

CRISIS AT THE FINISH LINE: A THEMATIC ANALYSIS OF INSTRUCTING
INFORMATION VIA TWITTER

A Thesis
Submitted to the Graduate Faculty
of the
North Dakota State University
of Agriculture and Applied Science

By

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In Partial Fulfillment of the Requirements
for the Degree of
MASTER OF ARTS

Major Department:
Communication

November 2014

Fargo, North Dakota

North Dakota State University
Graduate School

Title

Crisis at the Finish Line:
A Thematic Analysis of Instructing Information via Twitter

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The Supervisory Committee certifies that this *disquisition* complies with North Dakota State University's regulations and meets the accepted standards for the degree of

MASTER OF ARTS

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ABSTRACT

This study expands current crisis communication research by exploring the communication of instructing information via Twitter. Drawing from the internalization, explanation, and action components of Sellnow & Sellnow's (2013) IDEA Model, this study analyzes live tweets posted by the Boston Police Department during the 2013 Boston Marathon bombing crisis. Examining Tweets posted during a crisis allows us to better understand what constitutes useful, valuable instructing information that can be communicated via social media in real time. Further, scholars have just begun exploring social media's implications for crisis communication. This study extends the IDEA Model to reach crisis communication and social media. Findings also indicate the three components of the IDEA Model are valuable topics to consider when communicating instructing information via Twitter. Finally, we learn that Twitter's 140 character limit does not impede the social media platform as a vehicle to communicate instructing information during a crisis.

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CHAPTER ONE: INTRODUCTION

In recent years, social media has changed the way the public communicates about sudden crises, such as natural disasters and terrorist attacks (Semple, 2009). Scholars have noted that controlling information flow is one way to aid the successful management of a crisis (Wigley & Fontenot, 2010; 2011). Prior to social media, crisis information ideally flowed from the crisis manager to the news media to the public. More recently, however, social media users have begun to intercept this information flow and become part of the crisis communication efforts by sharing and re-sharing information. In doing so, they create the potential information spread to millions of people with only a few clicks (Veil, Buehner, and Palenchar, 2011).

A 2013 Pew Internet study found that 73% of online adults in the U.S. now use a social networking site of some kind (Smith & Duggan, 2013). According to the same study, Facebook is the most popular social media platform with 71% of online adult users, while 18% of online adult users are engaging with Twitter. Additionally, Twitter use is particularly high among younger adults and African Americans. Additional demographics for Twitter users include:

- Virtually an equal amount of male and female Twitter users.
- Twitter is most popular with 18- to 29-year-olds.
- Twitter adoption levels were highest among Black, Non-Hispanic users, while White, Non-Hispanic and Hispanic users tied for next highest number of users.
- Education levels among Twitter users consist of relatively equal percentages for categories, including high school graduate or less, some college, or college plus.
- Income levels for Twitter users were broken down into four categories, including less than \$30,000 per year, \$30,000-\$49,000 per year, \$50,000-\$74,999 per year, and \$75,000 plus. The highest percentage of Twitter users are within the greater than \$75,000 range,

while the second highest percentage fell within the \$30,000-\$49,999 range. However, none of these percentages resulted in a statistical significant difference.

- Twitter use is most common with individuals who reside in urban and suburban areas.

Because of the high numbers of users, social media platforms such as Facebook and Twitter can rapidly disseminate information to large audiences. Therefore, crisis communicators have started turning to these communication mechanisms during times of crisis. For example, when Southwest Airlines Flight 345 landed nose first at LaGuardia on July 22, 2013, crisis communicators began posting updates on Twitter and Facebook only minutes after the crash (Fisher, 2013).

During a crisis, researchers agree that it is critical to provide *instructing information* for stakeholders (Coombs, 1999a; Seeger, Sellnow, & Ulmer, 2003; Sturges, 1994). Not only does it guide people by telling them how they should physically react to the crisis, it can also help motivate people into action. (Coombs, 2007; Sturges, 1994). To communicate crisis information quickly and motivate individuals, crisis managers are turning to social media.

Because it is a relatively new communication concept, there are challenges that come with utilizing social media. For example, it is important to provide truthful, frequent information that is easy to understand. However, because social media makes it easy to post updates frequently, crisis communicators should make sure they are providing accurate information and being careful not to overload the public with unnecessary information (Netten & van Someren, 2011).

A strong understanding of the attributes of the social audiences a crisis manager is communicating with and the communication platform they are using can help increase efficiency and effectiveness of a crisis message (Kerkhof, Schultz, & Utz, 2011; Stephens et al., 2005).

Providing information that motivates action is particularly important when communicating during a crisis because it helps ensure the affected individuals will listen and react in a way that prevents additional harm.

Providing instructing information can often reduce the damaging effects of a crisis. To help illustrate this concept, this study will draw from Sellnow and Sellnow's (2013) IDEA Model to guide our understanding of how Twitter can provide this type of information to the larger public during a crisis situation. Understanding what components affect the communication of instructing information via Twitter will be integral in providing further evidence to support the use of crisis communication in social media. To investigate crisis communication by way of Twitter, this study will examine 147 live tweets issued by the Boston Police Department (BPD), during the 2013 Boston Marathon Bombing crisis and subsequent five-day manhunt for the bombing suspects.

Significance

On Monday, April 15, 2013, tragedy struck at the finish line of the Boston Marathon. Two bombs exploded, killing three people and injuring 264 (Kotz, 2013, April 24). One of running's most significant events, more than 23,000 runners took part and nearly half a million spectators were in attendance to offer their support. When the first bomb detonated near the finish line around 2:50 p.m., officials reported that three-quarters of the runners had finished the race. The second bomb went off 13 seconds later, several hundred feet away (Eligon & Cooper, 2013, April 15). About 17,580 runners finished the marathon (Rohan, 2013, April 15).

Crisis messaging following the deadly blasts immediately appeared in media reports and on social media websites. The public heard or read statements from officials, including U.S. President Barack Obama, the F.B.I., the BPD, and Massachusetts Governor Deval Patrick.

Messages from the president and FBI focused on bringing those responsible for the blast to justice, while messaging from the BPD and governor provided information about the blasts, reasoning for why they may have occurred, potential suspects, and what people should do to protect themselves from further harm (Eligon & Cooper, 2013, April 15).

Initially, the BPD turned to their blog to push out information regarding the marathon bombing. But because it was already a well-know resource for police information, heavy online traffic spiked and caused the site to crash (Swann, 2013, May 24). The BPD immediately turned to its Twitter account (<https://twitter.com/bostonpolice>) and began tweeting messages using the hashtag #tweetfromthebeat because they knew it was imperative to provide information about the situation in order to protect the community. The BPD's Commissioner Ed Davis and Public Information Chief Cheryl Fiandaca believed Twitter to be the best defense against misinformation and quickest way to communicate critical, trustworthy information about the Boston Marathon Bombings (Bindley, 2013, April 26). Many news media proceeded with continuing coverage of the crisis throughout the coming days, often citing the [@bostonpolice](https://twitter.com/bostonpolice) Twitter handle as a news source.

Not only did the BPD push out information during the crisis, they also listened. On Wednesday, April 17, 2013, several news media, including The Associated Press, The Boston Globe, CNN, Fox News, and several local Boston television stations, mistakenly reported an arrest had been made or a suspect was in custody (Carter, 2013, April 17). The BPD responded to set the record straight by tweeting, "Despite reports to the contrary there has not been an arrest in the Marathon attack" (Boston Police Department, 2013, April 17). Because they were paying attention to the larger conversations surrounding the attack, the BPD was able to build further credibility with its audience by providing clarification on the inaccurate reporting.

Later that day, the F.B.I. released photographs and video of two men and urged the public to come forward with any information surrounding the suspects (Seelye, Cooper, and Schmidt, 2013, April 18). The BPD also tweeted images of the suspects, who were later identified as Chechen brothers Dzhokhar and Tamerlan Tsarnaev, and also asked for the public's assistance. And the people listened. Thousands of Twitter followers retweeted the information. In fact, throughout the duration of the crisis, it is estimated the BPD Twitter account reached 49 million people (Swann, 2013, May 24).

The same evening around 10:20 p.m., the two suspects were found after they killed a campus police officer at the Massachusetts Institute of Technology, carjacked a vehicle, and led police on a chase, which transpired into shootout (Seelye, Cooper, and Schmidt, 2013, April 19). Tamerlan later died from injuries suffered in the gunfight. Law enforcement continued searching for Dzhokhar throughout most of the next day, causing much of the Boston area to be shut down.

On April 19, 2013, the BPD engaged in a manhunt for the remaining suspect and the police continued posting tweets, instructing Bostonians to stay in their homes and informing citizens that uniformed officers were conducting a door-to-door search and their adherence was critical (Boston Police Department, 2013, April, 19). The BPD also tweeted a message to the media warning them not to compromise officer safety by broadcasting tactical positions of homes being searched (Boston Police Department, 2013, April, 19). Throughout the day, the BPD proceeded to tweet messages, including crisis information and expressions of compassion, encouragement, and sympathy for crisis victims.

After an intense manhunt, police discovered Dzhokhar Tsarnaev hiding in a boat on the evening of April 19, 2013. After a gunfire exchange, the suspect was captured and brought into custody. At 7:45 p.m., the BPD tweeted, "Suspect in custody. Officers sweeping the area. Stand

by for further info” (Boston Police Department, 2013, April 19). A few minutes later they posted another tweet announcing that the suspect had indeed been “CAPTURED!!!” (Boston Police Department, 2013, April 19). The BPD’s final tweet of the day came at 10:23 p.m. and included a message of gratitude to the nation, stating “#tweetfromthebeat The Boston Police Appreciates the love and support of the USA. GOD BLESS AMERICA, BOSTON STRONG!” (Boston Police Department, 2013, April 19).

