

Understanding the effects of Twitter-based crisis communications strategies on brand reputation

by

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## **Abstract**

The Situational Crisis Communications Theory (SCCT) states that what organizations say to various publics during a crisis should influence the extent of the reputational and financial damage a crisis can inflict on the organization's image. Past research has focused on distinguishing types of crises and what crisis-communication strategies should be used with traditional media. Research exists, but looks at social media and its effects on brand reputation during a crisis via case studies or is an experimental design focused on the information source. There is a lack of controlled experimental studies that investigate the role of social media in crisis-communications strategies.

Guided by Coombs' Situational Crisis Communications Theory, this controlled experimental design employed a 2x2 factorial design. The independent variables were (a) type of crisis (preventable, accidental) and (b) type of response (rebuild, diminish) used on Twitter. The dependent variable was organizational brand reputation. Survey participants were recruited through a paid Qualtrics panel who were millennials that live in Midwestern states.

Specific research questions were RQ 1: Will all participants begin with the same pre-test score; RQ 2: Is there a time effect on brand reputation; RQ 3: Does an accidental crisis change brand reputation; RQ 4: Does a preventable crisis change brand reputation; RQ 5: Does brand reputation change vary by crisis type? Based on findings in previous research, hypotheses developed were: H1: Brand reputation will be consistent from pre-brand to post-brand test for matched crisis responses; H2: Post-brand tests for unmatched accidental responses will be consistent with or better than pre-brand tests; H3: Post-brand tests for unmatched preventable responses will be lower than pre-brand tests.

The findings from this study give insight to how SCCT translates to Twitter. In this study, matched responses did not maintain reputation as the SCCT literature suggests. In addition, the accidental unmatched condition did not perform better than the matched condition. However, unmatched preventable did have a bigger decline in brand reputation than matched, suggesting it could be better to have no response than the wrong response in some situations. This study confirms the need for practitioners to understand the crisis type prior to responding and understand the role of social media in communication. Throughout the study, it was found that using an unmatched response could cause a decrease in brand reputation. This is especially true when using a low-attribution response for a high-attribution situation, as the response will fall short of what the crisis requires.

*Keywords: Crisis communication, Situational Crisis Communication Theory, social media, Twitter, brand reputation*

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# **Chapter 1 - Introduction**

## **Background**

The sustainability and success of a company over a period of time is built by brand reputation. Reputation is produced from how employees, customers, investors, competitors, and the public view what a company does and what it stands for (Fombrun & van Riel, 1997). Having a positive reputation can reduce uncertainty about the organization's performance, motivate consumers to buy products, attract high-quality employees, encourage outside investors, and retain essential transaction partners such as suppliers and distributors (Fombrun, 2006). A threat to an organization's brand reputation can be considered a crisis. Crises can do great harm to an organization's reputation by creating widespread and systematic disruption (Sellnow & Seeger, 2013). Crises are moments of moral imperative and the judgments, and evaluations made about a crisis often are grounded in larger ethical and value positions (Sellnow & Seeger, 2013).

In 1995, Timothy Coombs shifted the conversation surrounding crisis communications with his Situational Crisis Communications Theory (SCCT), which focused on organizations maintaining or re-establishing a favorable reputation during and after a crisis. According to SCCT, there are four different responses, or what Coombs defines as postures, that can be used during a crisis situation to help control brand reputation loss. These postures include denial, diminishment, rebuilding, and bolstering (Coombs, 2015). Each posture aligns with a crisis type that includes victim cluster, accidental cluster, and preventable cluster. A victim cluster is defined as an event with very little attribution such as natural disasters, rumors, workplace violence, and malevolence (Coombs, 2015). The accidental cluster is comprised of technical-error accidents, technical-error product harm, and challenges. Crisis events that fall under

accidental are considered by Coombs (1996) to be of low attribution of crisis responsibility and should use the diminishment strategy if an organization has no crisis history. The preventable cluster is considered to have strong attributions of crisis responsibility for the organization. Preventable crises include human-error accidents, human-error product harm, and organizational misdeeds. It is recommended to use the rebuild strategy for preventable crises (Coombs, 2015).

The key to retaining a positive brand reputation is knowing what particular response strategy to use for a specific crisis situation (Coombs, 2012). According to SCCT, matched and unmatched responses will have differentiating effects on an organization's brand reputation. A matched response is preferred because it will ideally meet stakeholders' expectations of a response for the particular crisis situation. An unmatched response, depending on the situation, could cause stakeholders to see the organization as going above and beyond, or not doing enough.

With more than 500 million tweets sent daily around the world, social media is an important tool for organizations to use in communication strategies to reach consumers (Salman, 2017). Research suggests that social-media networks can be useful in times of crisis by quickly and effectively distributing information (Hand & Ching, 2011; Harman, 2011; Heverin & Zach, 2010; Jin, Liu, & Austin, 2011; Procopio & Procopio, 2007; Wollan & Smith, 2010). Educating the public regarding risks, encouraging visible support of an organization or cause, and establishing a venue for open dialogue online are all strategies for using social media during a crisis (Chan, n.d.).

Crisis management is a well-established practice of protecting an organization and/or stakeholder during a threat that is used in a wide variety of industries including government, medicine, food, health, and non-profits (Chan, n.d.). In this study, crisis management referred to

the practice of protecting an organization and its stakeholders from threats and/or reduce the impact felt by threats (Coombs, 2015). While some crises can be avoided, it is impossible to rid the world of all crisis events, such as environmental disasters. Crises have the ability to do great harm, but when managed effectively, an organization can create an opportunity for conversation and education with its publics (Chan, n.d.) However, once a crisis event occurs, socially mediated messages have the potential to add confusion, create anger, and hurt an organization's reputation (Sellnow & Seeger, 2013). Therefore, crisis managers should have a guideline of what communication strategies, based on theory, are best to use when designing a social-media crisis response strategy. This designed experiment studied how the communication strategy used on Twitter during a crisis effects brand reputation.

### **Statement of Problem**

Past research focused on distinguishing types of crises and what crisis-communication strategies should be used within traditional media, yet fail to provide similar research for social-media outlets (Brown, 2014; Brown, Dickhaus, & Long, 2012; Freberg, Saling, Vidoloff, & Eosco, 2013; Jin, Liu, & Austin, 2011). Research on crisis communication via social media exists, but it has focused on the information source rather than organization messaging or used a case study approach (Brown, 2014; Cooley & Cooley, 2011; Franklin, 2014; Ma & Zhan, 2016; Porter, 2016; Sisco, Collins, & Zoch, 2010; Utz, Schultz, & Glocka, 2013). These studies have indicated the importance of strategically matching crisis information form and source when organizations respond to crises, but do not focus on content of the message or are not experimental in nature (Jin, Liu, & Austin, 2011). In addition, what has been developed in crisis communication has not been controllably tested in new media. Crisis communication is increasing in necessity as new media and the communication environment has evolved. People

are no longer seeking crisis-related information solely from official sources within traditional media but are actively getting it publically via information and communication technology (Heverin & Zach, 2010). Focusing on the content of messages via Twitter will provide communication professionals a larger picture of what should be said depending on different crisis levels.

### **Significance of the Study**

With the shift to online and social-media channels by information consumers, organizations must respond and engage with audiences during a crisis to correct inaccuracies and address concerns (Wollan & Smith, 2010). The study approached this issue by providing a brand reputation measurement survey to participants prior to an accidental or preventable crisis, with a matched and unmatched response being shown and then measured participants with the same measurement tool at the end of the experiment. In addition, a true control was used to ensure there were consistent responses given between the pre-brand and post-brand test with a time delay.

This study should help fulfill the gap for unique crisis-communications content strategy needs for social media. The study also aimed to define how the type of crisis-communications strategy used on Twitter affects brand reputation. During the last 21 years, limited experimental design research has been done to expand upon this literature and bring it into the digital age. Prior research has rarely applied experimental, quantitative designs to investigate the topic of crisis-response strategies (Benoit, 1995; Coombs, 2015). Therefore, the main goal of this study was to test how crisis type and response strategies influence brand reputation when using Twitter for crisis response. Conducting research in a controlled environment allows researchers to systematically understand how practices from traditional media may be used on social-media

platforms. Since organizations are online and consumers are online, crisis responses must be done online. And, the part most controlled by the organization is its message, so it is the best way for an organization to impact brand reputation.

### **Assumptions**

It was assumed, based on SCCT, that if a matched strategy for the accidental crisis was used then the organization's brand reputation would stabilize or increase from pre-brand reputation test to post-brand-reputation test. Since the unmatched response of rebuilding for the accidental crisis should be seen as overcompensating by participants for the accidental crisis, the organization's brand reputation should increase when it is used. For the preventable crisis, it was assumed that if the matched response type of rebuild was used, then the organization's reputation would stabilize. If the unmatched response type of diminishment was used, then the organization's reputation would decrease due to lack of taking responsibility for the crisis.

### **Research Questions and Hypotheses**

Using Coombs' (1995) Situational Crisis Communications Theory, this research investigated how crisis-communication strategies affect brand reputation, specifically when used on Twitter.

#### **Research Questions**

- RQ 1: Will all participants begin with the same pre-test score?
- RQ 2: Is there a time effect on brand reputation?
- RQ 3: Does an accidental crisis change brand reputation?
- RQ 4: Does a preventable crisis change brand reputation?
- RQ 5: Does brand reputation change vary by crisis type?

#### **Hypotheses**

- H1: Brand reputation will be consistent from pre-brand to post-brand test for matched crisis responses.
- H2: Post-brand tests for unmatched accidental responses will be consistent with or better than pre-brand tests.
- H3: Post-brand tests for unmatched preventable responses will be lower than pre-brand tests.

### **Study Limitations**

There are limitations of this study that were anticipated and had possible solutions employed. The first limitation was that this was an experimental design. Since the organization of focus and crisis are fictional, the experiment possibly led to a lack of authenticity and could have provided a challenge with the organization's relativity. However, the experiment was designed around creating a health center on a university campus far from participants' location to create a sense of realness. This was done by creating a mock website page screenshot for the health center that participants viewed (Appendix A). The second limitation is the participants' use and exposure to Twitter. To overcome this obstacle, the questionnaire asked participants about their use or exposure to Twitter to account for this variability. In addition, researchers created images that appear to be tweets with specific time stamps that coordinate with the crisis response (Appendix B).

### **Definitions of Key Terms**

- *Brand Reputation* – The perceptions among employees, customers, investors, competitors, and the general public about what a company is, what it does, and what it stands for (Fombrun & van Riel, 1997).

- *Crisis* – An occurrence that may cause negative outcomes affecting the organization, company or industry, as well as its publics, products, services or good name (Fearn-Banks, 2007).
- *Crisis Communication* – The sending and receiving of messages “to prevent or lessen the negative outcomes of a crisis and thereby protect the organization, stakeholders, and/or industry from damage” (Coombs, 1999, p. 4).
- *Crisis Management* – The practice of protecting an organization and its stakeholders from threats and/or reduce the impact felt by threats (Coombs, 2015).
- *Data Breach* – The loss or theft of personally identifiable information such as social security number, credit card number, name, and date of birth (Romanosky, Telang, & Acquisti, 2011).
- *Healthcare Center* – Health centers offer responsive and cost-effective healthcare that can include comprehensive primary and preventive services; prenatal and postpartum care; patient education, case management, and outreach; translation and other support services (PR Newswire, 2002). For this study a simulated healthcare center called Piedmont Health Center was developed.
- *Midwest Region* – A region including Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota (Classroom Resources, n.d.).
- *Millennial* – Individuals ranging from ages 18 to 39 (Brandau, 2012).
- *Situational Crisis Communication Theory (SCCT)* – A theory created by Timothy Coombs that states that what organizations say to various publics during a crisis should

influence the extent of the reputational and financial damage a crisis can inflict on the organization's image (Coombs, 1995).

- *Social Media* – Web-based services that allow users to construct a public profile, create connections with other users, and share content (Boyd & Ellison, 2007).

### **Summary**

A crisis is an event that interrupts the normal business transactions and can sometimes threaten the existence of an organization (Fearn-Banks, 2007). During the past 20 years, researchers have developed theoretical and conceptual approaches for responding to a crisis to better understand the crisis types and appropriate use of strategies (Ulmer, Sellnow & Seeger, 2010). There is a lack of controlled experimental studies that delve into the role social media plays within crisis-communications strategies, which are messages from the organization, on brand reputation.

Using Coombs' SCCT, this research controllably investigated how crisis-communication strategies affect brand reputation, specifically when used on Twitter. The purpose of this study was to investigate the effects of Twitter-based crisis-communication strategies on brand reputation. Specific research questions were RQ 1: Will all participants begin with the same pre-test score; RQ 2: Is there a time effect on brand reputation; RQ 3: Does an accidental crisis change brand reputation; RQ 4: Does a preventable crisis change brand reputation; and RQ 5: Does brand reputation change vary by crisis type? Based on findings in previous research, hypotheses developed were: H1: Brand reputation will be consistent from pre-brand to post-brand test for matched crisis responses; H2: Post-brand tests for unmatched accidental responses will be consistent with or better than pre-brand tests; and H3: Post-brand tests for unmatched preventable responses will be lower than pre-brand tests. The following chapter will examine

past studies and findings involving crisis communications as it pertains to brand reputation and social media.

