these conversations by creating a daily or monthly report assessing individual posts on the social web and the threads to distinguish between 'emerging brand advocates and one-off anecdotal events' (BeelineLabs, 2009a, p. 13).

Monitoring the blogosphere is another effective way to infer public opinion. A practitioner should be delegated as a blogger for the company before a crisis to monitor issues and openly engage with others as a self-identified representative of the organization. Blogging without self-identifying as an organizational representative can lead to its own crisis as Wal-Mart notoriously found following their 'Wal-Marting

Across America' debacle (Siebert, 2006). Finally, organizations need to develop a plan for evaluating the effectiveness of using social media in crisis communications (Institute of Management and Administration, 2009). Any unproductive strategy in a crisis taxes the already limited response time.

2.4. Partner with the public

Public relations is devoted to creating and sustaining relationships. This, also, is the purpose of social media (Rand & Rodriguez, 2007). Uncertainty leads to stress for stakeholders (Coombs, 2007). Leveraging social media, which allows direct sharing of information in a timely and accurate manner, can relieve uncertainty. Research after Hurricane Katrina suggests that interactive information is preferable to static. Those who were affected by the disaster frequently visited interactive forums (Procopio & Procopio, 2007) and reported positive experiences with such online outlets. Keeping in touch with 'wireless publics' as part of a relationship-building process allows for perpetual connectedness, which can be pursued even in an unexpected event. Interaction is further enriched through new media's inherently multimodal capabilities. Messaging, calendaring, computing, phoning, photography, and entertainment offer a rich environment for relationship building. Organizations can use videos and photographs taken by citizens and volunteers, creating a relationship of exchange (Waters, Burnett, Lamm, & Lucas, 2009). For example, the City of New York encourages citizens to upload photos of damaged sidewalks, fire hydrants, and other urban blight to their peoples 311 sites (Center for Social Media, 2009). Increasing the dialogue between the public and public officials has the potential to increase the reporting of crimes and quick response on calls for help from the public, as in an Amber Alert.

Seeger (2006) suggests that the public can 'serve as a resource, rather than a burden, in risk and crisis management' (p. 238). People in the geographic space of the disaster can serve as eyewitnesses and, therefore, prove valuable sources of information about crisis events. For example, during the 2008 Mumbai tragedy, Twitter and Flickr users provided instant eyewitness accounts (Beaumont, 2008).

Social media, in this way, provide access to a 'mass of individuals who are directly involved in the incident' and have a 'clearer geographic visualization of the extent of the emergency' (Scherp et al., 2009, p. 3). By partnering with the public, crisis communicators 'can enhance their organizations' ability to gather accurate field data' (Tinker, Dumlao, & McLaughlin, 2009, p. 39). In effect, organizations can both cull user-generated content from social network sites and use the platform for distributing information back to users.

2.5. Listen to the public's concerns and understand the audience

'Whether accurate or not, the public's perception is its reality' (Seeger, 2006, p. 239). Responding to the public minimizes rumours and protects reputations. Beeline Labs (2009a) concluded that reputation management was one of the top reasons for corporate use of social media. Because social media provides a variety of ways for organizations to engage directly with the audience, the outlets are well suited for monitoring and responding to rumours (Waters et al., 2009). For example, the poultry industry engaged blogs when ABC-TV ran its 2006 movie *Bird Flu in America* to respond to rumours that arose due to the movie (Bernstein, 2006). Similarly, Sony prevented rumours from spreading to mainstream media by monitoring and responding to them on the blogosphere after the company announced a delay in the launch of Playstation 3 (Crush, 2006). And after discovering there was a lot of misinformation after Hurricane Katrina, The American Red Cross hired a new media specialist to monitor online conversations. She also responded to blog posts by introducing herself: 'Hi this is Wendy from the American Red Cross and I just wanted to reach out to you and let you know . . .' often receiving appreciative replies from bloggers (Society for New Communications Research, 2008, p. 31). Being able to monitor and attend to evolving stories online 'can be the difference between a grease fire and a four alarm blaze' (Allen, 2007, para 1). Clearly crises can be abbreviated through quick reciprocation via the directness of new media.