The BPD's social media efforts marked the first time a police department led a conversation with citizens during a crisis (Bar-tur, 2013, April 22). The rise of BPD Twitter followers and the amount of *retweets* illustrated the public found Twitter to be a credible source for crisis information surrounding the Boston Marathon Bombings. When the crisis had finished, the BPD Twitter account had grown from 54,000 to more than 330,000 (Swann, 2013, May 24).

As demonstrated in the case of the Boston Marathon Bombings, we continue to see increased web traffic when crises occur. Research has shown the public increasingly considers the Internet to be the most reliable source for news (Liu, Austin, & Jin, 2011; Taylor & Perry, 2005). This was illustrated in the Boston Marathon crisis when a large number of visitors caused the BPD blog to crash. Similarly, when the F.B.I. posted images of the bombing suspects on its website, they saw a record number of visitors also causing it to crash for a short time (Seelye, Cooper, and Schmidt, 2013, April 18).

Much of increased web traffic during crisis events can be attributed to both news media and the larger public visiting social media sites to seek information. While scholars agree that social media can be valuable for providing a crisis response, evidence to support its successful use is limited (Hallahan, 2009; Wigley & Fontenot, 2010). Therefore, a study of Twitter as a platform to communicate crisis information is necessary to help fill this research gap.

A fairly new communication platform, Twitter enables crisis managers to reach a large audience quickly. Further, Twitter's incorporation of the hashtag allows users to target a conversation to a specific audience because it turns any word or group of words into a searchable link, allowing users to organize content and track discussion topics (Hiscott, 2013, October 8), including those of the Boston Marathon Bombing such as #tweetfromthebeat, #bostonstrong, and #handsoverhearts.

With its first tweet sent out on March 21, 2006, Twitter has grown to 241 million active users across the world who now are sending an average of 500 million tweets per day (Twitter, 2014). Additionally, 77% of Twitter accounts are from outside the U.S. and Twitter has the capability to support more than 35 languages (Twitter, 2014). Consequently, Twitter can be a powerful resource for communicating information during crises, such as a terrorist act.

An act of terrorism, such as the Boston Marathon Bombing, is an intentional action designed to harm individuals directly (Coombs, 1995). During these crises, it is crucial to provide clear, consistent information so the public knows what to do to safeguard themselves from further harm and so they can begin to make sense of the situation. Without clear communication, there is an increased likelihood of additional, unnecessary negative effects surrounding the crisis, such as negative behavior from crisis victims or reputational damage of the agencies attempting to manage the crisis.

These negative affects only create additional turmoil in an already chaotic situation. Because crises like the Boston Marathon Bombing have the potential to escalate quickly with additional attacks or other unexpected incidents due to the uncertainty of the terrorist's intent, instructing information can provide guidance so individuals can focus on protecting themselves from additional harm.

The inherent uncertainty that accompanies crises often complicates a victim’s decision-making processes because there are many questions about the event that may not have immediate answers (Seeger, Sellnow, & Ulmer, 2011). When an individual’s thought process is clouded, they may be slow to respond to instructing information that explains what to do to protect themselves. Therefore, it is important for crisis managers to disseminate clear, consistent messaging. If communication is ambiguous; conflicts with messaging from other individuals, groups, or organizations involved in the crisis; or is not credible, crisis victims might ignore critical information that could offer protection from further harm (Seeger et al., 2003).

To develop useful communication during crisis situations, it is important to understand the varied definitions of crisis. A few examples include:

Table 1. Definitions of a Crisis	
Definition	Scholar
An event that threatens the image of an organization.	Barton (1993)
A sudden an unexpected event that threatens to disrupt an organization’s operations and poses both a financial and a reputation threat. Additionally, crises can harm stakeholders physically, emotionally and/or financially.	Coombs (2007)
A crisis is a major occurrence with a potentially negative outcome affecting the organization, company, or industry, as well as its publics, products, services, or good name.	Fearn-Banks (2011)
An event that brings, or has the potential for bringing, an organization into disrepute and imperils its future profitability.	Lerbinger (1997)
The manifestation of a risk.	Heath & O’Hair (2011)

While each of these definitions fluctuates, one similarity throughout is that each meaning is concerned with threat or risk. Crisis response has been identified as the most critical stage in crisis communication because it is the point when crisis managers make decisions that mitigate the effects of threat and risk associated with crises (Hale, Dulek, & Hale, 2005). Scholars

ascertain that crisis response should be delivered quickly; consider stakeholder concerns; be honest, open, and candid; meet the needs of media; be communicated with compassion, concern, and empathy; and contain messages of self-efficacy (Coombs, 1999a; Seeger, 2006). This study will look at how these criteria can be met using social media and, therefore, will provide additional guidance for disseminating information via social media during crises.

Rationale for Study

While crisis communication has been widely studied in academic literature, the incorporation of research surrounding newer online technologies, like social media, in crisis communication strategy is in its infancy, but definitely growing.

Within the realm of traditional media, much of the scholarly work pertaining to crisis communication focuses on prevention and what to say after a crisis has occurred (Coombs, 1995, 1998; 1999; Coombs & Holladay, 2008; Heath, 2007; Huang, 2011; Massey, 2001; Netten & van Someren, 2011; Seeger, 2006; Sturges, 1994). Therefore, more research is needed that focuses on communication during a crisis event.

Sturges (1994) has examined the changing dynamics of the public opinion process during a crisis and suggests that communication content should focus on three categories of information during a crisis. These include: instructing information that tells people affected by the crisis how they should physically react to the crisis; adjusting information that helps people psychologically cope with the magnitude of the crisis situation; and internalizing information that people will use to formulate an image about the organization. This study focuses on instructing information.

Additionally, much crisis communication research is centered on organizational crises and reputational protection or image repair (Benoit, 1997; Coombs, 2007; Coombs & Holladay, 2002, 2006). Therefore, more communications research is needed to expand our knowledge

about the usage of social media during crises that occur outside the walls of an organization, particularly in areas such as terrorist attacks and natural disasters.

In recent years, crisis communication literature that examines the incorporation of online communication technologies has gained a great deal of attraction from academic researchers (Gonzalez-Herrero & Smith, 2008; Perry, Taylor, & Doerfel, 2003; Stephens & Malone, 2009; Taylor & Perry, 2005). While much of the literature takes more of an all-encompassing approach to crisis communication and these new technologies, some has begun to delve into specific social media platforms like Facebook, Twitter, and blogs (Baron & Philbin, 2009; Bennet, 2009; Borremans, Boyd & Ellison, 2010; Kerkhof, Schultz, & Utz, 2011; Reynolds, 2010; Schultz, Utz, & Goritz, 2011; Semple, 2009; Sweester & Metzgar, 2007; Utz, Schultz, & Glocka, 2013; Veil, Buehner, & Palenchar, 2011).

These researchers have explored topics such as spreading crisis information quickly to a targeted audience, building trust and credibility through social media conversations before and during crises, and the challenges that accompany crisis communication via social media. Because social media platforms are popping up at such a rapid pace, further research is needed that pays attention to not only the specific social media platforms, but also interactions of the crisis manager and the social media user. This would guide our understanding of how a social medium can be a valuable tool for sharing crisis information. With hundreds of social media platforms available, it is important that research start examining the individual platforms.

General Purpose of Study

This study will investigate Twitter as a crisis communication platform. To further understand, this study will utilize components from Sellnow & Sellnow's (2013) IDEA Model to analyze Tweets sent out during the Boston Marathon Bombing crisis. The IDEA Model is a

practical, audience-centered model (outlined in Appendix A) that uses four key components: internalization (I), distribution (D), explanation (E), and action (A). Using these components, the authors assert that instructional messages created from this model have resulted in more accurate perceptions and more appropriate responses from receivers.

The IDEA Model guides the communicator in creating applicable instructional messages (Sellnow & Sellnow, 2013). The first step begins with *internalization*, which focuses on “gaining and maintaining audience attention by demonstrating the relevance of potential risk to them,” (Sellnow & Sellnow, 2013, p. 3). To do this, the authors’ research indicated that crisis managers must emphasize proximity, timeliness, and personal impact in their message.

The second step to creating applicable messaging is *explanation* of the situation. This includes briefly telling the receiver how the situation developed, the science behind it, what is anticipated to happen next and what is being done in response to it (Sellnow & Sellnow, 2013). In order to be effective, the authors contend that an explanation component must also be understandable by the target audience and given with the internalization and action components.

The third component of the IDEA Model includes communicating specific and meaningful *actions* receivers must take to protect themselves (Sellnow & Sellnow, 2013). The authors have found that when communication does not include action steps, receivers feel helpless or may simply do the wrong thing.

The fourth and final step of the IDEA Model includes making strategic choices regarding message distribution. This means being aware of how different audiences prefer to or have the means to receive the information (Sellnow & Sellnow, 2013). The authors explain that effective “communicators must thoughtfully choose the media through which to share our messages if we are to reach all segments of an at-risk population (Sellnow & Sellnow, 2013, p. 3).

Based on decades of previous research, Sellnow & Sellnow (2013) argue that what one says and how one says it influences not only perceptions, but also the actions people do or do not take as a result. Thus, the IDEA Model is an effort to identify the best practices for providing instructional information. Expanding this model to crises could have the potential to provide a similar affect.