# **Chapter 2 - Literature Review**

## **Introduction**

This review of literature investigated previous studies evaluating organizational crisis communications, strategies used to communicate with stakeholders, social media, and brand reputation. Questions and hypotheses that shaped this study were:

### **Research Questions**

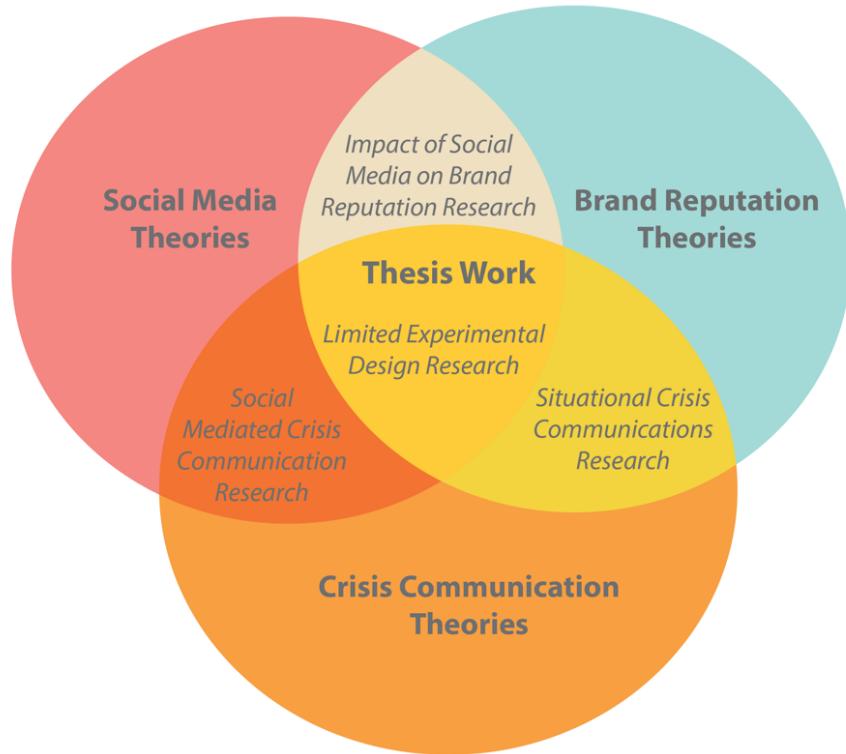
- RQ 1: Will all participants begin with the same pre-test score?
- RQ 2: Is there a time effect on brand reputation?
- RQ 3: Does an accidental crisis change brand reputation?
- RQ 4: Does a preventable crisis change brand reputation?
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### **Hypotheses**

- H1: Brand reputation will be consistent from pre-brand to post-brand test for matched crisis responses.
- H2: Post-brand tests for unmatched accidental responses will be consistent with or better than pre-brand tests.
- H3: Post-brand tests for unmatched preventable responses will be lower than pre-brand tests.

The literature review will begin by analyzing brand reputation and transition to look at social media and then crisis communication, strategies or models that are used by communications professionals on social media. Using Coombs' (1995) Situational Crisis Communications Theory as a framework, this review highlights past findings, analyzes crisis

event types, and investigates how crisis-communication strategies affect brand reputation, specifically when used on Twitter (Figure 2.1).



**Figure 2.1.** Gap in experimental design research looking at effects of SCCT used via social media

### **Brand Reputation**

Reputations generate perceptions among employees, customers, investors, competitors, and the general public about what a company is, what it does, and what it stands for (Fombrun & van Riel, 1997). Having a positive reputation can reduce stakeholder uncertainty about organizational performance, motivate consumers to buy products, attract high-quality employees, encourage outside investors, and retain essential transaction partners such as suppliers and distributors (Fombrun, 2006). The definition of corporate reputation from Fombrun and van Riel (1997) is “a collective representation of a firm’s past actions and results that describes the firm’s ability to deliver valued outcomes to multiple stakeholders” (p. 10).

A positive reputation is considered to be one of the most valuable assets an organization can have (Vidaver-Cohen, 2007). An organization with a favorable reputation can experience stakeholders ignoring bad news because they are unlikely to believe that a good organization did anything bad (Coombs, 2015). This is caused by stakeholders' disbelief of the negative news. However, if an organization has a negative reputation prior to stakeholders hearing bad news or experiencing a crisis, then it is likely to experience additional reputational damage (Coombs & Holladay, 2002). Depending on the measurement tool being used, brand reputation can be characterized by the organization's good products and services, relationship with consumers, positive feelings created from interactions, leadership and innovation, internal environment, ethical enterprise, and discretionary social responsibility practices (Feldman, Bahamonde, & Bellido, 2014).

### **Measuring Brand Reputation**

There are several popular models that measure brand reputation, including the Most Admired Companies (MAC) list, Reputation Quotient, Corporate Personality Scale, and the Stakeholder Performance Indicator and Relationship Improvement Tool (SPIRIT) model (MacMillan, Money, Downing, & Hillenbrand, 2005), and the Consumer Reputation Index (CRI). Each model differs in its underlying approach and what is measured, which is shown in Figure 2.2. The model used for this study is the CRI tool, which will be discussed further later in this section.

	MAC	Reputation Quotient	Corporate Personality Scale	SPIRIT	CRI
Who does it measure?	Financial analysts, CEOs and journalist	Key stakeholders determined by organization	Organization's employees and customers	Key stakeholders determined by organization	Internal and external stakeholders
What does it measure?	Innovation, financial soundness, employee talent, use of corporate assets, long-term investment value, social responsibility, quality of management, and quality of products and services	Emotional appeal, products and services, vision and leadership, workplace environment, financial performance and social responsibility	Agreeableness, enterprise, competence, chic, ruthlessness, machismo, and informality	Experience, feelings and intentions	Alignment between vision, culture and image

**Figure 2.2.** Comparison table of brand measurement tools

The MAC list model was developed by Fortune Magazine's editorial panel to measure reputational characteristics admired by financial analysts, corporate executives, and journalists. The eight characteristics of reputation measured through the model are innovation, financial soundness, employee talent, use of corporate assets, long-term investment value, social responsibility, quality of management, and quality of products and services (MacMillan, Money, Downing, & Hillenbrand, 2005). The MAC list model is usable to those who have financial and detailed company knowledge, however, it does not focus heavily on the consumer side of brand reputation.

The Reputation Quotient was developed in 1996 by Fombrun from a literature review and focus groups with the general public in 10 countries, followed by quantitative surveys. Reputation is measured in terms of stakeholder expectations of an organization. Expectations are broken into six pillars of reputation including emotional appeal, products and services, vision and leadership, workplace environment, financial performance and social responsibility. Due to

survey participants not having experience with the workplace environment of the organization of this study, this model was not used.

In 2003, the Corporate Personality Scale was published to build off a previous measurement scale called the Aaker Brand Personality Scale which surveys an organization's employees and customers. The scale measures seven dimensions of corporate personality, including agreeableness, enterprise, competence, chic, ruthlessness, machismo, and informality (MacMillan, Money, Downing, & Hillenbrand, 2005). The scale lacks direct questions that would be easily defined by a participant going through a designed experiment with no prior experience with the organization. It also uses terms that are difficult to define in a quantitative manner such as chic and machismo.

The SPIRIT model was published by MacMilan, Money, Dowling, and Hillenbrand in 2004, and was developed during a seven-year span of conceptual and empirical research (Baldarelli & Gigli, 2011). The scale was developed through a review of reputation, marketing, and psychology literature, along with focus groups, interviews, and questionnaires (MacMillan, Money, Downing, & Hillenbrand, 2005). Unlike popular models such as the Reputation Quotient and Corporate Personality Scale, the SPIRIT model analyzes an organization's relationship with key stakeholders, including customers, employees and investors, and their perception of the organization's governance, reputation, and responsibility (Baldarelli & Gigli, 2011). Due to the scale asking specific questions about finances and direct interactions with an organization, it was not appropriate to use for a designed experiment.

The Consumer Reputation Index (CRI) was published by Feldman, Bahamonde, and Bellido in 2014, and bases brand reputation from an organization having alignment between its vision, culture (capabilities), and image (expectations). The original goal of the model was to

provide an organization with the tools to determine whether it needs to reinforce its current position or brand or work on its alignment of vision, culture, and image (Feldman, Bahamonde, & Bellido, 2014). Feldman, Bahamonde, and Bellido used the Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) and Bartlett's test of Sphericity to test stability of the CRI. Both statistics reported positive results. The MSA score of 0.95 and Bartlett's test of Sphericity were significant, deeming the data appropriate for factor analysis and the model stable. The study was originally published looking at 69 Peruvian enterprises, representatives of 15 industrial sectors that included public services, mining, department stores, transportation, etc (Feldman, Bahamonde, & Bellido, 2014).

The CRI model measures reputation with one main question regarding the respondent's overall perception of the organization and seven other questions that characterize the organization's reputation issues such as: having good products and services, relationship with consumers, generates positive feelings, leadership and innovation, internal environment, ethical enterprise, and discretionary social responsibility practices (Feldman, Bahamonde, & Bellido, 2014). The eight questions are measured in a six-point multi-item Likert scale (1-absolutely agree, 6-absolutely disagree). Feldman, Bahamonde, and Bellido (2014) utilized the following eight questions:

1. Is a socially responsible company - This company contributes actively and voluntarily to the social improvement, economic viability, and the environment of society.
2. Is a company that has good products/services - This company stands behind its products and services with good price and good quality that meet consumer needs.

3. Is a company that relates well with consumers (Customer Orientation) - This company treats customers courteously, communicates with them, and takes care of their safety and health.
4. Is a company that generates positive feelings in people - This company generates respect, admiration esteem, and confidence.
5. Is a company with leadership and innovation - This company is recognized, has excellent leadership, is innovative, and seeks constant innovations.
6. Is a company with a good workplace environment - This company looks like a good company to work for, by its infrastructure such as its working environment, benefits, and good relationships with its employees.
7. Is an ethical company - This company is a company with values that obeys the laws, is transparent, and respects people and the environment.
8. Is a company that practices social responsibility - This company supports good causes that benefit society and environment.

A way that an organization can strengthen brand recognition and loyalty, convert customers, increase website traffic, and improve customer insights is by using social media (DeMers, 2014). The next sections will discuss social media effects on brand reputation.

### **Social Media**

Social-media outlets are digital tools and applications that facilitate interactive communication and content exchange among audiences and organizations. Boyd and Ellison (2007) define social networks as web-based services that allow users to construct a public profile, create connections with other users, and share content. Social-media networks allow development, creation, dissemination, and consumption of information by individuals (Wollan &

Smith, 2010). Users can upload photographs, post what they are doing at any given time, and send personal or public messages to whomever they choose. Similarly, organizations can use social-media platforms to increase brand awareness and revenues, along with attracting and retaining new customers (Wollan & Smith, 2010).

Six Degrees, was created in 1997, and is considered the first recognized social-media platform (Hendricks, 2013). The platform enabled users to upload a profile and become friends with other users. In 1999, blogging sites became popular, and began the social-media trend that is still popular today (Hendricks, 2013). Shortly after in 2005, YouTube was launched and created an outlet for users to upload and share video. By 2006, two of the most popular social-media sites today, Twitter and Facebook, were open to the public for sharing photos, status updates, and networking (Hendricks, 2013).

Based on social-media sites used by major Interbrand 100 and Fortune 500 companies, there are seven top social-media sites today. These include Facebook with 1.44 billion monthly users, YouTube with 1 billion monthly users, and Twitter, Instagram, and Google+ with more than 300 million monthly users each. Tumblr has 230 million monthly users and Pinterest has 47 million monthly users. In 2015, YouTube had a 100% adoption rate among Interbrand 100 companies, followed closely by Twitter and Facebook with 98% and 96%, respectively (Simply Measured, 2015). The social-media network with the most audience activity is Twitter with 98% of brands active using monthly. Due to Twitter being one of the most widely used outlets and the frequent amount of updates users are able to provide viewers, it was selected as the medium for this study.

## **Twitter**

Twitter is considered a microblog social networking platform through which individuals can post or tweet comments to those who subscribe or follow the blogger (Social Media Examiner, 2011). Due to its immediacy and ease of use, Twitter has been used for news, politics, business, entertainment, and personal tweeting. Since launching in 2006, Twitter has registered more than 500 million users, of which an estimated 51% follow companies, brands, or products through social media (Edison Research, 2010; Sevin, 2013).

Twitter provides organizations two different communication opportunities. The first is that Twitter is cost-effective and a one-way communication method to broadcast a message to a broad but intended audience. Another technique is organizations can engage with followers in two-way communications. Almost half of tweets utilize the broad one-way communication strategy. According to Sevin (2013), nearly 47% of all tweets share only information with other users about various events, where only a fifth (20%) of tweets enabled organizations to directly engage in a two-way conversation. The strategy least used (less than 1%) by companies is tweeting to and engaging a specific user. Sevin's research showed that the majority of the other 32% of companies tend to use Twitter to broadcast messages to the general public in a one-to-many manner, rather than to individuals in a one-to-one manner.

Five major functions are carried out by organizations active on Twitter (Sevin, 2013). These functions can be mirrored in other industry Twitter campaigns and include the following:

- Online information center - provide announcements and up-to-date information about itself.
- Question center - ask followers specific questions and get consumer feedback.
- Deal announcement - distribute promotions and coupons to followers.

- Retweet hub - share or ‘retweet’ content provided by other accounts and does not always produce original content. Tweets shared included news stories, industry updates, event information, and other content that builds a community of promotion for places.
- Organizational hub - interact with related agencies such as government, chambers of commerce, tourism offices, etc. to build a community of promotion for places.