Online communities will also self-correct misinformation before organizational representatives have the chance to respond. During the H1N1 pandemic, the CDC wanted individuals to feel free to post their beliefs and concerns, even if they were counter to CDC's science and recommendations (Reynolds, 2010). While this openness allowed several posts on the CDC's Facebook page about flu vaccines causing the flu and vaccines causing autism, within a couple posts the user community would counter the claims and even provide links to online articles debunking the myths from multiple sources, including the CDC. In the midst of the pandemic, CDCs American Customer Satisfaction Index jumped from 74 to 82 (out of 100), and those who used social media gave the CDC higher satisfaction ratings than those who did not (Reynolds, 2010). Even more, 'compared with a sampling of other federal agencies, CDC scored highest for online participation, collaboration and trust' (Reynolds, 2010, p. 21). By understanding the audience's need to post opinions and allowing the online community to self-correct misinformation, rather than trying to control the conversation, CDC demonstrated trust in the user community while establishing itself as a trusted resource.

Maintaining open-lines of discussion where the stakeholders are gathering is important in managing a crisis. Information as disseminated through mainstream news media may seem less personal and useful to local residents in the time of a disaster (Sutton et al., 2008). Information dissemination via peer-to-peer relations, on the other hand, is more relevant to the affected. To speak stakeholders' language, social networks should be used by organizations before the crisis. By maintaining that personal language in crisis response, organizations 'are meeting the demand from stakeholders for timely, accurate information, while also helping to balance the coverage' (Prentice & Huffman, 2008, p. 2). Stakeholders are able to receive authentic, transparent conversation in a human voice as opposed to company messages from faceless managers filtered through the media (Argenti, 2006; González-Herrero & Smith, 2008). Engaging this conversational, human dynamic resonates with stakeholders. Stephens and Malone (2009) found benefits to blog conversations, for example, stating that companies can act quickly and may 'appear more responsive to this need for information' (p. 232). Communication in general, and blogging specifically, can change peoples' perception of a crisis (Coombs, 2007; Stephens & Malone, 2009). Toyota's social media supervisor suggested that 'Being available in real time and listening to stakeholders is crucial – even before you have any more information to share' (Auffermann, 2010, p. 19). He noted that during the extensive recall in 2010 people primarily wanted to ask questions. He alluded that even if you do not have the answer, you increase confidence by allowing for the exchange.

2.6. *Communicate with honesty, candour, and openness while acknowledging risk*

Crisis communicators need to demonstrate honesty, candour, and openness to prevent the public from turning to less-credible sources for information. Communication during and after a crisis affects long-term impressions (Coombs, 2007). Social media can aid in openly disseminating information to as many people as possible because the medium is being widely used and can reach people in otherwise unreachable areas (Hallahan, 2009). When seeking information about a crisis, people frequently speak to one another via social media instead of going directly to a corporate web site (Stephens & Malone, 2009). During emergencies, web traffic spikes have shown that social networks are becoming a commonly used resource (Scherp et al., 2009). Through immersion in these media, which are already being used by information seekers, crisis managers make themselves and their credible information openly accessible, thereby proving a commitment to stakeholders (Johnson, 2009).

Solis (2009) asserts that transparency is scary and the practice has 'long operated behind the puppet master's curtain' (p. 16). Prentice and Huffman (2008) observe that communication practitioners' use of social media 'is inherently controversial and transparent, allowing near real-time information to be disseminated . . .' (p. 1). Visibility, however, is a huge part of social media and thus an effective way to pursue this best practice. Solis (2008) is confident, in fact, that by using the social web, 'many, if not a majority of potential crises are now avoidable through proactive listening, engagement, response, conversation, humbleness, and transparency' (p. 3).