Even though the IDEA model was created with a focus on risk communication regarding food safety, it is useful in this study because similar concepts should be considered when communicating instructional information during crisis events – especially incidents like a terrorist attack. For example, a food scare impacts large numbers of people without warning, as does a terrorist attack. In both situations, a crisis manager’s goal should be to reduce and contain harm in order to protect affected individuals. Therefore, analyzing BPD live Tweets using the internalization, explanation and action components of the IDEA model can help increase our understanding of Twitter use for communicating instructing information during a crisis.

In an effort to provide clarity and because social media is a relatively new communication platform, a table outlining some of the major social media and crisis communication terms and definitions utilized throughout the study can be found in Appendix B.

Delimitations

For this study, only Tweets from the BPD during the Boston Marathon Bombing crisis have been selected for analysis because the focus will be on how an official organization managed crisis communication via social media. Rather than examining all sources of information such as tweets from followers and two-way communication, the tweets found in the BPD Twitter feed can help identify the components that were considered when communicating instructional information and how these messages were stated in 140 characters or less. While

other sources, such as media outlets, officials from the FBI, and even U.S. President Barack Obama provided updates and other crisis communication during the crisis, the BPD Twitter account offered continuous, live tweets throughout the crisis. Therefore, the BPD Twitter feed offers a comprehensive look into communication during the entire crisis situation – from the bomb detonation to the capture of the alleged bomber.

Additionally, the data set only includes tweets posted from the point the bombs were detonated on April 15, 2013, until the bombing suspects were captured and taken into custody on April 19, 2013. There may have been additional tweets following the capture, but because this study focuses on communications during the crisis, only live tweets posted during the crisis will be analyzed.

Further, the purpose of this study is not to test the idea model. Because the model provides a solid understanding of what constitutes the creation of a good instructional message, this study will use three of the four components to guide the analysis of crisis messaging via Twitter. Because the distribution method of instructional messaging is through Twitter, the distribution component of the IDEA model will not be considered.

Conclusion

The current chapter highlighted the importance of integrating newer online technologies, such as social media, into crisis communication. High adoption levels of social media use (Twitter, in particular) during crises were illustrated, providing a rationale for additional exploration of how crisis managers can successfully communicate via newer online communication platforms like Twitter.

Additionally, the chapter drew attention to the gaps in research, including more research that examines integrating social media and crisis communication, focuses on communication

during a crisis, expands our knowledge about the communication during crises occurring outside the walls of an organization, and focuses on specific social media platforms allowing us to gain a better understanding of the user audience. By further understanding the relationship between the crisis communication and Twitter user, this study can provide further knowledge that guides our understanding of how to best respond during crisis situations.

Finally, the particulars of the IDEA Model were introduced as a way to analyze live tweets sent out during the Boston Marathon Bombings and to understand how instructing information can be provided via Twitter during times of crisis. Since what is said and how one says it can influence perception and also the actions of those affected by the crisis, it is crucial to provide instructional information that clearly tells individuals how to protect themselves during a crisis (Sellnow & Sellnow, 2013). The IDEA Model seems to constitute a good methodology for creating a crisis response and, therefore, the internalization, explanation, and action components will be used to guide this study.

Chapter two contains a review of scholarly literature surrounding crisis communication and the integration of newer online communication technologies and the strategies used to develop applicable crisis messaging. Research gaps also are discussed in more detail. The chapter concludes with specific research questions to guide the study.

Chapter three will provide a thorough description of the methodology that will be used to complete this study. Chapter four will provide a report of the findings and chapter five will conclude the study. The final chapter will include a discussion of the results, followed by an implications for future studies section.

CHAPTER 2: REVIEW OF LITERATURE

Within the realm of traditional communication methods, much research has been conducted on what to say to the public when a crisis takes place. However, much of the research focuses on what to say following a crisis. With the evolution of online technologies, more research is needed to understand how to communicate crisis information in real time using social media platforms, such as Twitter. The present study draws on four research areas, including: crisis communication strategy, perception of crisis response, the integration of social media and crisis communication, and the IDEA Model. These areas of research provide direction for a study that will offer guidance for creating instructing information via social media during a crisis.

Crisis Communication Strategy

A solid understanding of the crisis situation and the relevant audience(s) should be a major influence for a crisis manager when choosing an appropriate crisis communication strategy (Benoit, 1997; Coombs, 1995). In order to analyze crisis situations effectively, much of the research conducted within the past two decades, divides a crisis into three stages: precrisis, crisis, and postcrisis (Coombs, 2012). Similarly, Hale, Dulek, & Hale (2005) have described the three stages as prevention, response, and recovery. Scholars contend that what is said and done during the crisis response phase can have the most significant impact on managing the crisis successfully (Benoit, 1997; Coombs, 1999a; Hale et al., 2005). Therefore, a closer look at the crisis response stage is needed because it can help guide our understanding of how to communicate instructing information in real time that offers protection from harm during a crisis.

Many crises start with a triggering event and continue until stakeholders consider the situation to be resolved (Coombs, 2012; Hale et al., 2005). For example, the Boston Marathon crisis began when bombs were detonated and ended once the suspects were captured. Once a

crisis strikes, stakeholders expect a quick, consistent, and transparent communication (Coombs, 1999a; Seeger, Sellnow, & Ulmer, 2011). Not all crisis situations allow time for instructing information, but whenever possible a crisis response should include messaging that aims to protect crisis victims from additional harm (Coombs, 1999a; Sturges, 1994). Without a response, stakeholders will fill the information void with speculation from whoever is willing to disclose information (Coombs, 1999a, 2012; Heath, 2006). This could only add uncertainty to an already volatile situation. Having a solid understanding of the type of crisis being encountered will help a crisis manager provide appropriate instructing information based on the situation.

Many crisis scholars have attempted to identify and classify the various types of crises because it allows the crisis manager to assess where responsibility lies (Coombs & Holladay, 2002). Once responsibility is determined, crisis managers can begin to formulate how they should respond to the situation because they know more about the cause and where blame will be placed. Coombs (2007) explains that when there are weak attributions of crisis responsibility, an organization will face mild reputational threat. When there are greater attributions of crisis responsibility, an organization will face stronger reputation threat (Coombs, 2007).

While the list of potential crisis types is extremely long, Coombs (2007) has classified them into three clusters, including victim, accidental and preventable. Victim crisis types may include natural disasters, rumors, workplace violence, or malevolence (Coombs, 2007). While much crisis communication research is centered on reputational protection and image repair, crises in the victim cluster with low reputational threat need further attention. Additional research of these types of crises can help us better understand how to communicate during crises when there is more at risk than organizational reputation.

The Boston Marathon Bombing falls within the victim cluster and, as previously noted, these crises are different because they are a malevolence crisis type that has varied dimensions of attribution. Coombs explains that malevolence is “when some outside actor or opponent employs extreme tactics to attack the organization, such as product tampering, kidnapping, terrorism, or computer hacking,” (Coombs, 2015, p. 67). These crisis types are good candidates for which to consider what communication is necessary to divulge while the situation is still unfolding and for focusing a crisis response that incorporates instructional information because crisis victims will need to know how to protect themselves from additional harm. In these situations, the reputational threat could come after the crisis if the managing organization or crisis manager does not respond in a way that is sympathetic to the crisis victims’ needs.

Due to high levels of stress from a malevolence crisis, such as a terrorist attack, challenges in processing information arise. People’s minds can become clouded as they are overcome with emotion, making it difficult to retain a large number of details or even engage in protective behavior (Sandman, 2005). Therefore, it is important to provide clear and consistent communication (Municipal Advocate, 2007). Prior to social media, traditional news media was instrumental in getting this information out to the public. However, since social media has entered the scene, we have seen an interruption in the information flow with the creation of citizen-generated news content.

Instead of information flowing from the crisis manager to the media to the audience, social media users now share news via social media platforms. Some scholars have examined the impact of communication channels on the effects of crisis response strategies, but more research is needed to understand if the social media communication channel impacts the perception of the crisis response in any way.

Once the crisis type is known, crisis communicators can create messaging that applies to these crises. For some situations, the crisis manager may focus their communication on reputational protection or image repair. However, other types of crises in which there is low reputational threat may require messaging that focuses on protecting the receiver or stakeholder. In recent years, scholars have identified a number of models that outline common crisis response strategies. The below table illustrates several of these models:

Table 2. Theories and Models of Crisis Communication Strategy				
Theory/Model	Author	Definition	Key Characteristics	Crisis Response Strategies
Crisis Communication Content Model	Sturges (1994)	Suggests that crisis managers should customize communication content with three categories of information as the crisis progresses through its life cycle. This will increase the likelihood of positive residual opinion among the public (Sturges, 1994).	<ul style="list-style-type: none"> • Communication through duration of the crisis • Focuses on reputation • Customization of content • Focuses on organizational crisis 	<ul style="list-style-type: none"> - Instructing Information - Adjusting Information - Internalizing Information
Image Restoration Theory	Benoit (1997)	Offers five broad categories of image repair strategies that can be used to alleviate reputational damage or harm to one's image (Benoit, 1997).	<ul style="list-style-type: none"> • Post-crisis communication • Focuses on reputation/Image repair • Provides message options • Focuses on organizational crisis 	<ul style="list-style-type: none"> - Denial - Evasion of Responsibility - Reducing Offensiveness of Event - Corrective Action - Mortification

Theory/Model	Author	Definition	Key Characteristics	Crisis Response Strategies
Crisis and Emergency Risk Communication (CERC) Model	Reynolds & Seeger (2005)	A five-stage model combining risk/ crisis communication, emphasizing the developmental features of crisis and the various communication needs of audiences at various points in the development of an event (Reynolds & Seeger, 2005).	<ul style="list-style-type: none"> • Communication through duration of the crisis • Focuses on preventing harm • Focuses on public health emergencies and corporate crises 	Precrisis Initial Event Maintenance Resolution Evaluation
Situational Crisis Communication Theory (SCCT)	Coombs (2007)	Provides an evidence-based framework for understanding how to maximize the reputational protection afforded by post-crisis communication. Additionally, SCCT explains that crisis type influences attributions about the crisis and the reputations held by stakeholders (Coombs, 2007)	<ul style="list-style-type: none"> • Post-crisis communication • Reputation • Message options • Organizational crisis 	Deny <ul style="list-style-type: none"> • Attack the Accuser • Denial • Scapegoat • Excuse • Justification • Compensation • Apology Bolstering <ul style="list-style-type: none"> • Reminder • Ingratiation • Victimage

As illustrated in these theoretical approaches and models, there are several similarities in scholarly research concerning crisis communication methods. One overlying theme is that these methods concentrate on organizational crisis. Only one model integrates a crisis that does not occur within the walls of an organization (public health emergencies). Therefore, more

communications research is needed to understand crises, such as terrorist attacks or natural disaster events.