The variety of campaigns that can be used on Twitter provides flexibility in how an organization communicates with an audience. These functions are also of use during a crisis situation, which will be discussed in the next section.

### **Twitter and Brand Reputation**

Digital branding is more than visual identity and logos, it is about building an online experience for users, which plays a part of brand reputation (Rowles, 2014). Consumers use social media to view photos and videos, interact with friends and find businesses or brands (Trainor, Andzulis, Rapp, & Agnihotri, 2014).

Social media allows organizations to strengthen brand recognition and loyalty, convert customers, increase website traffic, and improve customer insights (DeMers, 2014). More than half (53%) of Americans who follow brands on social media are more loyal to those brands (Bauer, 2012). Social-media networks provide organizations with channels to express a brand's voice and connect with audiences at a personal level. Organizations have the opportunity to engage in two-way communications with past, present, and future customers through audiences using social media (Bauer, 2012). Two-way communication outlets enable an organization to not only speak to an audience, but also listen (Laskin, 2012), allowing organizations to interact with an audience and fulfill potential needs that may arise. As organizations look to forge stronger

connections with customers in a competitive marketplace, social-media tools can dramatically influence firm performance through customer engagement and the value created from customer interactions (Trainor, Andzulis, Rapp, & Agnihotri, 2014). This means companies can communicate directly with customers, foster relationships, and assess consumers' brand attitudes (Trainor, Andzulis, Rapp, & Agnihotri, 2014).

Since 2009, American adults reported the Internet was their preferred source for information and the most reliable source for news (Reuters, 2009) and 69% online adults reported using social networking sites (Social Networking Fact Sheet, 2017). This number continues to grow daily and organizations are increasingly taking advantage of this trend to communicate with publics (Social Networking Fact Sheet, 2017).

There are six popular ways for brands to measure success of its Twitter account beyond the amount of followers an account has (Simply Measured, 2014). Metrics include measuring follower growth, engagement, web traffic, influence, and impressions and reach (Simply Measured, 2014). Follower growth is one of the easiest ways to tell if a campaign has had a meaningful impact. Engagement trends can tell an organization if Twitter users were interacting with what was tweeted. One of the most concrete ways to determine success of a campaign is viewing Twitter data from website traffic by using Twitter analytics or a third party tracking site. Many social-media campaign goals are not centered on strictly reaching people, but on reaching a target market and engaged influencers. Lastly, organizations can measure success by impressions and reach of a campaign. Impressions and reach mean that a tweet has been delivered to the Twitter stream of a particular account (Union Metrics Support, 2016). Not everyone who receives a tweet will read it, so it should be considered as a measure of potential impressions. Both reach and impressions should be treated as directional metrics to give an idea

of the overall exposure the tracked term received. These metrics can be used to get a sense of the potential audience size. Impressions are benchmark metrics that can be used to look at standard impressions and reach against campaign metrics (Simply Measured, 2014).

Several studies have investigated the influence Twitter has on word-of-mouth for brands and reputation management. Janson, Zhang, and Sobel (2009) stated there were numerous possibilities to use Twitter for branding efforts and customer relations. Janson, Zhang, and Sobel's study analyzed more than 150,000 microblogging postings as a form of word-of-mouth to spread opinions concerning brands. The study found 19% of microblogs mentioned a brand, 20% expressed opinions about the brand, and of the opinions, 50% were positive and 33% were negative toward the company or product (Janson, Zhang, & Sobel, 2009). The study concluded that microblogs influence brand image and awareness; therefore, organizations should proactively incorporate marketing strategies to manage microblogging sites, such as Twitter.

### **Millennials on Twitter**

Twitter users are predominantly 18 to 29 (Twitter, 2015) who create and share short messages with others. This age range falls into the category of the millennial generation. Researchers have several different labels and ranges to refer to the group of individuals born after 1980 and up to the turn of the century. This group has been called Generation Y, Millennial Generation (or Millennials), Generation Next, Net Generation, and Echo Boomers. Millennials can be classified as a group who succeeded Generation X (Strauss & Howe, 1992). Pew Research (2016) reports there are about 74.9 million millennials today, which rivals the baby boomer generation of about 80 million in its population. Sweeny (2006) initially provides an overarching stereotype of millennials as “gamers,” due to the extensive use of technology as a major influence on how they view the world. Lancaster (2014) describes millennials as “globally

concerned, integrated, cyber literate, media and technology savvy, realistic, environmentally conscious and will try anything” (p. 4). The advancement of technology available during millennials’ youth up through their teen years and into adulthood is probably one of the most notable influences; constant connectivity and the ability to Google anything at anytime has influenced Millennials personally, professionally, emotionally, and mentally (Lancaster, 2014).

### **Crises**

A crisis is defined by Fearn-Banks (2007), as an occurrence that may cause negative outcomes affecting the organization, company or industry, as well as its publics, products, services or good name. Sellnow and Seeger (2013) noted that crises almost always bring up basic ethical issues and questions regarding wrongdoing, intent, cause, blame, responsibility, victims, fairness and equality, among others. Crises often involve a violation of strongly held social values such as personal security, safety, and the moral duty to keep others safe from harm (Sellnow & Seeger, 2013). A crisis is an event that interrupts the normal business transactions and can sometimes threaten the existence of an organization (Fearn-Banks, 2007). Crises are moments of moral imperative and the judgments and evaluations made about a crisis often are grounded in larger ethical and value positions (Sellnow & Seeger, 2013). Events classified as crises share three general attributes: unanticipated or violated expectations, threaten high-priority goals, and require relatively rapid response to contain or mitigate the harm (Seeger, Sellnow & Ulmer, 2003).

The need for crisis-communication management has been impacted by the increase use of social media and online outlets to gather information (Coombs, 2015). Crises are no longer isolated events, they are events that can easily go global due to photographs and video being posted online (Coombs, 2015). In addition, organizations are no longer able to worry about what

crises happen directly to them, but also need to be concerned with what is happening around the organization. Collateral damage to an organization can occur due national crisis events, or events that happen within the community. If an organization is not prepared for a crisis, something known as negligent failure to plan, it can be held accountable and legally liable due to a 1970 Occupational Safety and Health Act policy (Coombs, 2015).

Crises generally consist of several different stages. Fink's (1986) four stages of a crisis include the prodromal, crisis breakout, chronic, and resolution. The prodromal is where an organization is able to identify clues or hints that a crisis is about to occur. In order for an organization to identify the beginning stages of a crisis, there needs to be readily developed detection systems in place to determine the prodromes. The second stage during a crisis is a crisis breakout, which are the earliest events that are part of the crisis and produce damage that can be physical or reputational. The chronic stage occurs as the organization begins to combat the effects of the crisis. This is the stage in which this research will focus on how communication strategies can affect brand reputation. The fourth stage of a crisis is the resolution, which is when the organization determines the crisis events are no longer an issue and no longer cause a threat to various audiences. Although this is the last stage of a crisis, the effects of the crisis may still linger for an extended period of time (Fink, 1986). Once the crisis is in the resolution phase, efforts need to be evaluated to see what is working and what needs improvement. The organization should seek ways to improve prevention, preparation, and/or the response (Coombs, 2007).

### **Types of Crises**

While crises all have similar characteristics or outcomes that classify them as crises, not all crises are of similar type or origin. Coombs (2015) states that in order to determine the crisis

type, one must look to see what cues are present and being used to describe the crisis. Crisis-communication researchers developed the crisis type classification system to reduce uncertainty once a crisis occurs (Ulmer, Sellnow, & Seeger, 2010; Newsom, Turk, & Kruckeberg, 2003). Ulmer, Sellnow, and Seeger (2010) have categorized crisis types into intentional crises and unintentional crises. Intentional crises are designed to cause harm to an organization, such as terrorism, sabotage, workplace violence, and hostile takeovers. Unintentional crises are generally unforeseeable or unavoidable; such as natural disasters, product failure, disease outbreaks, and downturns in economy (Ulmer et al., 2010). The two crisis types, intentional and unintentional, provide a simplistic way for organizations to identify and prepare for the potential crises. In addition, Newsom, Turk, and Kruckeberg (2003) categorized a third category for crises, acts of nature. The acts of nature category includes violent crises (i.e., hurricanes) and nonviolent crises (i.e., droughts). This newer category creates removes natural disasters from the unintentional crisis category to leave product failure, disease outbreaks, and downturns in economy (Ulmer et al., 2010). The following section looks at communication purposes and goals when responding to a crisis, regardless of type.

### **Crisis Communications Purpose and Goals**

Crisis communications is a process of purposefully communicating information by a public or private organization to an audience (Walaski, 2011). Communication is particularly challenging during crises because an immediate response is necessary, due to the looming threat, and because situations inherently being uncertain (Ulmer, Sellnow, & Seeger, 2007). Crisis communications involves the sending and receiving of messages “to prevent or lessen the negative outcomes of a crisis and thereby protect the organization, stakeholders, and/or industry from damage” (Coombs, 1999, p. 4).

During a crisis, an organization's stakeholders can look for communication types utilized, such as advice and answers regarding the crisis, information on the crisis, and processes and framework for the crisis (Morgan et al., 2002). Lundgren and McMakin (2004) identified significant factors that shape how an organization uses the response type following a crisis. The first factors are if the crisis involves legal issues and regulatory requirements on the state and federal level that may influence information provided by the organization to the public. Another factor is if the organization has written policies on how a response is given to the public.

Crises can create opportunities for organizations if strategically navigated. Meyers and Holusha (1986) describe seven potential opportunities associated with crisis: "heroes are born, change is accelerated, latent problems are faced, people can be changed, new strategies evolve, early warning systems develop, and new competitive advantages appear" (p. 46).

Corporations are finding that stakeholders have elevated expectations about the quality of what they buy and of corporate behavior (Greyser, 2009). Using the wrong response during an incident or crisis will put the organization's reputation with consumers on the line (Griffin, 2014). An example of this is the incident of United Ways response to forcibly removing a passenger from its plane due to lack of seating available. After receiving back lash and drop of stock prices after the first organizational response was published, the organization then released a second and then third response. Once a reputation is tarnished, an organization may restore trust, although that is not guaranteed. Reputational damage can be translated into financial damage and threaten the organization's survival (Coombs, 1996). During a crisis situation, organizations can use crisis response strategies to repair reputational damage (Coombs, 2015). There are differences between crises and response strategies organizations can use, which have been characterized in crisis-communication theories.

## **Crisis Communication Theories**

During the past 20 years, researchers have developed theoretical and conceptual approaches for responding to a crisis to better understand the crisis types and appropriate use of strategies (Ulmer, Sellnow, & Seeger, 2010). Prevalent crisis-communication theories include Image Restoration Theory (IRT) (Benoit, 1995), The Discourse of Renewal Theory (DTR) (Ulmer, Sellnow & Seeger, 2011), Situational Crisis Communications Theory (SCCT) (Coombs, 1996; Lariscy, Avery, & Sweetser, 2009), and the most recent, Social Mediated Crisis Communication Model (SMCC) (Jin, Lui, & Austin, 2011).

IRT is the dominate communication theory that often seeks to limit or contain responsibility and the legal liability by shifting blame or stating that the accused did not actually cause the harm (Sellnow & Seeger, 2013). The theory focuses primarily on the immediate aftermath of an event through the lens of various strategic messages, including denial, shifting the blame, mortification, corrective action, and minimization. In essence, image restoration and its variants attend to questions of reputational repair by articulating the range of assorted strategic messages likely to repair the image of the organization or individual under attack (Benoit, 1995).

While image restoration focuses on explaining and interpreting what has happened and who is at fault, the Discourse of Renewal Theory focuses on what will happen and how the organization will move forward. The theory provides an alternative approach to image restoration theories following a disaster or crisis. By focusing on the provisional responses from organizational leaders about devastating disasters, such as fires and floods, the leaders' natural impulse is to rebuild and move beyond the crisis (Ulmer, Sellnow, & Seeger, 2006).

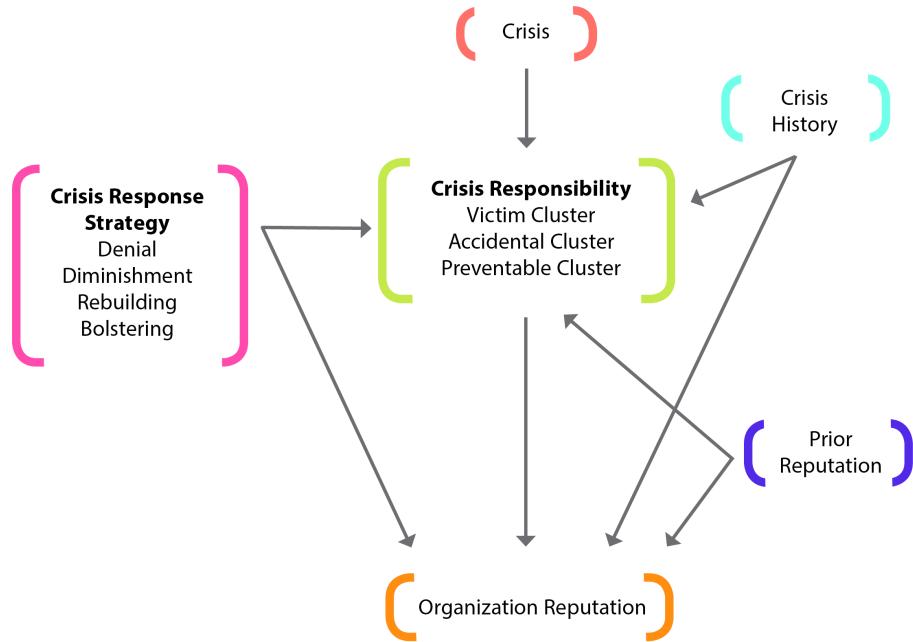
The SMCC model is categorized into two parts: 1) how the source and form of crisis information affect organizations' response options and 2) recommended social-mediated crisis response strategies (Jin, Lui, & Austin, 2011). The theory divides crisis information sources into two categories, that which is produced by the organization and that which comes from a third party outside of the organization. Though useful, SMCC focuses on the information form and source rather than message content

While these theories are popular within crisis-communications research, SCCT looks at how strategies used within particular crisis situations affect how the message is perceived. Due to this study's focus on the communication strategy utilized, SCCT was used as the foundation for crisis response development and testing. The theory, developed by Coombs in 1995, is based around maintaining or re-establishing a favorable reputation during and after a crisis (Jin, Lui, & Austin, 2011). The following sections will explore how SCCT categorizes crises and what response strategies are recommended.