A blog assures the public that an organization is 'not shying away from discussion' of a crisis (Sweetser & Metzgar, 2007, p. 342). By proving that they are not trying to hide anything, an organization can build trust. White, Plotnick, Kushma, Hiltz, and Turoff (2009) agrees that as a mass notification system, social media has a 'number of capabilities for emergencies' (p. 3). Facebook renders mass messaging convenient and quick through status messages. Even if only a relatively small number of friends view an emergency status, peer-to-peer social communication ensures that the message will spread rapidly among many networks. Because those who are tracking messages on social networks have a clear interest in the matter, discourse ignites automatically from those who truly care. Interested stakeholders are partaking in the management of the crisis and are most likely to form the lasting impressions online (Prentice & Huffman, 2008).

Ignoring the stakeholders already searching for information encourages them to turn to other sources for information (Stephens & Malone, 2009). More and more frequently these sources are found through social media (Colley & Collier, 2009; Sutton et al., 2008). Inaccurate or inaccessible information from crisis communicators will only exacerbate the situation. For example, during the California wildfires, when people felt that officials were not providing enough information, social media was used extensively to track the location of the fires and notify citizens if their neighbourhood was in danger (Sutton et al., 2008). Unfortunately, alternate sources may endanger information veracity. Organizations should be available with ample information via social media outlets before a crisis to ensure that information seekers find the accurate sources while perusing the social world.

2.7. *Collaborate and coordinate with credible sources*

In the same way that members of the public can participate in the give-and-take of information via social networking sites such as Facebook, MySpace, Twitter, and Wikipedia, fellow credible sources can gain easy access to an organization's information via the social web. These credible sources' own information can be accessed by crisis managing organizations as well. Before the onset of a crisis, networking with other official sources is imperative to ensure consistent messages. MySpace Chief Security Officer, Hemanshu Nigam, envisions social networks as an online platform where various firms can interact with one another during a crisis (White et al., 2009). Planning to launch dually sponsored Facebook or MySpace pages, for example, may communicate a trustworthy and consistent message in the time of a crisis.

Collaboration via already-established social sites has become imperative. Most communication practitioners who responded in an examination of how social media are being implemented still think social media have a long distance to go before equalling traditional media in terms of truthfulness and transparency (Wright & Hinson, 2009). Working with credible sources via social media can accommodate the ability to both reach wide audiences and also gain their trust. Sweetser and Metzgar (2007) for example, found that credibility perceptions of an organization in crisis are higher after viewing an organization-sponsored blog than after viewing either no blog or a personal blog. Clearly, source credibility is still important online.

2.8. Meet the needs of the media and remain accessible

Despite the fragmentation of news outlets, getting stories into the mainstream media is still crucial. Some publics do not think of new media as being reliable when compared with traditional media (Seo et al., 2009) and still prefer traditional sources. Traditional coverage is therefore vital for emergency managers whose goal is to reach the widest audience possible (Guth & Alloway, 2008). And yet, because of the trust that people have with social media as well as its pervasiveness and speed, some mainstream outlets and organizations have added their own social networks. For example, the BBC invites viewers to share their stories, photos and videos and CNN invites viewers to 'i-report' (Lüders, 2008, p. 694).

While web-based pressrooms have a mixed reputation, reaching mainstream media can be enhanced through social media technologies. Research has shown web press sites often lack detailed and relevant information (González-Herrero & Ruiz de Valbuena, 2006; Guth & Alloway, 2008; Seo et al., 2009; Waters et al., 2009). Specifically, González-Herrero and Ruiz de Valbuena (2006) found that although textual information is generally substantial on online pressrooms, other components such as visual, audio, and video information were lacking and dialogue was poor. Berman, Abraham, Battino, Shipnuck, and Neus (2007) contend that at the very minimum, an organization should provide a description of its history, make use of links, and provide logos and visuals to establish a connection.