As previously noted, these methods focus on reputation protection or image repair. Because crisis communication has typically been associated with public relations, much of the research is naturally concerned about organizational image protection or repair (Benoit, 1995; Coombs, 1999a). However, more information is needed that guides crisis managers in creating information to use during the crisis that protects crisis victims from additional harm associated with crises rather than protecting the organization.

As we have seen throughout this literature review, a crisis response can affect how individuals react to the information provided. There are many different approaches to developing crisis response strategy, but with the development of social media communication platforms, like Twitter, additional research is needed to illustrate how to apply these strategies to this newer phenomenon. To further guide our understanding of crisis response, the next section will look at factors that impact perception of crisis response strategies and how people respond to this communication.

Perception of Crisis Response

In recent years, scholars have begun to systematically assess how people perceive crisis response strategies (Coombs & Holladay, 2008). How a stakeholder perceives the crisis response has the potential to influence whether or not a person follows the instructing information provided during the crisis. Positive perception of a crisis response may help a crisis manager mitigate effects of a crisis, while negative perception may intensify them. There are many factors that influence perception and a crisis response's ability to mitigate or aggravate stakeholder reaction during a crisis (McDonald, Sparks, & Glendon, 2010). Reactions can range from how

the stakeholder interacts with the organization after the crisis (stops buying an organization's product or negative word of mouth) to how they respond to the crisis information during the crisis. If a crisis response is well-received by a crisis victim, they will be more likely to follow the instructing information.

Presented in Weiner's (1985) Attribution Theory and applied to crisis management by Coombs (1995), crisis locus (who is responsible) and controllability impact how stakeholders perceive the crisis. If the organization is perceived to be responsible or that it possibly could have prevented the crisis, victims may be more inclined to ignore crisis information provided by the responsible party because trust, credibility, or confidence in the organization has been lost.

Scholars have found that when responsibility lies within the organization, apologies and confessions have proven to be most successful for mitigating negative reactions and increasing sympathy, loyalty, and attitude, while denial and no comment crisis response strategies increase negative behavior due to a perception of higher crisis responsibility (Coombs & Holladay, 2008; McDonald et al., 2010). Additionally, Coombs, (1999a) has found that crisis response strategies that incorporate compassion tend to increase positive reactions from stakeholders.

Another factor that largely impacts perception is the inherent uncertainty that accompanies a crisis. When there are high levels of uncertainty, it can be difficult for a crisis manager to provide instructing information that crisis victims follow because decision-making processes can become clouded making them slow to respond to information that offers protection from additional harm (Seeger et al., 2011).

Seeger (2006) explains that one way to overcome the challenge of uncertainty is to acknowledge it. If a crisis manager waits for certainty, it might mean other valuable information may not get to stakeholders in time (Seeger, 2006). Additionally, it is imperative that accurate

information is provided. Rather than offering overly reassuring statements, explaining that all information is not currently available allows the crisis manager to refine the message as more facts become available (Seeger, 2006). Providing information when facts are not verified may reduce a spokesperson's credibility and Seeger (2006) contends that credibility translates into believability and trust, which can help reduce uncertainty.

How the public perceives a crisis response can influence the way victims respond to crisis messaging. If crisis managers create a response that is well-received, victims are more likely to follow instructing information that protects them from additional harm. Further, a good understanding of perception can also provide insight for incorporating crisis response into social media. The next section will explore research that explains the integration social media with crisis communication.

Crisis and Social Media

When a crisis event occurs, people take on an active information-seeking role (Stephens & Malone, 2009). Stakeholders, now more than ever, demand responsiveness, transparency, and authenticity from organizations during a crisis (Gonzalez-Herrero, 2008). Therefore, to meet this need, crisis managers have turned to traditional and new media tactics to use online. The Internet has largely changed the way we communicate about crises. New Internet-based technologies and communication platforms have changed the way we disseminate and receive information. Furthermore, research has shown that publics now consider the Internet to be the most reliable source for news (Taylor & Perry, 2005).

When crisis managers started integrating the Internet into crisis response strategies, it began simply by using traditional tactics online – posting one-way crisis communication such as transcripts of news conferences, press releases, fact sheets, etc. on websites (Perry, Taylor, &

Doerfel, 2003). Other new media tactics included connecting links, which allowed visitors to go to other sites for more information and multimedia effects, which included video or audio capabilities (Taylor & Perry, 2005).

Over time, crisis managers realized the potential for valuable two-way communication via the Internet. Engaging stakeholders in online discussions and asking them to share opinions or provide additional information allowed both the organization and news media to get an understanding of public perception of the crisis and the organization's communication (Perry, Taylor, & Doerfel, 2003). Based on what stakeholders were saying, crisis managers were able to provide better communication that helped meet information needs of the audience.

In addition to traditional websites, crisis managers began utilizing social media sites like blogs, wikis, Facebook and Twitter. While still in its infancy, social media is gaining interest from many industry professionals and academic researchers (Boyd & Ellison, 2008). Liu et al. (2011) developed the first social-mediated crisis communication model, which proposes that publics are motivated to use social media during crisis to determine issue relevance, for information seeking/sharing, and for emotional venting support.

One reason that social media is gaining such momentum is the high number of adopters and an increase in usage during crisis events. A 2013 Pew Internet study revealed that in addition to the 73% of online adults who use a social networking site of some kind, 42% of online adults use multiple social networking sites (Smith & Duggan, 2013). The high number of users coupled with the adoption of multiple social media platforms has changed the way the public consumes information (Baron & Philbin, 2009).

Drawing on the importance of engaging individuals in two-way communication, social media allows individuals to be part of the actual crisis communication response (Veil et al.,

2011). For example, within minutes of the 2008 terrorist attacks on Mumbai, India, Twitter users began providing eyewitness accounts of the crisis (Beaumont, 2008, November 27). At the onset of the crisis, 70 tweets every five seconds were reporting topics such as the terrorists' location, who they were targeting, and letting friends and family know the user was safe (Beaumont, 2008, November 27).

Social media also helps crisis managers keep communication lines open during a crisis (Borremans, 2010). In the case of the Boston Marathon Bombings, Police blocked area cell phone service because there were initial concerns that telephones might have detonated the bombs (Swann, 2013, May, 24). Similar to the Mumbai terrorist attacks, those affected by the Boston Marathon Bombing crisis began communicating via social media rather than cellular phone to share information and let friends and family know they were safe.

In addition to citizen-generated news, shared social media information can include organizational crisis responses and information provided from traditional news media (Kerkhof, Schultz, & Utz, 2011; Utz et al., 2013). Social media allows content to be shared and re-shared reaching millions of people in a short period of time (Veil et al., 2011). This rapid dissemination of crisis victim's information via social media can help reduce uncertainty inherent in crisis situations. Westerman et al. (2012) explain that because social media users "gain access to pointed on-the-ground information about risk-related issues very quickly, social media such as micro-blogging (i.e. Twitter) seem especially adept at providing information to those seeking to reduce uncertainty" (p. 199).

Scholars also have discovered that citizen-generated news shared on social media is gaining credibility and sometimes perceived to be more trustworthy than mainstream news media

(Colley & Collier, 2009; Westerman et al., 2012). One reason for this might be that certain platforms like Twitter and Facebook are self-correcting environments.

Communication via social media is conversational, allowing users to create, share, and discuss content in a way that brings them to a better understanding of the original idea (Westerman, et al., 2012). For example, during the Centers for Disease Control and Prevention's efforts to inform the public about the potential H1N1 epidemic, a few individuals discussed unfounded concerns about the vaccine to prevent H1N1. It wasn't long before someone posted a comment that corrected the misconceptions regarding the vaccine (Reynolds, 2010).

In recent years, we've seen a spike in social media activity from news media. Research illustrates that journalists have become less dependent on official news sources and more reliant on citizen-generated content found on social media as sources news stories (Liu et al., 2011; Wigley & Fontenot, 2011). One reason might be because of the newly found credibility attributed to citizen-generated news – even by the media. When a crisis occurs, we often see mainstream media asking the public to submit eyewitness comments, photographs or video on their social media sites.

Previously, it was thought that crisis managers must control the information flow in order to successfully manage a crisis. However, with today's ever-changing media landscape and the increase in citizen-generated news, crisis managers are facing challenges when it comes to controlling the message (Wigley & Fontenot, 2010). To overcome these challenges, it is important for crisis managers to communicate official information faster than ever before – instantly if possible. Therefore, it is important to understand what information needs to be communicated during a crisis. In order to stay ahead of the conversation, it is crucial to embrace

social media because journalists often go there immediately to gather first-hand accounts and gauge reactions of crisis victims (Wigley & Fontenot, 2010).