### **Situational Crisis Communication Theory**

SCCT was developed by Timothy Coombs in 1995, and was officially published in 2007. This provides a framework for understanding how to maximize the reputational protection by crisis communication and identifies how key features of crisis situations impact attributions about the crisis and organizational reputation (Coombs, 2007). Coombs drew on the attribution theory, to help develop SCCT (Coombs, 1995). Attribution theory states that once an event occurs, people will try to establish and figure out why the event happened. Even if the people themselves have little to no knowledge of the event, they will still assign responsibility to someone (Coombs & Holladay, 2010). SCCT focuses on how an audience will react to a crisis based on how the crisis is perceived, crisis response strategy, crisis history, prior reputation, and

crisis responsibility as shown in Figure 2.3. How SCCT has been used in previous research will be discussed further in this chapter.



**Figure 2.3.** Situational Crisis Communication Theory Model

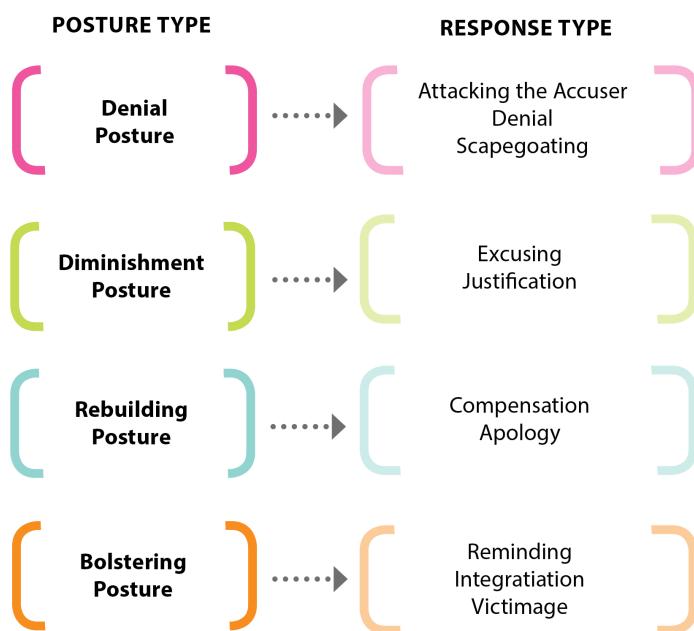
### Situational Crisis Communication Theory Clusters

According to SCCT, crisis types are clustered into three categories by level of attributed responsibility, including victim cluster, accidental cluster, and preventable cluster. The first category, victim cluster, is where there is “very little attribution of crisis responsibility for the organization” (Coombs, 2011, p. 158). The cluster involves events that cause stakeholders to see the organization as a victim and not the cause of the crisis, including natural disasters, rumors, workplace violence, and malevolence (Coombs, 2015). The accidental cluster is comprised of technical-error accidents, technical-error product harm, and challenges. Crisis events that fall under accidental are considered by Coombs (1996) to be of low attribution of crisis responsibility. Lastly, the preventable cluster is considered to have strong attributions of crisis responsibility.

responsibility for the organization. Preventable crises include human-error accidents, human-error product harm, and organizational misdeeds.

### Situational Crisis Communication Theory Strategies

For each of the three crisis type clusters, there is a recommended response strategy stated in SCCT (Figure 2.4). What organizations say to various publics during a crisis should influence the extent of the reputational and financial damage a crisis can inflict on the organization's image (Coombs, 1996). The strategies created by Coombs are organized by determining whether the intent is to change perceptions of the crisis or of the organization in crisis. The 10 most common strategies have been grouped into four postures by Coombs (2015) to include denial, diminishment, rebuilding, and bolstering (Figure 2.4).



**Figure 2.4.** SCCT Posture Response Strategies

The denial posture includes attacking the accuser, denial, and scapegoating as its strategies (Coombs, 2015). By using the denial strategy, the organization is claiming there was no crisis or it is blaming the crisis on a third party (Coombs, 1996). The diminishment strategy

attempts to reduce attributions of organizational control or the negative effects of the crisis. The diminishment posture contains two strategies, including excusing, which reinforces minimal responsibility for the crisis, and justification, which reinforces minimal damage from the crisis. Both strategies are recommended to be used with crises having a low level of crisis responsibility, such as accidents. The rebuilding posture is composed of two strategies that try to improve an organization's reputation and are used when the organization is taking responsibility or accepts the crisis. Compensation indicates that the organization is taking responsibility for the crisis and is suggested to be used when there are visible victims. The apology strategy, while valued, is considered the most complex to execute due to the difference in a full and partial apology (Coombs, 2015). The difference between apology levels is the legal liabilities that can follow. The last posture is bolstering, which strives to build a positive connection between the organization and stakeholders with three strategies. The strategies include reminding, ingratiation, and victimage. Coombs (2015) suggests using bolstering strategies supplemental to other postures because they focus on the organization. The reminding and ingratiation strategies as positive information about the organization, while victimage builds sympathy for the organization.

Sisco, Collins, and Zoch analyzed how the Red Cross responded to crisis through the lens of SCCT in *Through the looking glass: A decade of Red Cross crisis response and situational crisis communication theory* (2010). Over the last twenty years, the Red Cross experienced numerous crisis situations that damaged their reputation. One of the first prevalent events occurred in a 1998 situation of not screening their blood tightly enough, which led to thousands of people contracting serious diseases and in 2011 there was a mishap with money collected for families affected after a terrorist attack. Through each of the crises, the Red Cross was criticized

for the lack of control over local chapters, inability to provide volunteers, and distribution of donations. Sisco, Collins, and Zoch reviewed 1,585 news articles, using five major American newspapers accessed through a scholarly database. Researchers found that all three responses from SCCT were used. Additionally, the study found that the articles that mentioned previous negative crises were negative 71% of the time (Sisco, Collins, & Zoch, 2010). This study concluded that the Red Cross chose the appropriate response strategy one-third of the time and could have repaired their reputation more if they had used the theory of SCCT.

### **Social Media in Crisis Communications**

Publics are increasingly using social media during crises and, in response, crisis-communication professionals need to understand how to strategically optimize social-network tools (Jin, Lui, & Austin, 2011). People are no longer seeking crisis-related information solely from official sources within traditional media, but are actively getting it publically via information and communication technology (Heverin & Zach, 2010). With this shift to online and social-media channels by information consumers, organizations also must respond and engage with audiences through these channels during a crisis to correct inaccuracies and address concerns (Wollan & Smith, 2010). As a user-generated medium, social media gives organizations the ability to inform and to seek input from relevant publics (Hand & Ching, 2011) in real-time with their own words, which can be especially important during a crisis.

A study of Internet communication during Hurricane Katrina found that Internet users turned to online networks in place of traditional media as a result of disruptions caused by the crisis (Procopio & Procopio, 2007). Users in the study used the Internet and social media during the crisis to gather information and provide or receive emotional support. Nearly three out of four of respondents (72%) rated the Internet as important or very important to gathering specific

information on personal property; 64% placed similar value on “getting word out” to friends of their status; and 61% rated “gathering specific information on friends” as important or very important (Procopio & Procopio, 2007). Similar findings were found in a 2011 survey conducted by the American Red Cross that showed Americans are increasingly relying on social media to gather or share information and to seek help during an emergency (Harman, 2011).

Another example of how crisis communications has been looked at within social media is a study conducted in 2013. Freberg, Saling, Vidoloff, and Eosco analyzed social-media crisis messages and messaging theory through various values modeling techniques and generated a baseline model for what constitutes a “good” crisis message (Freberg, Saling, Vidoloff, & Eosco, 2013). From questions answered by study participants, the researchers wrote a baseline guide on what makes an effective crisis-communication message via social-media. The model then was used as a proof of concept to analyze social-media messages on Twitter collected concerning Hurricane Irene in 2011.

Freberg, Saling, Vidoloff, and Eosco assigned a value question to each of the objectives that, if answered, showed just how well the messages performed in the category of that objective. Based on previous research, 17 values were considered important in having an effective crisis message published on social media and were used in the study. The values include quick communication, credibility, accuracy, simplicity, completeness, communication broadness, traditional media outlet, presence of topical keywords, real-time monitoring links, graphics, conversational voice, information about safety given, information about sources of relief, secondary messages in a different medium, presence of a hashtag, and presence of a URL (Freberg, Saling, Vidoloff, & Eosco, 2013).

Information about safety, along with secondary messages in media such as videos, links, and photos, are important aspects of a crisis message (Freberg, Saling, Vidoloff, & Eosco, 2013). Eight of the top 10 updates had a link associated with the update. Having a link was found to be critical due to a character limit in a social-media post. Using proper hashtags, keywords, and voice of content also were important for top ranking posts (Freberg, Saling, Vidoloff, & Eosco, 2013).

### **Data Breaches**

A data breach is the loss or theft of personally identifiable information such as social security number, credit card number, name, and date of birth (Romanosky, Telang, & Acquisti, 2011). It is an event that can disrupt an organization's operation, leading to financial losses for both the firm and stakeholders. In 2016, there was a record total for data breaches with the Theft Resource Center logging more than 1,000 breaches, which was an increase of 40% from 2015 (Kharif, 2017). Industries hit by data breaches included financial institutions, education organizations, health institutions, private and public businesses, the military, and the government. It is expected by 2018 that organizations worldwide will spend \$90 billion a year on security-related hardware (Kharif, 2017).).

The lack of transparency, especially in the immediate aftermath of a security breach, often contributes to strains in the relationships between shopping websites and customers (Chakraborty, Lee, Bagchi-Sen, Upadhyaya, & Rao, 2016). As of March 2016, 47 states had passed legislation requiring companies to notify individuals when breaches occur (Ablon, Heaton, Lavery, & Romanosky, 2016). It is hoped that public notification of a data breach would highlight a weakness of a company's data security practices and encourage a proactive approach to data security (Ablon, Heaton, Lavery, & Romanosky, 2016).

Ablon, Heaton, Lavery, and Romanosky (2016) conducted a study via an American Life Panel with more than 6,000 adults between May 15 and June 1, 2015, to study a snapshot of the frequency of breach notifications and the types of data compromised, as well as consumer reactions to the breach. From the study, researchers estimated that more than one-quarter of all U.S. adults have received a notification of compromised personal information in 2015. Additionally, more than one-half of that amount, received two or more notifications in the year proceeding the survey (Ablon, Heaton, Lavery, & Romanosky, 2016). Surprisingly, only 11% of respondents to the survey stopped dealing with the company following a breach. It is expected that in 2017, that an increase in data breaches will occur within the healthcare industry (Experin, 2017).

### **Healthcare Centers**

For more than 40 years, community health centers have provided primary, behavioral and mental services to the public. In the most recent study produced by the National Center for Health Statistics (2008), community health centers averaged 31.1 million visits annually from 2006-2008. Due to the frequent use of healthcare centers, and its weakness to data breaches, which will be discussed later, it was chosen as the focus for this study.

Federally funded health centers use an array of different organizational structures and ownership arrangements. Most commonly, health centers are independent, private not-for-profit corporations (Hicks, 1985). Health centers may also be organized as units of local government—either as divisions within county or city health departments or as separate governmental units (Mays, 1999). Additionally, health centers may be owned and operated by private organizations—most commonly hospitals, university medical or nursing schools, or local medical societies (Mays, 1999). Finally, health centers may be jointly owned by multiple

organizations, such as a consortium of local hospitals or a hospital-university partnership (Hicks, 1985).

Regardless of what sector a healthcare center falls under, Health Insurance Portability and Accountability Act (HIPAA) applies. HIPAA regulations define the material that constitutes individually identifiable health information and the ways in which that protected health information (PHI) must be managed (Benefield, Ashkanazi, & Rozensky, 2006). Information considered identifiable, and therefore PHI, includes names of patients and/or their relatives, dates, specific geographic information, telephone and fax numbers, e-mail addresses, identification numbers (i.e., social security, medical record, health plan, account, certificate/license, vehicle identification, license plate), medical device identifiers and serial numbers, biometric identifiers (such as finger or voice prints), photographs or comparable images, and any other unique identifying numbers, characteristics, or codes (Benefield, Ashkanazi, & Rozensky, 2006). This information may relate to the patient's physical and mental health in the past, present, or future. Also, PHI may be found in any form of communication or storage, such as paper, electronic, video, or verbal (Benefield, Ashkanazi, & Rozensky, 2006).