The constant updating and uploading of multimedia information to a web site can be cumbersome and requires a certain level of technical skill. However, social media sites make the task of updating contact information and uploading photographs, videos, and audio intuitive for even less-experienced web users. Because social media is a multimodal, conversational, and easily updatable platform, pressrooms can be dynamic and dialogic through usage. As a contact, friend, or follower, the media's access to official information is effortless. The media is instantly alerted when official developments are reported via a wall post, photostream, RSS cast, or tweet.

Ironically, getting news into traditional media may mean first using social media. The phenomenon is so fully embraced by audiences that traditional media outlets can essentially bypass or at least supplement official sources in favour of user-generated content. 'Backchannel news' is becoming a more legitimate source during crises; traditional media have begun to use social media to suit the preferences of audiences (Sutton et al., 2008). Because citizen-generated news is an alternative to public relations-disseminated information, remaining accessible to the media *through* social media is perhaps more important than ever.

Identifying and engaging with relevant bloggers and other social media players before a crisis also offers an advantage. Some bloggers are highly influential – often globally – and may act as allies in a crisis. If they are allies with the organization before a crisis occurs, these online voices have the potential to cast a more balanced view of the event (González-Herrero & Smith, 2008). In the world of user-generated media, recognition and engagement with influential social media players is essential in reaching and influencing stakeholders, whom audience members deem trustworthy.

2.9. Communicate with compassion, concern, and empathy with an appreciation for individual and community's unique decision heuristics

A white paper presented by Beeline Labs (2009b) suggested, 'social media has the power to humanize business' (p. 3). Crises naturally create a need for not only information, but also for human conversation and compassion (Sutton et al., 2008). Social media was designed to connect people to others in the most expedient and personal manner. This humanness makes social media an attractive mode of communication for people who have experienced a crisis and provides an ideal conduit for crisis communicators to display compassion, concern, and empathy. This is consistent with Solis' (2009) recommendation to express 'customer empathy, evangelism, passion, expertise, and knowledge' in the new world of influence (p. 14).

A caring, conversational voice is key in improving relationships with publics during and after a crisis (Sweetser & Metzgar, 2007). Using a blog or another direct-to-audience social platform, an organization can speak directly to its stakeholders without being filtered. Mainstream-mediated information as culled from press releases or journalists – although also vital – takes the organization out of the equation; the audience never has a chance to hear the compassion of the organization or official spokespersons directly nor be assured that actions are truly being taken. The human voice is turned into mere hard news. Social media allows members of a communication team to have 'names, points of views, and an ability to listen' firsthand to stakeholders (González-Herrero & Smith, 2008, p. 150). These are precisely the conversational characteristics that people want from companies. Research has shown, for instance, that using social media in customer support has improved relations with customers because they have direct access to experts (McLaughlin, 2009). The direct and real-time nature of social media and the dynamically personal touch through photo and video sharing, chatting, and conversation, makes it an ideal supplemental touch point between stakeholders and crisis communicators.

2.10. Accept uncertainty and ambiguity

Accepting uncertainty and ambiguity encourages the release of small, cautiously stated, and truthful statements. Practitioners are encouraged to be careful as to not speak overconfidently about the situation. Once released, official statements are impactful and difficult to revise or retract if necessary. And yet, organizations need to provide information as it becomes available. The frequent updates, so crucial in crises, are less likely to make broadcast. Bloggers and social media authorities, on the other hand, will usually 'happily publish your message' (Johnson, 2009, p. 24). Whichever channel is used, corrections and refinements are essential in unfolding situations. Frequent updates are the chief characteristic of microblogging services, like Twitter, and 'an excellent way to send out a brief, crisp message that will satiate whoever may be waiting for an answer, even though it may not illustrate the whole picture' (Johnson, 2009, p. 24). Wright and Hinson (2009) note that social media is ideal to incorporate changes or corrections to the original content of a message. Wikis are also particularly suitable for frequent revisions, even by various members of a team.