Furthermore, a crisis manager that uses social media illustrates that he or she is eager to inform stakeholders quickly and directly and that he or she is willing to engage in a conversation and this can help with image repair and with generating trust (Utz et al., 2013). Without trust, the public could ignore important instructing information that offers protection from additional harm (Reynolds, 2010).

Social media also serves as a way to provide emotional support for publics after crises occur, helping people come together to share information and demand resolution (Hallahan, 2009; Liu et al., 2011; Stephens & Malone, 2009). Because crises are often emotionally taxing, victims often benefit from a compassionate, concerning, empathetic response (Seeger, 2006). Social media builds personal connections with people and helps provide a human voice when information surrounding a crisis can be very complex. An empathetic, conversational voice can aid in a crisis manager's response because it is essential for rebuilding trust and relationships with stakeholders (Sweetser & Metzgar, 2007).

Scholars have found that using different social media platforms can affect the impact of crisis communication and whether the public accepts the crisis message. In fact, research shows that the social media platform tends to have a larger influence on stakeholders than the content of the message (Schultz et al., 2011; Liu et al., 2011). For example, communication via Twitter has been found to elicit positive reputational outcomes for organizations (Schultz et al., 2011). Some reasoning behind this includes short tweets have the potential to clearly summarize larger messages and individuals perceive communication from an organization via Twitter to be more personal because it comes from a human voice and it demonstrates a commitment to improving

or maintaining good relationships with stakeholders (Kerkhof et al., 2011). Additionally, if the crisis manager(s) is responsive to crisis victims on Twitter, further trust is built with its audience because it gives the impression that the organization is not avoiding conversation about the crisis (Sweetser & Metzgar, 2007).

While social media has been found to aid in the rapid dissemination of information, reduce uncertainty and increase trust, this phenomenon is not without its challenges. Lack of knowledge or inappropriate, unofficial responses can create inefficiencies, sometimes spreading panic instead of helpful information that can protect stakeholders from additional harm (Semple, 2009). This further illustrates the need for a clear, consistent, accurate and rapid response from a credible crisis manager or spokesperson.

As we can see in the aforementioned literature review, incorporating social media such as Twitter into crisis communication has been found to aid in the successful management of the crisis. Because of its unique capabilities to provide rapid information in a crisis situation, Twitter may influence perceptions differently than other social media platforms and be a valuable tool in disseminating instructing information. In order to evaluate the impact of communication via Twitter on crisis response, this study turns to the IDEA model.

IDEA Model

Created by Sellnow & Sellnow (2013), the IDEA Model (outlined in Appendix A) is designed to create effective instructional messages about food safety. However, the model has potential to lend itself to crisis situations where safety is compromised and allows time to disseminate instructing information. For example, in terrorist attacks like the Boston Marathon Bombing, the public was in danger as long as the suspects remained at large. The BPD and other

organizations managing the crisis had plenty of time to provide instructing information to the public that offered protection from additional harm.

Based on previous research, Sellnow & Sellnow (2013) contend, “The right words at the right time can save lives.” Regarding instructing information, the IDEA Model focuses on providing stakeholders with information that helps them know the best thing to do to reduce their personal risk. Without this information, receivers may be left feeling helpless, confused, or they may simply do the wrong thing (Sellnow & Sellnow, 2013).

Because the IDEA Model also addresses the way information is distributed via various communication channels, it will be valuable to pin it against social media as a communication platform. Because people are increasingly relying on social media platforms for information during crisis events, Twitter is an appropriate communication platform to evaluate using the IDEA Model because it has a high number of users and is a relatively new communication tool for crisis communicators. Further, the authors of the IDEA Model contend that the internalization, explanation, and action components must be used together to achieve maximum effectiveness. Because Twitter limits posts to 140 characters, it will be important to look at how the components are included in Tweets during the Boston Marathon Bombing crisis and whether it’s possible to include all three components within each tweet.

The previous four areas of research, including crisis communication strategy, perception of crisis response, the integration of social media and crisis communication, and the IDEA Model, provide a comprehensive overview of how far crisis communication has come. Throughout this research, we can begin to recognize that a good understanding of strategy and perception can help the crisis manager recognize when and how to communicate instructing information that can protect individuals from additional harm that can result from crises.

Additionally, a thorough understanding of social media, its users and how it can be implemented during a crisis can help crisis managers understand how to communicate instructing information using this newer communication platform.

Because social media is relatively new to the field of communication, there is limited research available that guides crisis managers in providing instructing information during a crisis via social media. There also is little research devoted to understanding the communication needs of social media users and identifying “best practices” for utilizing social media during a crisis. The aforementioned social media research explains that we are just beginning to unpack the usefulness of this phenomenon. Thus, it is important to develop research that increases our knowledge of how to communicate during a crisis using social media.

Additional guidance resulting from research can carry with it the potential to influence the amount of instructing information that can be communicated on social media platforms during a crisis. If research can provide a way to better communicate during crises such as terrorist attacks, lives could be saved, or, at the very least, the likelihood of additional harm resulting from the crisis could be reduced or potentially eliminated. Therefore, in order to gain a better understanding of communicating instructing information via Twitter during a crisis, the following research questions are posed:

RQ1: How frequently were the components of internalization, explanation, and action present in the BPD Twitter feed during the Boston Marathon bombing crisis?

RQ2: What themes reflecting the components of internalization, explanation, and self-efficacy were present in the BPD Twitter feed during the Boston Marathon bombing crisis?

Conclusion

The current chapter provides an overview of the literature relevant to understanding what influences crisis response strategy, including instructing information; and perception of the crisis communication. We examined theoretical approaches, models, and systems used to offer guidance for creating crisis response in a variety of crisis situations. This was followed by a review of literature that illustrates the integration of internet-based technologies such as social media in crisis communication. Finally, the IDEA model was introduced as a means to evaluate the way instructing information can be communicated via Twitter. Chapter three will serve as a detailed description of the methods used to complete this study.

CHAPTER 3: METHODS

This study examines how Twitter can provide instructing information to the larger public during times of crisis. Because crisis communication has begun to incorporate social media and because it allows for the rapid dissemination of information to a large audience, an analysis of providing instructing information via Twitter can guide us in creating information to be disseminated on this social media platform during times of crisis. In crises, such as terrorist attacks, instructing information has the ability to keep people safe and reduce the threat of additional harm to crisis victims.

To help gain further insight about instructing information and social media during times of crisis, this study used a thematic analysis approach with three components of Sellnow & Sellnow's (2013) IDEA Model serving as a guide in the development of initial code categories to help answer the following research questions:

RQ1: How frequently were the components of internalization, explanation, and action present in the BPD Twitter feed during the Boston Marathon bombing crisis?

RQ2: What themes reflecting the components of internalization, explanation, and action were present in the BPD Twitter feed during the Boston Marathon bombing crisis?

Using this approach, the study examined tweets published by the BPD during the Boston Marathon Bombing crisis that took place during April 15-20, 2013. More specifically, the study examined how the BPD communicated to the public during the terrorist attack.

Using the given categories of internalization, explanation, and action components of the IDEA Model as a guide, tweets from the data set were coded to determine if multiple components were included in the message. Further, the frequency of how many times each component appeared throughout the data set is determined. Secondly, the data set was examined

inductively to identify themes that reflected the three components of the IDEA Model. Distribution is not considered because the distribution method of the crisis messaging is via Twitter. Because the IDEA Model is designed to formulate communication that results in more accurate perceptions and better response, findings from this study provide insight for creating crisis messaging to communicate via Twitter and provide further support for the IDEA Model. More specifically, it also provides further support for use with social media. This chapter also presents the research design, procedures, and analysis of data.

Research Design

This study used qualitative methods to examine messaging provided via Twitter during a time of crisis. Qualitative research methods are particularly useful because they have been known to be “more effective in capturing the complexity of communication phenomena, especially communication processes that unfold over time” (Keyton, 2011, p. 58). Therefore, these methods are appropriate for examining crisis situations such as the Boston Marathon bombing and subsequent five-day manhunt because the crisis messaging was disseminated over an extended period of time.

Additionally, qualitative research captures the complexity of the event because it does not artificially limit observation to one or only a few components (Keyton, 2011). Considering a wider variety of factors that impact crisis messaging may help produce a better explanation of the phenomenon because we are able to learn more of what triggers cause a specific response. For example, looking at the frequency and themes of internalization, explanation, and action during a crisis can increase our understanding of gaining and maintaining audience attention, how to explain the details of the crisis situation, and how to tell crisis victims what to do next to protect themselves from additional harm (Sellnow & Sellnow, 2013).

Data Collection

The data set includes all tweets posted by the BPD during the Boston Marathon Bombing crisis. The first tweet appeared shortly after the explosion at the finish line on April 15, 2013, and the final tweet was posted on April 20, 2013, after the remaining suspected bomber was taken into custody. This constitutes 147 tweets that were posted April 15-20, 2013. The tweets were captured with screen shots from Twitter. The data set of BPD tweets illustrates crisis messaging provided via Twitter during the Boston Marathon Bombing crisis.

Data Analysis

Because this study examines frequency and themes, a thematic analysis is used to analyze the data. One of the most common methods used in qualitative research, “thematic analysis is a method for identifying, analyzing, and reporting patterns (themes) within data,” (Braun & Clark, 2006, p. 79). For this study, the unit of analysis is the tweet and the data set will provide insight about how many components of the IDEA Model were included in the tweets posted during the Boston Marathon bombing crisis and what themes developed for each component.