It has been reported to the Department of Health and Human Services' Office for Civil Rights that nearly 22 breaches have occurred in the healthcare industry in 2017 (McGee, 2017). These breaches have affected a total of 75,270 individuals (McGee, 2017). Breaches have included hacking/IT incidents, eight unauthorized access/disclosure breaches, four incidents involving the loss/theft of unencrypted mobile devices, three incidents involving lost paper/films; and one theft of PHI on a medium listed only as "other" (McGee, 2017).

Experin, a data breach security forecast company, published a white paper stating that the healthcare industry will be the most targeted sector with new and emerging hacking tactics on

the rise. Personal medical information remains one of the most valuable types of data for hackers to steal, and cyber criminals will continue to find a market for reselling this type of sensitive information (Experin, 2017). With the increase of hacking occurrences, it is important for organizations to ensure they have proper, up-to-date security measures in place, including contingency planning for how to respond to a ransomware attack and adequate employee training about the importance of security (Experin, 2017).

### **Summary**

Previous literature has focused on distinguishing types of crises and what crisis-communication strategies should be utilized within traditional media, yet fail to provide similar research within social-media outlets. As discussed throughout the literature review, brand reputation plays a key role for any organization, including the healthcare industry.

As shown in Figure 2.1 and throughout the literature review, this current thesis research fulfills a gap within literature by looking at how Twitter-based crisis-communication strategies effect brand reputation. With the healthcare industry susceptible to data breaches, and forecasted to increase in 2018, there is a need to study how data breaches can be responded to by an organization and if, in addition to response strategy, affect the SCCT assumed outcomes.

## **Chapter 3 - Methodology**

Content analyses and case studies have been the dominant method used for analyzing crisis communications (Cooley & Cooley, 2011; Ma & Zhan, 2016; Porter, 2016; Sisco, Collins, Zoch, 2010; Utz, Schultz, & Glocka, 2013). Even with the increase of social media use within crisis communication, there is a lack of models that explore how organizations could use social media to mitigate the negative outcomes of a crisis (Liu & Fraustino, 2014), and there is a need for more compound models of crisis communication in the social-media environment (Utz, Schultz, & Glocka, 2013). The research questions and hypotheses developed based on findings within the literature review are as follows:

### **Research Questions**

- RQ 1: Will all participants begin with the same pre-test score?
- RQ 2: Is there a time effect on brand reputation?
- RQ 3: Does an accidental crisis change brand reputation?
- RQ 4: Does a preventable crisis change brand reputation?
- RQ 5: Does brand reputation change vary by crisis type?

### **Hypotheses**

- H1: Brand reputation will be consistent from pre-brand to post-brand test for matched crisis responses.
- H2: Post-brand tests for unmatched accidental responses will be consistent with or better than pre-brand tests.
- H3: Post-brand tests for unmatched preventable responses will be lower than pre-brand tests.

This chapter presents methods and procedures, which are guided by Coombs' (1996) Situational Crisis Communications Theory (SCCT) in an experimental design used to answer the research questions and hypotheses of this study. This study employed an experimental 2x2 factorial design using independent variables of (a) type of crisis (preventable and accidental) and (b) type of response (rebuild and diminish). The dependent variable was organizational brand reputation.

## **Design**

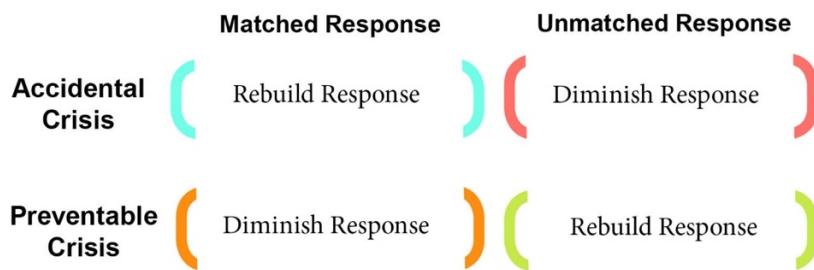
The experiment used a 2x2 design with two research conditions: type of crisis: (1) preventable (2) accidental; and response type: (1) rebuild, (2) diminish. Figure 3.1 illustrates the pairing of each condition in the experiment. The two crises mirrored one another except for what caused the crisis (Appendix B). The crises involved a student data leak. The accidental crisis was due to a healthcare computer database, used to store students' personal information, having glitches and redirecting all entries to an unsecured network location. Due to information being unsecured, third parties could access information such as student addresses, insurance information, and medical history. The preventable cause occurred due to a doctor repeatedly accessing patient records and sending information such as medical records, prescription needs, and student addresses to a pharmaceutical company in exchange for money. This is a known HIPAA violation and against the health center's policies as stated in the background materials provided to participants.

The situation of a data breach and location of the healthcare center were chosen purposefully as something relatable to millennials. Even if the population did not have a university background or familiarity, the healthcare center or data breach situation could be relatable. The crises were centered on a fictional university health center, Piedmont Health

Center, located in Delaware. The location of the health center being in Delaware was selected so it was outside the range of the sampling states. This was to increase the reality of the situation for the participants as they may be familiar with schools in their state and/or region.

### **Independent Variables**

The independent variables in this crisis study were crisis type (accidental and preventable) and crisis response type (rebuild and diminish) as shown below in Figure 3.1. The two crisis types provided dichotomized situations. Crises have the ability to do great harm to an organization's reputation by creating widespread and systematic disruption (Sellnow & Seeger, 2013). Crises are moments of moral imperative and the judgments and evaluations made about a crisis are often grounded in larger ethical and value positions (Sellnow & Seeger, 2013).

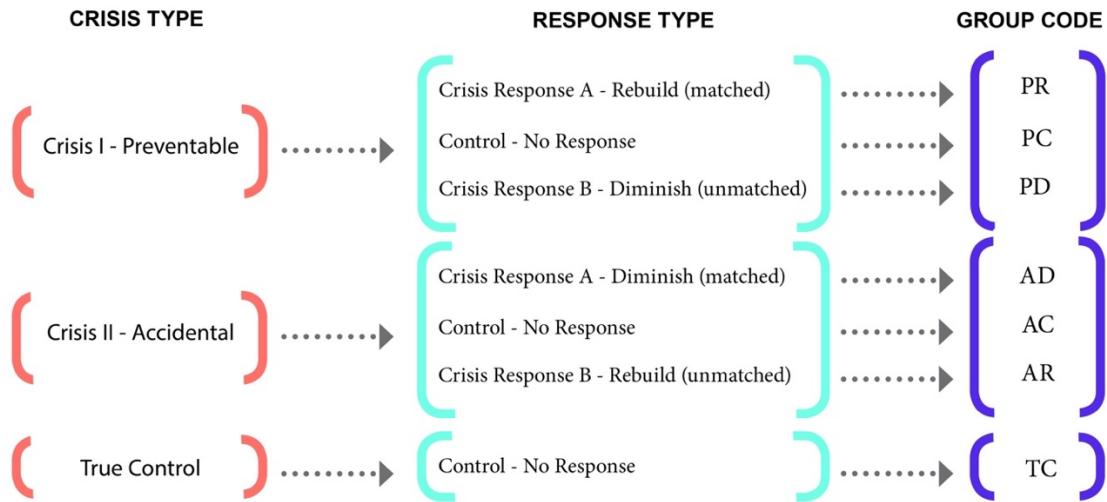


**Figure 3.1.** Factorial design matrix of independent variables

Preventable clusters include human-error accidents, human-error product harm, organizational misdeed, organizational misdeed management misconduct, and organizational misdeed with injuries. The crisis scenario of the doctor accessing patient records and selling information to a third party violates HIPAA policies and makes it an organization misdeed management misconduct. The accidental cluster, which will be represented by the computer data breach, occurs when there is a technical-error accident or technical-error product harm (Coombs, 1996).

The two scenarios also fell under separate categorizations created by Ulmer, Sellnow, and Seeger (2010) for intentional and unintentional crises. The preventable crisis was an intentional crisis and the accidental was unintentional. Intentional crises are events that harm an organization, such as terrorism, sabotage, workplace violence and hostile takeovers. Unintentional crises are generally unforeseeable or unavoidable; such as, natural disasters, product failure, disease outbreaks and downturns in economy (Ulmer, Sellnow & Seeger, 2010). The goal of the subject matter for each crisis type was to provide a realistic and relatable scenario for a target population of millennials.

The second independent variable was the crisis response type released by the health center. Coombs (1996) states what organizations say to their various publics during a crisis should influence the extent of the reputational and financial damage a crisis can inflict on the organization's image. The strategies created by Coombs are organized by determining whether the intent is to change perceptions of the crisis or of the organization in crisis. The crisis responses given by the health center included one matched response and one unmatched response (Figure 3.2). The first matched response for the preventable crisis was a rebuild response. The unmatched response for the preventable crisis was a diminishing response. For the accident crisis, the matched response was diminishing and the unmatched was rebuild. In addition, a true control was used to examine if participant's answers stayed consistent between the pre-brand and post-brand-reputation test. If participants received the true control they received the pre-brand reputation survey, video distractor, and post-brand-reputation survey. A controlled response variable was also used to test the effect of crisis type on post-brand reputation.



**Figure 3.2.** Independent variables

The diminishing crisis response strategies argue that the crisis is not as bad as people think or that the organization lacked control of the crisis. If crisis managers lessen an organization's connection to the crisis and/or have people view the crisis less negatively, then the harmful effects of the crisis can be reduced (Coombs, 2007). The simulated Twitter responses released by the healthcare center used solid evidence to support the claims that the crisis occurred due to a technical-error accident and was not caused by human error (Appendix C).

The rebuild crisis response strategy was an attempt to rebuild a reputation by apology or compensation. The simulated Twitter responses released took blame for the lapse of enforcement of HIPAA policies and apologized for the leak of student data. The choice between an apology and other response methods is primarily a legal one (Coombs, 2006). However, for grievous organizational misdeeds, an apology would be recommended because the organization will suffer legal losses with or without the apology and an apology might actually lessen the financial damages (French, 2002).

Lastly, the initial observation asked pretreatment questions for independent variables such as age, gender, and social media usage. Although these variables are not primary independent variables studied within this experiment, they were used for generalizability of findings.

### **Dependent Variable**

The dependent variable for this study was the organizational reputation. The definition of corporate reputation from Fombrun and van Riel (1997) is “a collective representation of a firm’s past actions and results that describes the firm’s ability to deliver valued outcomes to multiple stakeholders” (p. 10). Having a positive reputation can reduce stakeholder uncertainty about organizational performance, motivate consumers to buy products, attract high-quality employees, encourage outside investors, and retain essential transaction partners such as suppliers and distributors (Fombrun, 2006). This study utilized the CRI model to measure reputation with one main question regarding the respondent’s overall perception of the organization and seven questions that characterize the organization’s reputation issues such as: having good products and services, relationship with consumers, generates positive feelings, leadership and innovation, internal environment, ethical enterprise, and discretionary social responsibility practices (Feldman, Bahamonde, & Bellido, 2014). Participants indicated their agreement with the statements using numeric values on a “1” to “6” scale anchored by bipolar statements. Ordinal scales measuring level of agreement scales “strongly disagree” to “strongly agree” also were used.

### **Manipulation Checks**

To check the validity of manipulating the two primary independent variables, checks were used to ensure the participant recalled the crisis and what responses were given. Questions

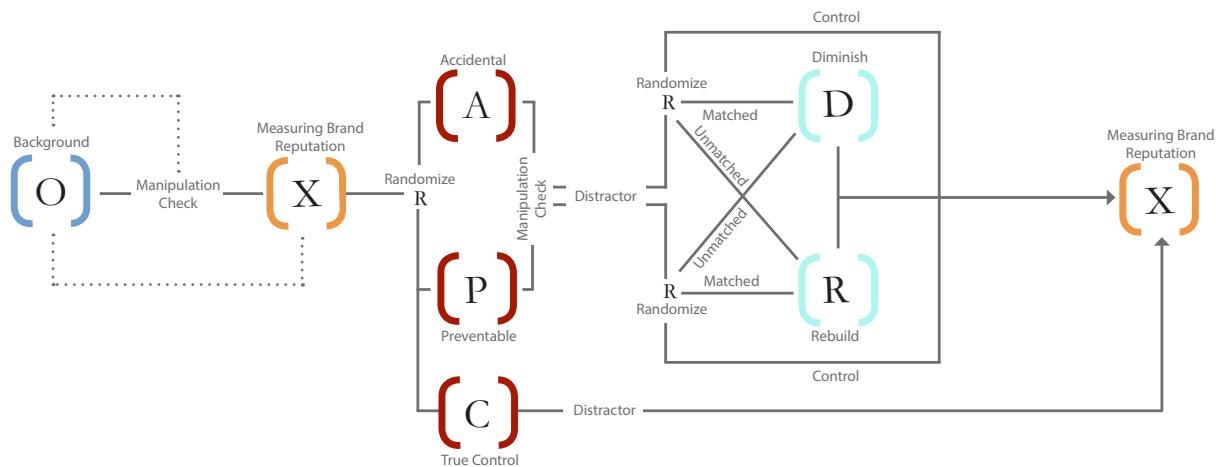
within the survey also were reverse coded to ensure participants were giving consistent answers. Another manipulation that occurred during the survey was the randomization that takes place with each condition assignment. Random assignment occurred to get equal participants in each of the treatments.