Using bits of information from members of the public is another way to present truthful portrayal of what is occurring and allows for information gathering across geographic boundaries (Beaumont, 2008). Emergency managers seeking information can contact those on the scene of a crisis, wherever that scene might be, via social media. The aggregate of information provides a fluid mosaic of the entirety of the situation without compressing it to a concise statement. This kind of information gathering also relieves some of the pressure on the crisis manager. Additionally, the accurate truth can be *shown* instead of just *told* through on-the-scene photos, videos, and wall postings (White et al., 2009). These modes of information when released by users help paint a broad picture of the overall situation.

2.11. Provide messages of self-efficacy

Messages of self-efficacy can help restore a sense of control in an uncertain situation (Seeger, 2006). User empowerment, such as that provided through active participation in wikis and other social networking sites 'can generate a sense of ownership' (Colley & Collier, 2009, p. 35), and crises onlookers can 'leave [the sites] recognizing themselves as *members of a public*' (Center for Social Media, 2009, p. 11). Sutton et al. (2008) found that during crises individuals felt 'a *need* to contribute, and by so doing, were better able to cope with the enormity of the situation' (p. 5). Just seven minutes after the official Virginia Tech notification email was sent to alert students of the shooter, a post had been made to a student's user profile on Facebook asking whether she was OK (Palen et al., 2007). About two hours after the first shooting, an entire Facebook group, 'I'm OK at VT' had been designed for the purposes of self-reporting safety (p. 7). Wikipedia activity began shortly thereafter. People contributed new information, particularly the names of the deceased, as they became known. An accurate list was compiled on social media before Virginia Tech officially announced the names of the deceased (Palen et al., 2007).

Similarly, the people-finder blog, designed and posted by a network of volunteers in 2005, helped find family members and friends following hurricanes Katrina and Rita (Shankar, 2008, p. 117). The Red Cross has also set up a social networking service called Safe and Well to register individuals on a web site so family and friends can find them after a crisis (American Red Cross, 2010). Research by Sutton et al. (2008) also looked at the 35 W bridge collapse in Minneapolis-Saint Paul after which Flickr groups shared relevant links and photographs. Photos were occasionally used for missing persons, but more frequently for insurance purposes with missing items.

Some experiments to leverage social media and provide people with opportunities for self-efficacy are being undertaken. A 'World Without Oil' web site attracted 2,000 gamers from over 40 countries and allowed participants to submit reactions to the energy crisis using YouTube and Flickr (Center for Social Media, 2009). A case study of the American Red Cross and its embracement of social media found the platform was useful in directing people to give blood and thus increase self-efficacy. 'I think people [bloggers] who are giving blood and writing about it have their friends read that, and they are inspired and think about donating blood for themselves. That's influence' (Society for New Communications Research, 2008, p. 32). Following the earthquake in Haiti, individuals were able to take action and donate to the relief efforts simply by sending a text to the American Red Cross (Wortham, 2010). Donation contests for Haiti were also held over Twitter as individuals promised to pledge from 10 cents to 10 dollars for every new follower or pledged donation (Smith, 2010b).

2.12. Acknowledge and account for cultural differences and enact relevant narratives

Whereas traditional media is a generally homogenous medium through which a broad and fixed audience finds news, new media involve a fragmentation of interests and audiences. Anecdotally, it might be observed for example, that high-school age people use MySpace, while college students tend to use Facebook. MySpace, as a case in point, may be viewed as a medium comprising a greater number of minority users, specifically, 'Latino, and mostly lower-income' (Sydell, 2009). Facebook, on the other hand, is used most frequently by upscale suburbanites (Hare, 2009). While more Caucasians use social media, larger percentages of minority populations do; Caucasians are less likely than Hispanics and African-Americans to have a profile on a social networking site (Lefebvre, 2009). Twitter also hosts a unique demographic as younger, more educated, and those with higher levels of income, while LinkedIn is more affluent yet, with about 38% of its users earning $>$\$100,000 a year (Hare, 2009). Fragmentation means that using many veins of new media ensures that different groups of people are reached, but the effort required to post to these various channels is minimal.