The given categories of internalization, explanation, and action from the IDEA Model will serve as an initial framework to identify frequency within the data set. Then, the data set will be examined inductively to identify themes that arise when the components are used.

The first step of coding determined how many of the IDEA Model’s three components were included within each Tweet. Internalization was identified when a tweet demonstrated relevance of potential risk to the message receiver (Sellnow & Sellnow, 2013) or some other aspect of personal impact such as timeliness or proximity. Explanation was identified when a message provided details of the situation, how it developed, or next steps (Sellnow & Sellnow, 2013). The action component was identified when the message proposed a specific, meaningful

action the message receiver should take in order to protect themselves and their loved ones from additional harm (Sellnow & Sellnow, 2013). The second step determined the frequency of each component throughout the dataset of tweets that were posted during the Boston Marathon Bombing crisis.

Lastly, step three used an inductive approach identify themes that were reflected in the components of internalization, explanation, and action. As previously noted, internalization messages emphasized proximity, timeliness, and personal impact (Sellnow & Sellnow, 2013). Explanation messages provided details of the situation or explained what would happen next (Sellnow & Sellnow, 2013). Action messages emphasized that the message receiver should or shouldn't do something (Sellnow & Sellnow, 2013).

Additionally, a formative check of reliability was conducted. A second coder was trained on the definitions of internalization, explanation, and action, and was asked to code a random sample of the data set to learn if there was agreement. Using a random numbers table (Pyrzczak, 2004), the second coder identified and coded 25 percent of the tweets. To measure interrater reliability, Cohen's Kappa (Cohen, 1960) was calculated for each component. Previous research has identified a kappa value of .67 as acceptable (Cohen, 1960). For this study, the resulting kappa value for internalization was .74, explanation was .87, and action was .94.

Even though kappa values were considered satisfactory, the researchers further discussed disagreements and came to a consensus about the definition of each coding category. After adjusting the coding scheme, the data was recoded and the researchers came to agreement. Finally, an interpretation of the results will be delivered in the next chapter.

One challenge to note included the notion that using pre-existing models may create some limitations because researchers might inadvertently approach the data with an informed

bias. Therefore, researchers might be more likely to find evidence that is supportive rather than non-supportive of a theory (Hsieh & Shannon, 2005). To overcome this challenge and create greater confidence in the research findings, the previously noted intercoder reliability check, or “degree to which two or more coders assign communication behaviors to the same categories or to which two or more coders similarly evaluate a communication act on a scale or index,” (Keyton, 2011, p. G-4), was conducted to ensure what was coded by the author is replicable.

Conclusion

This chapter provided an account of the details that will be used to answer the research questions:

RQ1: How frequently were the components of internalization, explanation, and action present in the BPD Twitter feed during the Boston Marathon bombing crisis?

RQ2: What themes reflecting the elements of internalization, explanation, and action were present in the BPD Twitter feed during the Boston Marathon bombing crisis?

As previously noted, qualitative methods were used because they have proven effective in capturing the complexity of communication phenomena, such as a crisis, that unfolds over time. The data set was a collection of tweets posted by the BPD throughout the week of the Boston Marathon Bombing crisis.

Using thematic analysis, the study analyzed the frequency of when the BPD utilized the IDEA Model’s given categories in their tweets during the Boston Marathon Bombing crisis. This approach was chosen for this study because it allowed the researcher to work with the prior formulated aspects of the IDEA Model in an effort to identify the type of messages communicated during the crisis. Further, the researcher examined the data set inductively to identify themes that arose when the components were used in the data set.

Additionally, this chapter revealed an explanation of how the researcher approached anticipated results and findings. This included strengths and weaknesses of a deductive approach to qualitative thematic analysis and how the researcher overcame the challenges posed by this method. Utilizing these methods will help us better understand when and how to communicate specific types of information via social media platforms, such as Twitter during times of crisis.

CHAPTER 4: RESULTS

To gain further insight for providing instructing information via Twitter during times of crisis, this study utilized components from Sellnow and Sellnow's (2013) IDEA model to help answer two research questions, including:

RQ1: How frequently were the components of internalization, explanation, and action present in the BPD Twitter feed during the Boston Marathon bombing crisis?

RQ2: What themes reflecting the components of internalization, explanation, and action were present in the BPD Twitter feed during the Boston Marathon bombing crisis?

This chapter will present the results of how often the components of internalization, explanation, and action appeared in the BPD Twitter feed during the Boston Marathon bombing crisis. It will also discuss the seven themes that emerged from the study. First, the internalization themes of *proximity*, *personal impact*, and *timeliness* will be discussed. Secondly, the explanation themes of *details of the situation* and *what happens next* will be presented. And lastly, the action themes of *do something* or *don't do something* will be explained.

It is important to note this study is not a test of the IDEA model. Because previous research has demonstrated including these components in crisis messaging tends to get a better response from the receiver, creates a more accurate perception of the harm and risk associated with the crisis, and helps ensure people take action to contain and reduce further harm, this study examined the frequency of these components and themes that are reflected when the components are used. Consequently, these results help build our understanding of how the components should be applied when providing instructing information in crisis messaging via social media – specifically Twitter.

Frequency

A total of 147 tweets posted from the BPD Twitter account were used for this study. The below table illustrates the frequency or how many times each component was used within a tweet and also provides examples of each component or combination of components.

No. of Components	Components used	Frequency	Examples
One Component	Internalization	13	Commissioner Davis: "I offer my sympathies to the families impacted by this horrible tragedy. Those responsible will be brought to justice."
			To all who've offered words of strength, encouragement & support, we @ the BPD humbly say, "We hear you. We thank you. God Bless you all."
			President Obama: "Every one of us has been touched by this attack on ur beloved city. Every one of us stands w/ you." pic.twitter.com/bFJeGcgGAR
	Explanation	16	Expect to see more police over the coming days. #tweetfromthebeat via @CherylFiandaca
			Commissioner Davis: "The BPD is on high alert. All sworn personnel working around the clock. 12 hour shifts in effect. Days off cancelled."
			Two bomb sweeps were made prior to marathon. #tweetfromthebeat via @CherylFiandaca
	Action	14	BPD asking for tips #tweetfromthebeat via @CherylFiandaca
			Community members wanting 2 assist this investigation anonymously can call the BPD's Crime Stoppers Tip Line @ 1(800) 494-TIPS.
			Do you know these individuals? Contact boston@ic.fbi.gov or 1-800-CALL-FBI (1-800-225-5324), prompt #3 youtube.com/watch?v=M80DXI...

Table 3. Frequency of Components (continued)			
No. of Components	Components used	Frequency	Examples
Two Components	Internalization and Explanation	60	Boston Police confirming explosion at marathon finish line with injuries. #tweetfromthebeat via @CherylFiandaca
			22 injured. 2 dead #tweetfromthebeat via @CherylFiandaca
			Park Plaza Castle Open as Resource and Information Center City of Boston cityofboston.gov.news.default.a...
	Internalization and Action	7	BPD asking people not to congregate in large crowds #tweetfromthebeat via @CherylFiandaca
			BPD asking people to be on heightened state of Alert #tweetfromthebeat via @CherylFiandaca
			During a shift change, a BPD supervisor told officers, "When u gt home tonite hug your kids once & then hug them again. That's an order."
Explanation and Action	3	High volume of tips on crimestoppers. Task force tip line 617-223-6610 -617-223-6612 Boston@ci.fbi.gov #tweetfromthebeat via CherylFiandaca	
		#BPDTrafficAdvisory Expect parking restrictions, road closures & Traffic delays tmrw. Follow directions of signs and safety officials.	
		#WANTED: Police seeking MA Plate: 116-GC7, '99 Honda Sedan, Color - Green. Possible suspect car. Do not approach. Pic.twitter.com/IVCPTmVwRT	
Three Components	Internalization, Explanation and Action	34	Updates to follow. Please clear area around marathon finish line #tweetfromthebeat via @CherylFiandaca
			BPD asking for your patience as investigations process the crime scene #tweetfromthebeat via @CherylFiandaca
			There is an active incident ongoing in Watertown. Residents in that area are advised to remain in their homes. More details when available.

According to Sellnow & Sellnow (2013), to be successful, all three components should be used together. For this study, this would mean each Tweet should contain all three components. However, this was not always the case. What did occur is at least one component was accounted for in 100 percent of the tweets. In fact, it was fairly uncommon that only one component was used by itself. When components were used individually, each component appeared less than 1/10 of the time. However, one interesting thing to note was when components were used individually, explanation was the most commonly used.

Many of the tweets contained multiple components. For example, of the components that were used together, the internalization and explanation components were used together most with 60 tweets – nearly 2/5 of the time. Tweets that contained all three components appeared in the data set 34 times – nearly 1/5 of the time. With that said, we begin to see that most Tweets are used to provide details of the crisis situation and let message receivers know how the situation will affect them. This will be discussed further in the following chapter.

Themes

In regard to themes reflecting the components of internalization, explanation, and action, seven categories were identified within the dataset. These included *proximity*, *personal impact*, *timeliness*, *details of the situation*, *what happens next*, *do something*, and *don't do something*.

Internalization

Sellnow & Sellnow (2013) defined the internalization component as a message that emphasizes *proximity*, *personal impact*, and *timeliness*. Similarly, these three concepts emerged as themes in the BPD Twitter feed during the Boston Marathon bombing crisis.

Proximity. The first category to emerge from the data pertains to proximity. According to Sellnow & Sellnow (2013), proximity focuses on existence of the potential risk in the geographic

location inhabited by receiver. Of the 114 tweets that contained the internalization component, 87 were categorized within the proximity theme, the most prominent theme of the data set.