It was hypothesized that participants in the accidental matched response condition would have greater, positive organizational images than those in the no response or mismatched response condition (Coombs, 2015). The experiment used the no response condition as the control response to eliminate potentially spurious relationships between the crisis, response, and post-crisis brand reputation (Experimentation, n.d.). If the no response condition was given, then participants received the pre-brand reputation survey, crisis brief (accidental/preventable), video distractor, and post-brand-reputation survey. In addition, a true control was used to examine if participants answers stayed consistent between the pre-brand and post-brand-reputation test. If participants received the true control they received the pre-brand-reputation survey, video distractor, and post-brand-reputation survey.

## **Procedure**

Low-cost computing and the rapid growth of the Internet have created a new environment for conducting survey research (Sue & Ritter, 2007). Online surveys offer the opportunity for direct data entry, greatly reducing staff time, data entry errors, and expense. However, this convenience is coupled with limitations with respect to the number and type of questions that may be placed on the questionnaire (Sue & Ritter, 2007). Advantages of an online survey include low cost, timeliness, direct data entry, and wide geographical reach, while disadvantages include coverage bias, reliance on software, and confidentiality of survey (Larose & Tsai, 2014; Sue & Ritter, 2007).

The controlled designed experiment (Figure 3.3) was sent to a Qualtrics panel. The survey remained open until each condition had approximately 42 participants. Nonresponses and incomplete surveys did not go towards the total amount collected and were not reflected in the data analysis. The data collection took 3 days to meet the conditions needed. Participants received a request for the online simulation and questionnaire that took less than 15 minutes to complete. In compliance with the Institutional Review Board protocol (Appendices E), an online briefing occurred before the experiment.



**Figure 3.3.** Flow of designed experiment

Once participants agreed to participate, they were randomly assigned to a condition, and read an instructional page featuring background information on the health center. The background of the organization provided participants with the health center's mission, history of the center, who the center serves, and cause-based organizations the center is involved with. This information was presented on a page designed to look like the organization's "about us" website page (Appendix A). The intent was to create a positive reputation for the health center, measured using the CRI model prior to the crisis. The content was evaluated after the pilot test to ensure that this was the case. Once the brand reputation content was reviewed, participants took a brand reputation survey.

Next, the participants were randomized and presented with either the (1) preventable or (2) accidental crisis in the form of a brief or (3) the true control group. The control went to a distractor and on to the end of the questionnaire to take the post-brand-reputation survey. The crises were similar in nature, but differed in cause to ensure unspecified biases occurring from participants. Participants were given an unspecified amount of time to read through the crisis before moving forward in the questionnaire. Two groups of participants, one for each crisis type, then received the post-brand observation questionnaire to serve as reference groups. The other four groups went on to be randomized into response treatments (Appendix B).

The third step of the experiment was presenting participants with a series of tweets that communicated the matched or unmatched responses of (1) rebuild or (2) diminish (Appendix C). Lastly, participants completed a questionnaire consisting of a series of scales from the CRI model that measured reactions and feelings pertaining to the crisis scenario presented, perceptions of the organization's reputation, and demographics (Appendix D).

## **Participants**

The participants for this survey who were millennials who lived in Midwestern states were recruited through a paid Qualtrics panel. The Midwestern condition was applied in order to create a geographical location that would have enough distance away from the factious organization in Delaware. Each subgroup that was analyzed separately had a minimum of 40 or more units in each category (Zikmund, 1997). Since there were seven separate conditions, a minimum of 294 participants were sought to ensure an adequate number of participants in each category. The Qualtrics survey remained open until all conditions were fully met from November 2, 2016 to November 4, 2016 and November 9, 2016. A total of 661 participants started the survey, out of which 230 were removed for not matching the requirements of being a millennial

living in the Midwest. Another 131 participants did not fully complete the survey flow, and their data was not analyzed.

Millennials, individuals ranging from ages 18 to 39 (Brandau, 2012), are consistently associated with higher digital and social-media usage (Millennials in Adulthood, 2014; Lenhart, Purcell, Smith, & Zickuhr, 2010), and therefore serve as the most ideal age group for this study's examination of crisis-communication strategies utilized on Twitter. Millennials also are the most engaged population on Twitter (Twitter, 2015). Individuals were screened out if the millennial age range requirement was not met. In addition, individuals were screened out if they did not reside in Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, or South Dakota.

A link to the questionnaire was sent out via Qualtrics. Those who accepted an invitation to participate were randomized into one of seven conditions based on the type of crisis (preventable, accidental), type of response for each type (rebuild, diminish, control), and a true control, all of which will be described in more detail.

### **Pilot Test**

Prior to executing the questionnaire, a pilot test was completed. The test was used to identify any issues with the survey's form and presentation (Litwin, 1995). Pilot testing allowed for correcting errors before the survey was used on a wider scope to gather study data. The pilot test contained the exact same crisis types and response stimulants of the proposed design experiment. However, edits were made to enhance the stimulants, responses, and questionnaire to make it a sound experiment. The pilot tests were distributed to 23 students in a spring course at Kansas State University, in addition to 34 participants during the summer 2016 semester. The pilot test distributed in the spring course to 23 students was used to receive feedback on the crisis

situation, brand reputation test (CRI), and response types. Edits were made to the crisis situation after receiving feedback to increase the characteristics from being preventable. Originally for the preventable crisis, the doctor accessed student records for what was stated as his “personal use”. After receiving feedback from students that it was unclear what was being done with the accessed data, researchers switched it to the doctor selling information to a third-party insurance company. The brand reputation measurement scale was also edited after the first pilot test. The original test used the SPIRIT scale referenced in chapter 2, but it was found that items asked on the survey were ones requiring participants to have previous experience with the organization. The CRI measurement scale was then chosen due to the questions being able to be answered without having previous direct contact with the organization being examined.

For the pilot study conducted in the summer 2016, a total of 34 respondents were captured for the study using the CRI scale. The purpose of this pilot test was to ensure that the flow of the survey was working. From the summer pilot study researchers learned that due to time limitations it would be better to conduct the survey via Qualtrics paid panel and not rely on student responses from Kansas State University. Using the Qualtrics paid panel ensured that all conditions for the study received equal participants and once a condition was full, participants would be pushed to a different condition. After the second pilot study closed, additional edits were made to the survey flow by Qualtrics to make sure each condition received equal responses and that demographic captured were correct. Due to the lack of responses, statistical analysis was not used on the pilot tests. Thus, it is unknown if the instrument was reliable prior to conducting the final study.

## **Data Analysis**

Organizational reputation was measured by eight items ranked on 1-to-6 scales anchored by bi-polar statements. Therefore, organizational reputation was statistically measured using a t-test between the independent variables of preventable and accidental crisis. A series of t-test statistics were used to determine if there were any effects on the dependent measures (reputation). Descriptive statistics were calculated for each variable and Cronbach's alpha ( $\alpha=.84$ ) was used to assess the internal reliability for the brand reputation scale. This falls above the .7 level of reliability recommended requirement. The Cronbach's alpha in the original study conducted by Feldman, Bahamonde, and Bellido in 2014 was ( $\alpha = .97$ ). Manipulations used within the study were examined with a series of ANOVAs for data analysis. To supplement the omnibus F-test for main effects used by ANOVA, Tukey's post hoc test was used to reveal differences between manipulations and to examine interaction effects. In addition, correlation tests were run to measure the interactions between justification of tweets and perceptions of responsibility of the crisis on brand reputation.

Prior to the research study being initiated, researchers had planned to run a regression analysis to determine the effects of crisis types and response types on brand reputation. Due to SCCT not being upheld by preliminary tests, researchers did not proceed with the regression analysis.

## **Summary**

This chapter presented methods and procedures for a 2x2 factorial design structured from Coombs' SCCT. The independent variables for this study was (a) type of crisis (preventable and accidental) and (b) type of response (rebuild and diminish). The dependent variable was organizational brand reputation. The controlled designed experiment (Figure 3.3) was completed

through Qualtrics by millennials who reside in Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, or South Dakota.

Participants of the study were provided an organizational background for Piedmont Health Center, pre-brand reputation survey, crisis briefs, crisis responses, video distractor, and lastly a post-brand-reputation survey. There were three controlled variables including a true control group who received the organizational background, pre-brand reputation, video distractor, and post-brand reputation. The two controlled response variables received the organizational background, crisis briefs, video distractor, and post-brand reputation. Data collected from this study are presented in the next chapter and were analyzed by a series of t-tests, ANOVAs, and correlations. Data analysis took place in SPSS 24.

## **Chapter 4 - Results**

This chapter presents the findings of a quantitative experimental design testing independent variables of crisis type and crisis response to dependent variable organizational brand reputation. For this study,  $\alpha = .05$ , and a series of paired t-tests and one-way ANOVAs were used to correlate the independent variables crisis types (accidental/preventable) and crisis response (matched/unmatched) and dependent variable (organizational reputation).

### **Demographics**

An experimental design was employed to test the hypotheses and research questions. The questionnaire was administered during a five-day period by Qualtrics and 296 people participated in the study (157 females, 137 males, and 2 other). The ratio between genders was filtered by national census data. To meet the study's goal of studying millennials, participants were between the ages of 18 and 34. The average age of participants was 26 years old. The youngest participant was 18 and the oldest was 34. The study focused on participants in Midwest states, including Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

Although education level was not a key independent variable for the study, participants were asked to provide what level of education they had achieved (Table 4.1). 24.7% ( $n = 73$ ) respondents reported "some high school, no diploma", 9.5% ( $n = 28$ ) "high school graduate, diploma or equivalent", 3.4% ( $n = 10$ ) "some college credit, no degree", 23.6% ( $n = 70$ ) "trade/technical/vocational training", 24.3% ( $n = 72$ ) "associate's degree", 3.7% ( $n = 11$ ) "bachelor's degree", 3.4% ( $n = 10$ ) "completed some postgraduate", 5.1% ( $n = 15$ ) "master's degree", 2% ( $n = 6$ ) "Ph.D., law or medical degree", and .3% ( $n = 1$ ) "other advanced degree beyond a master's degree".

**Table 4.1**  
*Education level of Participants*

Education Level	Number of Participants	Percent
Some high school, No diploma	73	24.7
Associate's degree	72	24.7
Trade/Technical/Vocational training	70	23.6
High school graduate, Diploma or equivalent	28	9.5
Master's degree	15	5.1
Bachelor's degree	11	3.7
Some college credit, No degree	10	3.4
Completed some postgraduate	10	3.4
Ph.D., law or medical degree	6	2.0
Other advanced degree beyond a master's degree	1	.30

Participants were asked to indicate their average level of Twitter usage (Table 4.2).

Respondents reported 30.7% (n = 91) “at least once a day (frequently)”, 21.6% (n = 64) “at least once a week (sometimes)”, 9.8% (n = 29) “every month (occasionally)”, 11.8% (n = 35) “less often than every month (rarely)”, 26.0% (n = 77) “don’t use it”, and 0% (n = 0) “never heard of it/don’t know what it is.”

**Table 4.2**  
*Use of Twitter*

Use of Twitter	Frequency	Percent
At least once a day (Frequently)	91	30.7
Don't use It	77	26
At least once a week (Sometimes)	64	21.6
Less often than every month	35	11.8
Every month (Occasionally)	29	9.8
Never heard of it/Don't know what it is	0	0

## **Data Cleaning**

The survey was started by 661 respondents, however, Qualtrics filtered out those who did not meet the conditions of age, location, or did not complete the survey. Any incomplete responses were removed from the sample set, which was reduced to 296 respondents. A removal of outliers including removing incomplete questionnaires, adjustment of group scales, recoding for reverse variables, and creating dummy variables was preformed to ensure validity of results.

Two of the demographic variables, gender and location, were collapsed into appropriate categorical values. The gender variable was collapsed into three categories including (1) Male, (2) Female, and (3) Other. States were collapsed into 12 categories including (1) Illinois, (2) Indiana, (3) Michigan, (4) Ohio, (5) Wisconsin, (6) Iowa, (7) Kansas, (8) Minnesota, (9) Missouri, (10) Nebraska, (11) North Dakota, and (12) South Dakota.

Six dummy variables were created for each of the matched, unmatched, and control variables for the preventable and accidental crisis situations. A true control variable was created for participants who did not experience a crisis or crisis response. Dummy variables were coded “1” if the participant saw the selected variable and “0” if it was not seen. Each condition had approximately 42 participants. These dummy variables were used in the independent and paired sample t-tests (Table 4.3).

**Table 4.3**  
*Number of Participants Per Condition*

<b>Response Condition</b>	<b>Number of Participants</b>	<b>Percent</b>
Preventable Control	45	15.2
True Control	43	14.5
Accidental Matched	43	14.5
Accidental Unmatched	43	14.5
Preventable Unmatched	43	14.5
Preventable Matched	40	13.5
Accidental Control	39	13.2

Brand reputation pre- and post-test were measured by an eight-question model that included statements that Piedmont Health Center was:

1. Is a socially responsible company - This company contributes actively and voluntarily to the social improvement, economic viability, and the environment of society.
2. Is a company that has good products/services - This company stands behind its products and services with good price and good quality that meet consumer needs.
3. Is a company that relates well with consumers (Customer Orientation) - This company treats customers courteously, communicates with them, and takes care of their safety and health.
4. Is a company that generates positive feelings in people - This company generates respect, admiration esteem, and confidence.
5. Is a company with leadership and innovation - This company is recognized, has excellent leadership, is innovative, and seeks constant innovations.