Communities of risk can be considered a front line in the marketplace of attitudes, knowledge and perceptions over the distribution of resources. In the social arena, society is the collective enactment of that discussion via narratives (in harmony, in conflict, that build conflict) (Heath, 1994). The narrative used with social media technologies may be even more important. For example, Twitter has often been criticized because of the limited value of narratives in 140 characters or less. The history and evolution of literature is all about writers shaping their work to exploit new technologies, and Twitter literature (Twitterature) is no different.

New media also reaches those deprived of information by censorship. The 2009 Iran elections are a case in point, whereby over two million tweets highlighted for the world the disputed victory of Ahmadinejad using proxy web servers set up abroad (Boyleand & Choney, 2009). Iranians also used YouTube and Flickr to publish their cell-phone captured riots (Parr, 2009). Facebook is being credited with connecting the protesters who ultimately overthrew the Tunisian government in 2011 (New America Media, 2011). And after the Tunisian state television reported protests were 'isolated events', Facebook and YouTube videos, as well as Flickr images showed that the demonstrations were anything but isolated (New America Media, 2011). Especially in cases where the local media is censored, social media may be the most accurate source of information.

In the last decade, cell phones have acted as instrumental communication modes during crises. During and following the 2004 Sumatra-Andaman Tsunami, the 2002 SARS outbreak, and the 2005 London Bombings, victims and others used their phones to communicate when televisions, newspapers, or radios were either unavailable or had not yet broken news of these obviously unexpected events (Gordon, 2007). Likewise, in the midst of a media blackout, short message services (SMS) from mobile phones became the primary news source following the postelection violence in Kenya (Makinen & Kuira, 2008). While people were able to communicate with others in the heat of the crisis to receive information, official remarks were lacking in this peer-to-peer communication.

Unfortunately, even social media cannot bridge the 'digital divide', signified by low-education and low-income groups having more restricted access to communication technologies (USDHHS, 2000). While the use of social media in most cases is free, the technology needed for access is not. Subscriptions are needed to read the newspaper, televisions are needed to view the news, and access to a computer or cell phone is needed to take part in the online interaction. Therefore, additional research and resources are needed to reach those without access.

3. Conclusions and implications

The analysis shows that social media can be used to assist organizations in following best practices in risk and crisis communication. In fact, a myriad of benefits exist with regard to better managing risks and crises. Direct access between consumers and organizations allows for squelching rumours (Waters et al., 2009); social media works when other modes of communication fail, as often is the case in disaster situations (Shankar, 2008); and, commenting on blogs and other networks shows concern and gives the impression that an organization is not shying away from discussion about the incident at hand (Johnson, 2009; Sweetser & Metzgar, 2007). And yet, communication practitioners tend to still prefer the one-to-many approach to communication and are often apprehensive of the public setting the agenda (González-Herrero & Smith, 2008).

Some concerns are valid regarding technology failure, hackers, stalkers, viruses, flaming, uncertain information, and the ease at which misinformation can spread (White et al., 2009). New technologies allow the entire online community to obtain information that can potentially create more problems for those tasked with managing a crisis. For example, professionals using mobile devices in a crisis or disaster situation must be prepared with adequate training. Otherwise, they might inadvertently consume the entire available bandwidth or cause a complete network crash (Stephenson & Bonabeau, 2007). Officials might experience 'sousveillance', in which bystanders use their phones to record video or take photos of emergency personnel who are not acting professionally (Stephenson & Bonabeau). Under the stress of a crisis, the immediacy of digital communication might result in false information being communicated to stakeholders (Vieweg, Palen, Liu, Hughes, & Sutton, 2008). In addition, stakeholders can use social media to create and disseminate their own influence, de-centralizing the dissemination of information and reducing official control, which is often very daunting to organizations. Following the British Petroleum (BP) Deepwater Horizon oil-rig explosion @BPGlobalPR, an anonymous, satirical Twitter account, had $>$10 times as many followers within 1 week as the official BP site @BP_America (Poniewozik, 2010).