Whenever the Tweet mentioned a location, such as the marathon finish line, a specific street, building, or part of Boston, it was included in the proximity category. For example, one Tweet stated, “#CommunityAlert: Per State Police - expect a controlled explosion later in the day on Norfolk Street in Cambridge.” Similarly, if the Tweet included the #CommunityAlert hashtag, it was included in the proximity category because the hashtag indicates the message was intended for members residing in the Boston community.

Personal Impact. Personal impact was the second category to emerge from the data. Seventy three of the internalization tweets were categorized in the personal impact theme. This was the third most prominent theme of the data set. Sellnow & Sellnow (2013) explain that personal impact addresses “how likely the potential risk is to harm the target and audience and to what degree,” (p. 3). One example is “BPD asking people to be on heightened state of Alert #tweetfromthebeat via @CherylFiandaca.” This tweet has a personal impact to the message receiver because it indicates a potential risk. If a tweet mentioned death or injury, it was also included in this category because casualties indicate a potential risk that could harm the target audience is possible. An example tweet would be “22 injured. 2 dead #tweetfromthebeat via @CherylFiandaca.”

Additionally, when a tweet contained a message that triggered another personal impact, such as an emotional response like compassion or fear, it was included in the internalization component. For example, one tweet stated “To all who’ve offered words of strength, encouragement & support, we @ the BPD humbly say, ‘We hear you. We thank you. God Bless you all.’” Not only does this tweet exhibit gratitude, it shows the message receiver the BPD is

compassionate and appreciative of the support provided by the target audience. Therefore, it may tug on the heartstrings of the message receiver. Incorporating this type of messaging is useful because a crisis response that is compassionate has been shown to provide a more positive response in the message receiver (Coombs, 1999a). If the message receiver has a positive outlook on communication coming from the BPD, they may be more apt to react appropriately to the instruction provided in the Tweet.

Timeliness. The timeliness category included Tweets that revealed how imminent the potential threat is or how important it is to act quickly (Sellnow & Sellnow, 2013). Forty-five Tweets were categorized as timeliness. One clear example is when the BPD tweeted about pursuing the second suspect. They stated: “There is an active incident ongoing in Watertown. Residents in that area are advised to remain in their homes. More details when available.” This tweet not only illustrates a high threat potential with the use of the terms “active incident,” it also provides a sense of urgency telling the message receivers residing in Watertown to stay in their homes until more details are available.

Another Tweet that was placed within the timeliness category was “#MediaAlert: WARNING: Do Not Compromise Officer Safety/Tactics by Broadcasting Live Video of Officers While Approaching Search Locations.” Both #MediaAlert and WARNING indicate urgency and an importance to act quickly and, therefore, constitute a factor of timeliness.

Explanation

The explanation component is identified when a Tweet provides details of the situation, how it developed, the science behind it, and the next steps (Sellnow & Sellnow, 2013). Within this component, two themes emerged, including *details of the situation* and *what happens next*.

Details of the Situation. When a Tweet provided information about how the situation developed, what was currently going on, or the science behind the situation, it was categorized in a theme titled *details of the situation*. Of the 113 Tweets containing the explanation component, 82 of them fell within this theme. This was the second most prominent theme of the data set.

After the bombs were detonated, the BPD started tweeting information about injuries and deaths in an effort to provide details of the event. For example, one tweet stated, “Update 23 injuries 2 dead #tweetfromthebeat via @CherylFiandaca.” Another example of this includes a Tweet that explains what the BPD is doing in response to the situation. The Tweet explained, “Boston Police looking for video of the finish line #tweetfromthebeat via @CherylFiandaca.”

What Happens Next. Tweets that fell into this category provided information about actions that are likely to be the subsequent proceedings of the crisis situation. This includes steps the message receivers should take to protect themselves from further harm or steps the BPD was taking in the crisis situation. Thirty-four of the tweets containing the explanation component fell into the *what happens next* category.

An example of a Tweet that provides guidance to the message receiver includes, “Expect crime scene area 2 remain impacted today. Investigation continues. Check back for public announcement from @Boston_Police and FBI.” Here, the BPD provides a regular update of what is going on and lets the message receiver know the BPD continues to work and the next step is to come back for more information.

Many of the Tweets addressing the media were categorized within this theme. Whenever the BPD called a press event or news conference, they announced it via Twitter. One example includes, “Law Enforcement News Conference scheduled for 5 p.m. today at the Westin

#tweetfromthebeat via @CherylFiandaca.” Because the BPD uses media advisories and press conferences as a resource to provide updates, these Tweets fit well within this theme.

Action

Finally, the action component is identified when the message proposes a specific, meaningful action the message receiver should take (Sellnow & Sellnow, 2014). Within the 57 Tweets containing the action component, two themes materialized, including *Do Something* or *Don't Do Something*.

Do Something. The majority (52) of the Tweets containing the action component were categorized within this theme. Many of these Tweets prompted the message receiver to do things such as contact a specific number with information, park in a certain area, or shelter in place. For example, one Tweet directed “Community members wanting 2 help this investigation can call 1(800) CALL-FBI or the BPD's Crime Stoppers Tip Line at 1 (800) 494-TIPS.”

One example of a *Do Something* Tweet that directed the message receiver to do something meaningful included, “In our time of rejoicing, let us not forget the families of Martin Richard, Lingzi Lu, Krystle Campbell and Officer Sean Collier.” This Tweet is a good example of how the BPD provided a meaningful act of compassion in tandem with an act of celebration.

Don't Do Something. Only six of the Tweets containing the action component were categorized within this theme. These messages contained information that protected the message receiver or his or her loved ones from harm. For example, one Tweet mentioned, “#WANTED: Police seeking MA Plate: 116-GC7, '99 Honda Sedan, Color - Green. Possible suspect car. Do not approach. Pic.twitter.com/IVCptmVwRT.” Other similar messages included instructions for individuals to not congregate in large crowds or for the media to not compromise officer safety by broadcasting their whereabouts.

Conclusion

This study sought to answer two research questions, including:

RQ1: How frequently were the components of internalization, explanation, and action present in the BPD Twitter feed during the Boston Marathon bombing crisis?

RQ2: What themes reflecting the components of internalization, explanation, and action were present in the BPD Twitter feed during the Boston Marathon bombing crisis?

In regard to frequency, the research revealed multiple components were used in Tweets far more than they were used individually. At least one of the three components was accounted for in 100 percent of the tweets. Internalization and explanation were the two most commonly used components together, followed by internalization and action and explanation and action. Of the components that were represented individually, explanation was the most commonly used, followed by internalization and action.

In regard to theme, seven categories emerged from the study. First, the internalization themes of *proximity*, *personal impact*, and *timeliness* were discussed; followed by explanation themes of *details of the situation* and *what happens next*, and finally the action themes of *do something* or *don't do something*. *Proximity*, *details of the situation*, and *personal impact* were the most prominent themes represented throughout the data set.

As a result of this study, it is clear that these components are well-represented in the data set and definitely considered when creating a crisis response. The frequency and themes of this data seem to offer support of Sellnow & Sellnow's (2013) IDEA Model and this will be discussed further in chapter five along with theoretical implications and areas for future research.

CHAPTER 5: DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH

This study examined frequency and themes of components derived from Sellnow & Sellnow's (2013) IDEA Model as they appeared in the BPD crisis messaging provided via Twitter during the Boston Marathon Bombing that took place in April 2013. By analyzing the components used in the Tweets, this study sought to answer the research questions:

RQ1: How frequently were the components of internalization, explanation, and action present in the BPD Twitter feed during the Boston Marathon bombing crisis?

RQ2: What themes reflecting the components of internalization, explanation, and action were present in the BPD Twitter feed during the Boston Marathon bombing crisis?

The major findings of this study reveal that Twitter should be considered a suitable platform to communicate instructing information during times of crisis, the three components of the IDEA Model are important to consider when crafting these messages, and the themes derived from the components coincide with previous studies. To further explain the results of this study, this chapter will explore theoretical implications and take a deeper look into what the research determined, what contradicts the literature, and areas for future research.

Theoretical Implications

This study makes a theoretical contribution to the field of crisis communication in a couple ways. First, this study looks at the communication that occurs as the crisis unfolds. As previously discussed in the literature review, much of the existing research examines crisis communication that takes place after the crisis has already occurred. Social media allows crisis communicators to not only push out information during a crisis, but also to keep a record of what's being said. This gives researchers a new opportunity to examine ways to successfully disseminate crisis information during a crisis.

Second, this study extends the IDEA Model not only beyond risk communication to crisis communication, but also to social media. Even though this study was not a test of the IDEA Model, the 100 percent frequency of which at least one component was utilized throughout the data set offer further support for the IDEA Model illustrating the potential for the model to serve as a resource guiding the creation of a risk or crisis message.

Support for IDEA Model

Because all components were represented in at least one of the 147 Tweets from the data set, this indicates the internalization, explanation, and action components are surely important things to consider when communicating during times of crisis. While Sellnow & Sellnow (2013) argue the most successful messages should contain all three components, this was not always the case. It was rare that only one component was used by itself, and most tweets did contain more than one component.

The internalization and explanation components were the most common combination Tweeted during the Boston Marathon bombing. Therefore, the nature of these tweets indicate explaining how the situation affected the message receiver and providing detailed accounts of the situation were among the most prominently communicated messages during the crisis.

Tweets that combined all three components were the next highest represented grouping in the data set. Not only does this reaffirm that the components are important things to consider when communicating information during times of crisis, it indicates that Twitter's 140 character limit does not impede the social media platform as a vehicle to communicate instructing information during a crisis.