6. Is a company with a good workplace environment - This company looks like a good company to work for, by its infrastructure such as its working environment, benefits, and good relationships with its employees.
7. Is an ethical company - This company is a company with values that obeys the laws, is transparent, and respects people and the environment.
8. Is a company that practices social responsibility - This company supports good causes that benefit society and environment.

One question on each of the brand reputation tests was reverse coded to properly analyze and compare results. Questions and statements that were presented as a negative statement were reversed and recoded to match the remaining questions that were stated as a positive. For example, “Piedmont Health is a company that practices social responsibility - This company supports good causes that benefits society and environment,” included a six-point Likert scale with nominal polar ends, “1” = “strongly agree” to “6” = “strongly disagree” were switched to “1” = “strongly disagree” to “6” = “strongly agree”.

Once the reverse coding was completed, the eight brand reputation answers were computed into mean scores for each condition to represent the original survey scale tool and prevent skewness. Lastly, the means scores were converted into an overall brand reputation score for each participant by adding the participants’ scores and dividing each by eight. Each participant had a pre-brand reputation score and a post-brand-reputation score. The highest score for pre-brand reputation, out of 8, was 6 and the lowest was 3.25. Compared to the highest score for post-brand-reputation score of 5.75 and the lowest score of 1.63. A mean variable of brand change score was computed by subtracting post-brand reputation and pre-brand reputation ( $Y_2$ -

$Y_1=Y_\Delta$ ). The created variable was used when computing the paired means comparison for each condition.

### **Data Analysis**

The first examination of the data was to confirm that all participants ranked the organization consistently in the brand reputation pre-test to better understand subsequent findings. A paired means comparison for brand reputation found no significant differences for pre-brand scores among all conditions. This ensured that all participants started on a similar level prior to having conditions applied.

A paired means comparison was conducted to evaluate the impact of crisis situation and crisis response on the brand-reputation score. The matched and unmatched conditions were tested to see if there was a change in reputation perception after participants were exposed to the organization's crisis and response. The control conditions were used to test for a change in reputation perception after participants were exposed to the organization's crisis, without the response. Six of the condition types were collapsed into one variable and recoded to (1) Accidental\_Matched, (2) Accidental\_Unmatched, (3) Accidental\_Control, (4) Preventable\_Matched, (5) Preventable\_Unmatched, and (6) Preventable\_Control.

### ***Use of Twitter***

Participants were asked how often they used Twitter (Table 4.4). A paired-samples t-test was conducted to evaluate the impact of participants' use of Twitter on pre- and post-brand-reputation scores. There was a statistically significant decrease in brand reputation scores from the pre-brand reputation test ( $M = 4.66, SD = .871$ ) to post-brand-reputation test ( $M = 4.15, SD = 1.01$ ),  $t(295) = 9.04, p = .000$  (two-tailed). The mean decrease in brand score was .51 with a 95%

confidence interval ranging from .39 to .61. The eta squared statistic (.26) indicated a small effect size.

**Table 4.4**  
*Mean comparison for participants use of Twitter and brand reputation*

Use of Twitter	Pre-Brand	Post-Brand	Brand Change	Percent
At least once a day (frequently)	4.86	4.29	-0.57	0.31
At least once a week (sometimes)	4.68	4.12	-0.56	0.31
At least once a week (sometimes)	4.54	3.98	-0.56	0.10
Less often than every month	4.78	4.32	-0.46	0.12
Don't use it	4.42	4.02	-0.40	0.26

#### ***Justification of Piedmont Health Center Response Tweets***

After respondents received the appropriate treatments, it was asked if “I believe the tweets Piedmont responded with were justified.” Respondents choose “1” = “Agree” or “2” = “Disagree”. The relationship between perceived justification of Piedmont Health Center’s response tweets and post-brand reputation was investigated using Spearman’s rho correlation coefficient. Participants selected “1” if they thought tweets were justified and “2” if not justified. There was a weak, negative correlation between the two variables,  $r = -.13$ ,  $n = 296$ ,  $p < .05$ , with agreement of justification of tweets associated with higher levels of brand reputation.

#### ***Responsibility of Crisis***

After respondents received the appropriate treatments, they were asked if “The accusations that Piedmont Health Center is responsible for the data breach is reasonable.” A Likert scale with nominal polar ends, “1” = “strongly disagree” to “6” = “strongly agree” was used. The relationship between perceived responsibility of crisis and post-brand reputation was investigated using Pearson product-moment correlation coefficient. There was a weak, negative correlation between the two variables,  $r = -.14$ ,  $n = 296$ ,  $p < .05$ , with high levels of perceived responsibility of crisis with lower levels of brand reputation.

***Research Question 1: Will all participants begin with the same pre-test score?***

The pre-test brand reputation scores were averaged to create pre-brand mean scores. It was found that all treatments began at a consistent reputation level of  $M = 4.65$ ,  $SD = .87$ . The lowest score was 4.57 and the highest was 4.84 (Table 4.5).

**Table 4.5**  
*Paired-Sample T-Test for Brand Reputation by Crisis Response Type*

Response Condition	n	Pre-Brand <sup>a</sup>	Post-Brand	Brand Change <sup>b</sup>	Significance
Preventable Unmatched	43	4.81	3.85	-0.96	p = .001
Preventable Control	45	4.57	3.84	-0.72	p < .001
Preventable Matched	40	4.66	3.99	-0.67	p = .003
Accidental Unmatched	43	4.73	4.13	-0.59	p < .001
Accidental Matched	43	4.84	4.45	-0.39	p < .001
Accidental Control	39	4.44	4.25	-0.18	p < .017
True Control	43	4.57	4.57	0	p < .001

<sup>a</sup> No significant difference among pre-brand scores

<sup>b</sup> Post - Pre = Brand change

***Research Question 2: Is there a time effect on brand reputation?***

A paired-samples t-test was conducted to evaluate the impact of time on brand reputation using a true control (Table 4.6). There was not a statistically significant change in brand reputation scores from the pre-brand reputation test ( $M = 4.572$ ,  $SD = .7663$ ) to post-brand-reputation test ( $M = 4.57$ ,  $SD = .81$ ),  $t(42) = .04$ ,  $p = .964$  (two-tailed). The mean decrease in brand score was .003 with a 95% confidence interval ranging from -.13 to .13. The eta squared statistic (.006) indicated a small effect size.

In addition, a one-way between-groups analysis of variance was conducted to explore the impact of crisis type on brand reputation mean change score (Table 4.6). Participants were divided into three groups per the crisis-type treatment (“1” = “Accidental Control”, “2” =

“Preventable Control”, and “7” = “True Control”). The assumption of homogeneity of variance was violated in the Levene’s test for homogeneity of variances, so the Robust Tests of Equality of Means was used. There was a statistically significant difference in brand-reputation change mean scores among the three crisis type groups:  $F(3, 292) = 7.89, p = .000$ , multivariate partial eta squared = .87. There was a significant difference between accidental control ( $M = -.69, SD = .46$ ) and preventable control ( $M = -.72, SD = 1.17$ ). Preventable control had a significant difference from the true control ( $M = -.00, SD = .42$ ).

**Table 4.6**  
*One-Way ANOVA of Brand Reputation Means Change by Control Variables*

Crisis Group	n	Brand Change	SD
Preventable	45	-.72	1.17
Accidental	39	-.18 <sup>a</sup>	0.46
True Control	43	.00 <sup>a</sup>	0.42

<sup>a</sup> Means with different superscripts are significantly different at  $\alpha = .05$

***Research Question 3: Does an accidental crisis change brand reputation?***

A paired-samples t-test was conducted to evaluate the impact of the accidental crisis type on brand reputation (Table 4.5). There was a significant decrease in brand-reputation scores from the pre-brand-reputation test ( $M = 4.44, SD = .94$ ) to post-brand-reputation test ( $M = 4.25, SD = .97$ ),  $t(124) = 6.75, p = .000$  (two-tailed) for accidental control. The mean decrease in brand score was .18 with a 95% confidence interval ranging from .28 to .51. The eta squared statistic (.52) indicated a large effect size.

***Research Question 4: Does a preventable crisis change brand reputation?***

A paired-samples t-test was conducted to evaluate the impact of the preventable crisis type on brand reputation (Table 4.5). There was a significant decrease in brand reputation scores from the pre-brand-reputation test ( $M = 4.57, SD = .83$ ) to post-brand-reputation test ( $M = 3.84,$

$SD = 1.04$ ,  $t(127) = 7.22$ ,  $p = .000$  (two-tailed) for preventable control. The mean decrease in brand score was .72 with a 95% confidence interval ranging from .570 to 1.00. The eta squared statistic (.54) indicated a large effect size.

***Research Question 5: Does brand reputation change vary by crisis type?***

An independent-samples t-test was conducted to compare the post-brand mean scores for the accidental control ( $n = 39$ ) and preventable control ( $n = 45$ ) crisis types (Table 4.5). There was significant difference in scores for accidental ( $M = -.18$ ,  $SD = .46$ ) and preventable ( $M = -.72$ ,  $SD = 1.17$ ;  $t(2.69) = .53$ ,  $p = .009$ , two-tailed). The magnitude of the differences in the means (mean difference = .39, 95% CL: .14 to .93) was medium (Cohen's  $d = .61$ ).

***Hypothesis 1: Brand reputation will be consistent from pre-brand to post-brand test for matched crisis responses.***

A paired-samples t-test was conducted to evaluate the impact of the matched accidental and preventable crisis response type on brand reputation. This hypothesis was rejected. There was a significant decrease in brand-reputation scores from the pre-brand-reputation test ( $M = 4.76$ ,  $SD = .87$ ) to post-brand-reputation test ( $M = 4.23$ ,  $SD = .92$ ),  $t(82) = 4.62$ ,  $p = .000$  (two-tailed) for all matched. The mean decrease in brand score was .53 with a 95% confidence interval ranging from .30 to .75. The eta squared statistic (.28) indicated a small effect size.

***Hypothesis 2: Post-brand tests for unmatched accidental responses will be consistent with or better than pre-brand tests.***

A paired-samples t-test was conducted to evaluate the impact of the unmatched accidental response on brand reputation (Table 4.5). This hypothesis was rejected. There was a statistically significant decrease in brand-reputation scores from the pre-brand-reputation test ( $M = 4.81$ ,  $SD = .74$ ) to post-brand-reputation test ( $M = 3.85$ ,  $SD = .99$ ),  $t(42) = 5.25$ ,  $p = .000$  (two-tailed). The

mean decrease in brand score was .95 with a 95% confidence interval ranging from .59 to 1.32.

The eta squared statistic (.61) indicated a large effect size.

***Hypothesis 3: Post-brand tests for unmatched preventable responses will be lower than pre-brand tests.***

A paired-samples t-test was conducted to evaluate the impact of the unmatched-preventable response on brand-reputation (Table 4.5). This hypothesis was accepted. There was a significant decrease in brand reputation scores from the pre-brand-reputation test ( $M = 4.73$ ,  $SD = .95$ ) to post-brand-reputation test ( $M = 4.13$ ,  $SD = 1.06$ ),  $t(42) = 4.94$ ,  $p = .000$  (two-tailed).

The mean decrease in brand score was .59 with a 95% confidence interval ranging from .35 to .84. The eta squared statistic (.63) indicated a large effect size.

In addition, a one-way between-groups analysis of variance was conducted to explore the impact of crisis response type on brand reputation mean change score (Table 4.7). Participants were divided into seven groups per the crisis response type treatment (“1” = “Accidental Matched”, “2” = “Accidental Unmatched”, “3” = “Accidental Control”, “4” = “Preventable Matched”, “5” = “Preventable Unmatched”, “6” = “Preventable Control”, “7” = “True Control”). The assumption of homogeneity of variance was violated in the Levene’s test for homogeneity of variances, so the Robust Tests of Equality of Means was used. There was a statistically significant difference in brand reputation change mean scores for the seven crisis type groups:  $F(6, 289) = 5.39$ ,  $p = .000$ . The effect size, calculated using eta squared, was determined to be a medium effect size of .10. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for accidental unmatched ( $M = -.59$ ,  $SD = .79$ ) was significantly different from the true control ( $M = -.002$ ,  $SD = .97$ ). The accidental control ( $M = -.18$ ,  $SD = .46$ ) was significantly different from preventable unmatched ( $M = -.96$ ,  $SD = 1.19$ ). Preventable matched ( $M = -.67$ ,  $SD$

$= 1.35$ ) was significantly different from the true control. Preventable unmatched was significantly different from the true control. Preventable control ( $M = -.72$ ,  $SD = 1.17$ ) was significantly different than the true control.

**Table 4.7**  
*One-Way ANOVA of crisis response treatment on brand change*

<b>Group</b>	<b>n</b>	<b>Brand Change</b>	<b>SD</b>
Preventable Control	45	-.72 <sup>ab</sup>	1.17
Preventable Unmatched	43	-.95 <sup>b</sup>	1.19
Accidental Unmatched	43	-.59 <sup>ab</sup>	0.79
Accidental Matched	43	-.39 <sup>abc</sup>	0.61
True Control	43	.00 <sup>c</sup>	0.42
Preventable Matched	40	-.67 <sup>ab</sup>	1.35
Accidental Control	39	-.18 <sup>ac</sup>	0.46

<sup>abc</sup> Means with different superscripts are significantly different at  $\alpha = .05$

## Summary

An experimental design was employed to test the hypotheses and research questions. The questionnaire was administered during a three-day period by Qualtrics and 296 people participated in the study.