Despite these potential negative outcomes, the greatest reason for communication practitioners to use social media in managing crises is that stakeholders are already using social media to communicate about crises (Guth & Alloway, 2008; Palen et al., 2007; Scherp et al., 2009; Waters et al., 2009). With increasing frequency, the public turns to the Internet to learn details in a crisis. If crisis communicators choose to opt out of the online forum, the conversation on the crisis will continue through social media without the organization's voice being heard. Embracing social media does not mean crisis managers should discontinue their use of mainstream media. Of practitioners who use both traditional and new media, 85% have found that the media compliment one another (Wright & Hinson, 2009). According to Rand and Rodriguez (2007), old and new media are essentially now the same. Crisis communication practitioners need to be experts in both types of media. The overarching problem with crisis communicators' adoption of social media is that many do not yet fully understand what social media is and how it can assist them in managing an issue or crisis (Marken, 2007).

This analysis married literature and examples of social media use with best practices in risk and crisis communication to demonstrate how crisis communicators can embrace social media tools to better manage a risk or crisis. The following recommendations are provided to incorporate social media tools in risk and crisis communication.

1. *Determine social media engagement as part of the risk and crisis management policies and approaches:* Every crisis communication plan should have a section for communicating with stakeholders and working with the media. Social media can be used to both communicate directly with stakeholders and the media at the same time. More importantly, social media provides a built-in channel for stakeholders to communicate directly with the organization. Incorporating social media into the plan ensures the tools will be analysed and tested before the crisis and requires continual updating of the communication plan as social media evolves.
2. *Incorporate social media tools in environmental scanning to listen to risk and crisis bearer concerns*: The most important use of social media identified in this analysis is the opportunity it provides, if used well, to listen to the concerns of consumers and other risk bearers. When users create and manage their own content, external and internal social media monitoring (listening) becomes even more critical. In addition, tracking issues through social media and providing the crisis management team with the reports can increase the potential that a crisis will be addressed sooner and demonstrate to the team why social media needs to be embraced in the crisis response. At the very least environmental scanning of web 2.0 media is critically important as indicated by the US intelligence community being very concerned that terrorists might use microblogging sites such as Twitter and other social media to coordinate attacks (Musil, 2008).
3. *Engage social media in daily communication activities*: Individuals may have information that is crucial to the mitigation of the crisis, but if they do not trust the organization or even know where to find it, that information will likely not be shared. In the midst of a crisis is not the time to suddenly try a hand at social media. To build partnerships and build trust, the discussion with publics should already be taking place. Internally, using social media like wikis on day-to-day projects can streamline inter-organizational communication and increase efficiency. Involving the crisis management team in the development of the crisis plan and document management site through social media, rather than handing the task off to a single individual, increases the potential for interactivity in the crisis response
4. *Join the conversation, including rumor management, and determine best channels to reach segmented publics*: Having a profile on a social media site is not enough. While a practitioner can track issues as a silent fly on the wall post, interaction is essential in addressing misinformation and establishing the organization as a credible source. Responding to posts demonstrates the organization cares what stakeholders think and can be trusted to address their concerns. Reaching specific publics with a key message is a foundation of targeted communication. However, in crisis communication, practitioners often resort to the standard mass media push to reach everyone at once. Crisis communicators must still consider how messages will be interpreted and who will not be reached. After all, those who face the greatest risks are often those with the least access to information (USDHHS, 2000). Determining the best communication channels for publics offline, online, or in the community should be incorporated in crisis communication.
5. *Check all information for accuracy and respond honestly to questions*: Inaccurate information shared and retweeted not only makes the organization look bad, but the user as well. And, while it is easier to simply skip over a post to which you do not want to respond than it is to ignore a pointed question from the media, the public, like the media, will turn to other sources if the organization stonewalls on key issues. If you do not know they answer, it is better to communicate the uncertainty of the situation and explain what you are doing to find out the answer than to answer incorrectly or not answer at all.
6. *Follow and share messages with credible sources*: Collaborating with trustworthy and supportive sources can not only embellish the credibility of the organization, but also, increase the reach of the organization. By cross posting and retweeting messages among partner organizations, a coalition of credible sources is established and more individuals are reached through the shared networks.
7. *Recognize the media is already using social media*: The crisis will likely be discussed through social media, and traditional media will be part of that discussion. If the organization is not engaged, the media will find other sources through social media to comment on the crisis. Thus, when it comes to being accessible to the media, not engaging in social media can have the same effect as not returning a reporter's call.
8. *Remember social media is interpersonal communication:* Social media allows for human interaction and emotional support and has been shown to be important to stakeholders dealing with crises (González-Herrero & Smith, 2008; Sutton et al., 2008). Generic marketing blurbs will be seen as cold, callous, and impersonal and will not encourage the relationship building and mending needed in a crisis. Armon (2010) suggests that organizations