Development of Themes

The results of the study revealed the themes that arose from the three components of the IDEA Model were congruent with the literature. With internalization serving as the most frequently tweeted component within the data set, it is not surprising that one of the most prominent themes was personal impact. This is significant because previous literature (Coombs, 1999a; Seeger, 2006) indicates that compassion, an element of personal impact, increases positive reaction to crisis messaging. For example, when the BPD tweeted “To all who’ve offered words of strength, encouragement & Support, we @ the BPD humbly say, “We hear you. We thank you. God Bless you all,” it likely tugged on the heart strings of the message receiver. Having struck an emotional chord, it might encourage the message receiver to come back to the Twitter feed for more information or simply react when the BPD tweets an action component.

Another concern associated with crisis situations that appeared in the literature review was uncertainty associated with crisis events. The second most frequently used explanation component can be used to help combat the issue of uncertainty. Two themes arose within this component, including *Details of the Situation* and *What Happens Next*. Both of these provide information that serves to reduce uncertainty, which, again, is likely to bolster support and invoke a more positive reaction from the message receiver.

Another interesting result of the study is that the BPD often tweeted messages at the media. These tweets were often categorized under the theme *what happens next, proximity, or details of the situation*. Seeger (2006) has indicated that a best practice in crisis communication is making sure the response meets the needs of the media. Utilizing Twitter as a means to talk to the media while keeping the aforementioned themes in mind further supports the IDEA Model as a valuable guide in creating crisis messaging and instructing information. Additionally, by

tweeting a message to the media, the crisis manager lets the rest of the audience know that valuable information will be coming soon.

Findings Conflicting with the Literature

Though most results of this study coincide with the literature, there were some findings that stood out. While action seems to be one of the most important components in providing instructing information, it was tweeted the least amount of times in the data set. Sellnow & Sellnow (2013) explain that when communication does not include action steps, the message receiver may feel helpless or simply do the wrong thing. Therefore, the lack of action components contradicts the literature, suggesting the BPD was more likely to place emphasis on informing the message receiver of details of the situation rather than telling them what they should do next. Sellnow & Sellnow (2013) warn that messages consisting only of explanation have the potential to reduce audience confidence and self-efficacy.

While providing more explanation could help guide the message receiver in their actions, the literature argues that instructing information must provide an action component in order to help the crisis victim protect themselves from additional harm (Coombs, 1999a, Sturges, 1994). Understanding and incorporating more action steps into this communication may help crisis managers provide clearer, more valuable information that helps the message receiver know what to do next during times of crisis.

Additionally, Sellnow & Sellnow (2013) contend that the most successful messages include all three of the IDEA Model's components discussed in this study. And while the results indicate that it is possible to include all three components in a tweet, this study challenges the IDEA Model because it shows that not all tweets require all three components for the duration of

the crisis. In fact, if all three components were included in every tweet, the message receiver might experience an information overload.

Areas for Future Research

The results of this study suggest that there are additional areas for future research. This study focused on using Twitter to understand how instructing information can be provided via social media during times of crisis. Therefore, this study can provide insight for future research that might be interested in employing the IDEA Model in other social media platforms, such as Facebook, Instagram, or blogs. This could help social media crisis communicators determine which dissemination method is most appropriate for their audience, message, or crisis.

Another area of future research that could expand on this area of study is exploring communication patterns of social media users. For example, in Twitter, users can tweet at a specific user, develop hashtags, or retweet a specific tweet. A researcher could look at the behavioral patterns to see how the messaging is perceived by the user.

Looking at communication patterns could help communication practitioners better understand how to respond to questions or other two-way communication coming in from crisis victims. Furthermore, it provides insight into what platforms will be suitable for the audience the crisis manager is trying to reach.

Further, future research could examine tweets by more than one entity. For example, this study only looked at the Twitter Feed of the BPD. Another study might look at Twitter feeds from multiple organizations involved in the crisis, such as the FBI or the City of Boston. Expanding the study to look at additional people's Tweets may provide additional information that informs the IDEA Model.

Conclusion

This study examined the frequency and themes derived from three components of Sellnow & Sellnow's (2013) IDEA Model to help us better understand how crisis messaging and instructing information can be conveyed via social media platforms such as Twitter. With every tweet in the data set containing at least one of the internalization, explanation, and action components, this study revealed that these are important topics to consider when conveying crisis messaging or instructing information via social media.

Furthermore, a thematic analysis revealed the themes of *proximity, personal impact, timeliness, details of the situation, what happens next, do something, and don't do something* offer further support for the IDEA Model because they are congruent with previous research. For example, messages containing the personal impact theme can help elicit a more positive response from the message receiver because they convey compassion. Or providing details of the situation can help reduce uncertainty.

These results led to theoretical and practical implications. First, this study allows us to examine communication as the crisis unfolds. Additionally, it extends the IDEA Model to reach crisis communication and social media. This also indicates that Twitter's 140 character limit does not impede the social media platform as a vehicle to communicate instructing information during a crisis.

Future areas of research could study the IDEA Model's internalization, explanation, and action components in other social media platforms. Additionally, research could examine communication patterns, such as hashtags, two-way communication, or retweets to further understand perception of the instructing information. And finally, future research could look at Twitter feeds from multiple organizations experiencing the crisis. Further expanding on this

research could lead to an increased understanding of the practical use of social media during times of crisis. Knowing how and what to communicate in times of crisis will help ensure communicators are providing valuable instructing information that prevents and contains additional harm resulting from a crisis situation such as a terrorist attack.

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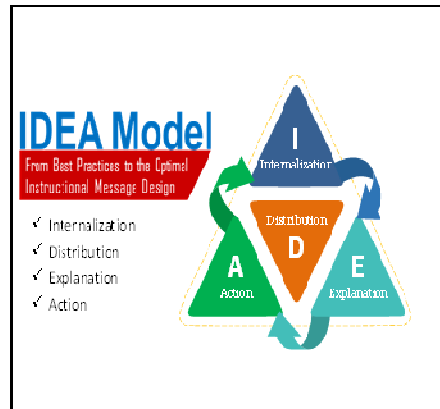
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APPENDIX A: IDEA MODEL



IDEA Model Component	Explanation
1. Internalization	<p>Focuses on gaining and maintaining audience attention by demonstrating the relevance of the potential risk to them. Effective risk messages motivate receivers to internalize the message by emphasizing proximity, timeliness, and personal impact.</p> <ul style="list-style-type: none"> • Proximity (a.k.a. closeness) is achieved by intentionally focusing on the existence of potential risks in the geographic location inhabited by the receivers. • Timeliness is addressed by revealing how imminent the potential threat is or how important it is to act quickly. • Personal impact address how likely the potential risk is to harm the target audience and to what degree.
2. Explanation	<p>Explain the situation, how it developed, the science behind it, and what will happen next. To be effective an explanation must be:</p> <ul style="list-style-type: none"> • Brief • Understandable by the target audience • Offered along with the components of internalization and action
3. Action	<p>Effective instructional messages propose specific and meaningful actions receivers should take to protect themselves and their loved ones.</p>
4. Distribution	<p>Communicators must be aware of how different target audiences prefer to get instructing information. Most important is the disparity among different audiences to access information via various channels. Effective crisis communicators must thoughtfully choose the media through which to share messages if they want to reach all segments of an at-risk population.</p>

APPENDIX B: TERMS AND DEFINITIONS

Term	Definition	Source
Crisis Management	A process that seeks to prevent or lessen the negative outcomes of a crisis and thereby protect the organization, stakeholders, and/or industry from damage.	Coombs, 1999ab, p. 4
Crisis Response	The point when crisis managers make decisions that may save lives and mitigate the effects of the crisis.	Hale, Dulek, & Hale, 2005
Facebook	Facebook is a popular free social networking website that allows registered users to create profiles, upload photos and video, send messages and keep in touch with friends, family and colleagues. The site, which is available in 37 different languages, currently has more than one billion active users.	“About Facebook,” 2014; “Facebook,” 2014
Hashtag	A hashtag used on Twitter as a way to annotate a message. A hashtag is a word or phrase preceded by a “#.” Example: #yourhashtag. Hashtags are commonly used to show that a tweet is related to an event or ongoing conversation.	Bodnar, 2011
Instructing Information	Information that tells stakeholders how to react to the crisis. <ul style="list-style-type: none"> • What, why, when, where, and how of the crisis • Precautionary actions stakeholders need to take • Actions taken to correct the problem 	Coombs, 1999a; Sturges, 1994
Retweet	A retweet is when someone on Twitter sees a message and decides to re-share it with his/her followers. The retweet button allows them to quickly resend the message with attribution to the original sharer's name.	Bodnar, 2011
Social Media	Digital tools and applications such as wikis, blogs, podcasts, and social networking sites, that facilitate interactive communication among and between publics and organizations.	Liu et al., 2011
Social Networking Sites	Web-based services that allow individuals to: <ul style="list-style-type: none"> • Construct a public or semi-public profile within a bounded system, • Articulate a list of other users with whom they share a connection, and • View and traverse their list of connections and those made by others within the system. 	Boyd & Ellison, 2008
Stakeholder	Stakeholders are a group of people who have a stake in the actions of the organization, such as employees, customers, creditors, government regulatory agencies, the media, competitors, or community members.	Seeger, Sellnow, & Ulmer, 2011

Tweet	The name given to messages communicated via Twitter. Tweets may only contain a maximum of 140 characters.	Bennett, 2009
Twitter	Founded in 2006, Twitter is a social networking micro blogging service that allows registered members to broadcast short posts called <i>tweets</i> . Twitter members can broadcast tweets and follow other users' tweets by using multiple platforms and devices.	"Twitter," 2014 (a); "Twitter," 2014 (b)