should be ready with the kill switch in case of a crisis. It took 2 days after 11 September 2001 for advertisers in Times Square to change their billboards to messages of sorrow, charity, or patriotism. Two days is a lifetime online. Incorporating and responding to emotional appeals are ideal for social media, but organizations have to be ready to move to that message exchange in an instant.

9. *Use social media as the primary tool for updates:* Organizations often promise to follow-up with the media and public as soon as they have new information, and yet, they wait to release that information until a press release can be drafted, refined, and sent out or posted passively to the organization's web site. Or, in order to convey the emotional concern required, wait until the next scheduled press conference. Using social media for updates in the crisis response and recovery allows the organization to humanize the response and continue to be a reliable source, without requiring all the exact details and time needed to fill a press release or hold another press conference.
10. *Ask for help and provide direction:* Giving people something meaningful to do in response to crisis helps them make sense of the situation. As a partner in the crisis response, the public can provide essential information. By providing that information, social media users are taking action. When an organization requests useful information via social media, it helps both the organization and the stakeholders who respond in managing the crisis. If there are actions individuals can take to reduce risks or assist in the recovery efforts, social media is an ideal forum for reaching stakeholders with the directions needed. Even more, by simply forwarding, cross posting, or retweeting the directions, the users are taking action.
11. *Remember web 2.0 is not a Panacea:* Social media remains a channel despite its technology advancements, rapid access to information, large numbers of stakeholders, low cost, and ease of use. The power to communicate remains with the communicating organization and their behaviours and narrative content, not in the technology. 'The real value of any communication – social media included – remains the quality of the content being disseminated around the actions a brand or company is taking, the empathy for affected stakeholders being displayed, and the appropriateness and relevance of the context and perspective being provided' (Aherton, 2009, p. 3). Thus, using social media is not a best practice in risk and crisis communication. Social media is a tool that can assist practitioners in following the best practices in risk and crisis communication.

The recommendations provided here incorporate social media tools in risk and crisis communication. As channels of communication are becoming more diffused, reaching the public through their preferred media is essential (Guth & Alloway, 2008). Therefore, crisis communicators must excel in engaging both traditional and social media (Rand & Rodriguez, 2007). This analysis demonstrated how crisis communication practitioners can embrace social media tools to better manage a risk or crisis. After all, as Johnson (2009) suggests, the philosophy that social media and crisis communications are two separate segments of a communication practitioner's career simply 'doesn't work anymore' (p. 23). At the end of the day it's about balancing social media interaction and the organizations' desire for information control in order to most effectively communicate with stakeholders and publics. Used thoughtfully, social media, can improve risk and crisis communication efforts.

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