Measuring the pre-test allowed researchers to establish a benchmark reputation before information about the crisis was given to participants. The pre-test brand reputation scores were averaged to create pre-brand mean scores. It was found that all treatments began at a consistent reputation level. Since there was no significant difference among conditions, the researcher was able to utilize the reputation change score (post-brand – pre-brand) for subsequent tests.

Results from the analysis conducted for the RQ 5 indicate that participants did not have as high of an opinion change of the organization after experiencing the accidental crisis as they did with the preventable crisis. Since organizations who experience accidental crises are viewed as

having very little attribution of crisis responsibility, this follows SCCT and the effects the crisis should have on brand reputation compared to the preventable crisis.

Results of a paired-samples t-test determined if the matched responses for accidental crisis (diminish response) and preventable crisis (rebuild response) would have the same results that the SCCT predicts for traditional media did not support H1. The true control was tested with RQ 2 that asked if there is a time effect on brand reputation? A paired sample test confirmed no significant difference between pre-brand tests and post-brand tests for participants in the true control. The average brand score for this condition was 4.57 out of 6.00.

Research question 3 and hypothesis 2 were conducted to analyze the accidental treatment. A paired samples t-test was ran for both the research question and hypothesis statement and found significant decrease in brand-mean change. This finding rejected hypothesis 2. A one-way ANOVA was used to analyze the variance of crisis response type on brand reputation. According to the test, the accidental control response received a significantly higher brand-reputation-change score than the preventable unmatched response. This finding was to be expected since a preventable crisis is predicted to have higher damage to brand reputation than an accidental crisis.

The preventable treatment was examined through research question 4 and hypothesis 3. A paired-samples t-test was conducted to evaluated the impact of the preventable crisis type on brand reputation. There was a significant decrease in brand-reputation scores from the pre-brand reputation test. This finding aligns with the SCCT in that a preventable crisis would cause reputational damage. It was hypothesized ( $H_3$ ) that an unmatched preventable response would decrease the brand reputation score. The one-way ANOVA found that the preventable matched,

unmatched, and control were all significantly different from one another. Discussion, limitations, and recommendations on these findings will be covered in the next chapter.

# **Chapter 5 - Discussion**

## **Research Questions/Hypothesis Discussion**

The following section is a discussion of the results as they relate to the research questions and hypotheses presented in chapter one and results presented in chapter four. The purpose of this study was to determine the effects of crisis-communication strategies used via Twitter on organizational brand reputation. The specific areas analyzed were independent variables: crisis type (preventable/accidental) and response type (matched, unmatched) and dependent variable (organizational brand reputation). The results will be discussed by the crisis type presented to participants. Development of the designed experiment was guided by Coombs' SCCT which looks at the effects of crisis type and response on brand reputation. Specific research questions and hypotheses that guided this study were:

### **Research Questions**

- RQ 1: Will all participants begin with the same pre-test score?
- RQ 2: Is there a time effect on brand reputation?
- RQ 3: Does an accidental crisis change brand reputation?
- RQ 4: Does a preventable crisis change brand reputation?
- RQ 5: Does brand reputation change vary by crisis type?

### **Hypotheses**

- H1: Brand reputation will be consistent from pre-brand to post-brand test for matched crisis responses.
- H2: Post-brand tests for unmatched accidental responses will be consistent with or better than pre-brand tests.

- H3: Post-brand tests for unmatched preventable responses will be lower than pre-brand tests.

### **General Findings from the Population Surveyed**

The instrument was distributed via a Qualtrics panel to 661 participants who were classified as millennials who live in the Midwest. A total of 296 survey responses were used for this study. Several demographic questions were asked for researchers to develop a better understanding of the population. Questions included age, gender, location, education level, and use of Twitter. The average age of participants of this survey were 26 years old, with the youngest participant being 18 and the oldest being 34. This age range falls into the millennial category, which was selected due to the generation's use of social media and that the generation rivals the baby boomer generations current population.

Participant locations spanned from Midwest states, including Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. Midwestern states were chosen to keep findings generalizable to one area of the United States and to allow for the simulated healthcare center to be outside participants' scope of familiarity. Limiting participants to one region, helped ensure they would not be familiar with a healthcare center on the east coast.

Respondents were asked to identify their gender as part of the demographic information which totaled 157 females, 137 males, and 2 other. The ratio between genders was filtered by national census data. Although gender was not looked at for this study, it could be of interest in future studies to see if gender has an impact on how an organizations brand is viewed. Studies by Meyers-Levy and Sternthal (1991) and Meyers-Levy and Maheswaran (1991) suggest that gender impacts how message cues with different levels of congruity affect product evaluation. It

was found by Cheen and Phau (2010) that females tend to form stronger bonds with brands than males. This factor could impact the overall brand-change score analyzed for this study in that if females have a stronger bond with the organization, the decrease could be less dramatic from pre-to-post testing. This is assumed based off literature that individuals with positive feelings towards an organization prior to a crisis event occurring will have less shift in perceptions of reputation (Coombs, 2015).

Although education level was not a key independent variable for the study, participants were asked to provide what level of education they had achieved. A majority (24.7%) of respondents had “some high school, no diploma”. The second highest education level (24.3%) was an “associate’s degree”. In addition, at least 33% of participants had no college experience and another 50% only had an associate’s degree. It is possible that due to the majority of participants not having a bachelor’s degree or higher, they were unable to relate to the organization. Researchers tried to overcome this obstacle by focusing on the healthcare aspect, but for future studies it is recommended that participants are limited to those who have university campus experience or that the organization is changed. In addition, according to a 2015 Census Data report, 88% of the U.S. population had at least a GED or higher degree. It would be recommended that the ratio of education level of participants be based on census data and the scenario created, be applicable to that level.

Another independent variable for the study was participant’s use of Twitter. Respondents reported their use of 30.7% (n = 91) “at least once a day (frequently)”, 21.6% (n = 64) “at least once a week (sometimes)”, 9.8% (n = 29) “every month (occasionally)”, 11.8% (n = 35) “less often than every month (rarely)”, 26.0% (n = 77) “don’t use it”, and 0% (n = 0) “never heard of it/don’t know what it is.” According to the data shown in Table 4.4 there is relationship between

the use of Twitter and brand-reputation change. It was suspected that if participants had a low level of knowledge of Twitter, they would not understand the formatting of responses Piedmont Health Center published. This could have been a covariate to control for if participants found the Tweets justified or confusing with only 140 characters used in the responses. However, all participants had some knowledge of the social-media platform, with only 26% not using it currently. Statistics were run to see if removing or controlling the population that “does not use Twitter” affected the overall significance of findings when correlations were ran on the justification and responsibility questions, and it did not. For future studies, it is recommended that questions asked regarding social-media use are more specific by asking if the participants use social media, what platforms are used, overall perception of social media, and the main objective of how it is used. In addition, using non-scale base measurement tools for asking brand-reputation questions would create a more reliable way to measure a correlation (Survey System, 2016). It would be helpful to know if participants have used Twitter in the past, or have never used Twitter. Ideas for future research study questions regarding social-media use will be discussed further in the recommendations section.

### **Research Questions and Hypothesis Discussions**

The following section will look at each of the research questions and hypotheses that guided this study, what the findings were, and the significance of the findings to the study and future research.

#### ***Equally Distributed Pre-Brand Reputation***

The first descriptive test was to determine if all participants began at the same pre-brand-reputation score prior to being randomized into response conditions. Randomization was used for this, but researchers wanted to confirm if it happened. Since this study used the change score of

pre-brand and post-brand-reputation scores, it was important to gauge whether there was a difference in starting points prior to running additional tests. It was found that all participants, after viewing the Piedmont Health Center website, averaged similarly for brand reputation without significant outliers. The pre-test brand-reputation scores were averaged to create pre-brand mean scores. It was found that all treatments began at a consistent reputation level of  $M = 4.65$ ,  $SD = .87$ . The lowest score was 4.57 and the highest was 4.84 (Table 4.5). The highest average score Piedmont received was 4.84 and the lowest average score was 4.44. In addition, since there was no significant difference among conditions, researchers could utilize the reputation-change score (post-brand – pre-brand) for subsequent tests.

Due to participants having no knowledge of Piedmont prior to participating in the study, researchers were unsure if creating a positive brand reputation could occur. Though a good amount of background information was provided for the participants, the information might not have been enough for them to form a significant relationship and care enough about the crisis situation. However, findings from a study conducted by Lee and Park (2013) found that organizations that are relatively unknown to the general public can still build positive relationships and reputation with its publics if it takes the time and attention to actively respond to the comments, or any type of communication attempt directed to it. Having the participants view Piedmont's website and answer questions about the organization was enough interactivity for the pre-brand reputation to begin at a stable point. Additional testing should be done to see how having a fake organization affects how brand reputation is perceived during a crisis event.

Measuring the pre-test allowed researchers to measure a benchmark reputation before information about the crisis was given to participants. Since the reputation scale was averaged to be “1” as the lowest score and “6” as the highest, it can be assumed that participant’s perception

of the organization started out high. Asking research question 1 confirmed to researchers that the pre-brand reputation was consistent for all participants prior to being randomized into the crisis type treatments and that Piedmont was perceived to have a high pre-brand reputation.

### ***Time Lapse Effect***

A true control was created for this study to determine if a time lapse of two minutes would impact the results of brand reputation. Participants who were randomized into the true control ( $n = 42$ ) received the brand website, pre-brand test, a two-minute video distractor, and post-brand test. The purpose of this was to ensure that consistent responses were given between the pre-brand and post-brand test with a time delay. The paired-samples t-test presented in chapter four confirmed there was not a significant difference between pre-brand tests and post-brand tests for participants in the true control ( $M = 4.572$ ,  $SD = .7663$ ) to post-brand-reputation test ( $M = 4.57$ ,  $SD = .81$ ),  $t(42) = .04$ ,  $p = .964$  (two-tailed). The mean decrease in brand score was .003 with a 95% confidence interval ranging from -.13 to .13. The eta squared statistic (.006) indicated a small effect size.

Research question 2 showed researchers that there was an average brand score from pre-test and post-test of 4.57 out of 6.00. Researchers concluded from this finding that if a delay occurs between the initial encounter with an organization and then a later encounter, then the original perceptions of the organization will hold true overtime. Studies conducted by Peterson and Peterson (1959) and by Murdock (1961) found that time lapse, or a forgetting period, for an average participant should average 60 seconds. To ensure that enough time was allotted for participants to possibly forget specifics about the organization a two-minute lapse time was used. This study did not follow this prior finding. However, because a difference from pre- and post-brand scores was not found in the true control, researchers had a higher confidence level that

changes occurring for other groups were due to the treatments being applied and not because of a time delay.

### ***Effects of Crisis Type on Brand Reputation***

The purpose of research question 5 was to determine if the crisis-type condition applied to the randomized sample affected the post-brand-reputation score. After conducting an independent samples t-test, a significant decrease in scores for accidental ( $M = -.18, SD = .46$ ) and preventable ( $M = -.72, SD = 1.17; t(2.69) = .53, p = .009$ , two-tailed). This finding confirms that there was a difference between the accidental and preventable crisis post-brand-reputation scores. The change indicates that participants did not have as large of an opinion decrease of the organization after experiencing the accidental crisis as they did with the preventable crisis. Since organizations that experience accidental crises are viewed as having very little attribution of crisis responsibility, this follows SCCT and the effects the crisis should have on brand reputation compared to the preventable crisis (Coombs, 2015).

Testing of hypothesis 1 was conducted to determine if the matched responses for accidental crisis (diminish response) and preventable crisis (rebuild response) would have the same results that the SCCT predicts for traditional media. After running a paired-samples t-test, this hypothesis was rejected. Researchers hypothesized that the matched conditions would cause the post-brand-reputation scores to be consistent with the pre-brand scores based on SCCT. However, there was a significant decrease for both conditions. Similar findings were reported by Brown (2014) and Brown, Long, and Dickson (2012) due to lack of response change after receiving the crisis-type treatment.

This finding contradicts what should have occurred per SCCT. If a diminish response is used for an accidental crisis, the brand reputation should at least stay the same. The same should apply

for the rebuild response being used on a preventable crisis. An important aspect of this study was developing a crisis situation that would resonate with participants. The possibility of a data leak is important and has affected 55 million U.S. citizens; however, the crisis may have been viewed as not relatable or of low importance to participants (Identity Force, 2017).

In addition, a data breach may have caused irreversible damage to the brand reputation, causing the lack of change in brand scores regardless of response. In retrospect, it would have been of benefit to ask participants if they have ever experienced identify theft or are concerned about a data breach affecting them. It may have been wise to use a crisis that may have a stronger connection to the respondents, such as an incident that results in injury. It is also possible that due to an increase of data breaches in recent years that a numbing effect due to consistent exposure occurred. Future research studies should test a variety of crisis scenarios prior to duplicating this experimental design to help look at this interaction. This will be further discussed in the next section.

### ***The effects of an accidental crisis and responses on brand reputation***

According to Coombs (2015), an accidental cluster is a low attribution of crisis responsibility that includes challenges, technical-error accidents, and technical-error product harm. Coombs suggests providing information to victims by expressing concern or providing corrective action should suffice if an organization has no crisis history or has favorable prior reputation (2015). In addition, if the organization has no crisis history or has a favorable reputation, then the diminishment strategy should be used for accidental crises.

To answer research question 3, a paired-samples t-test was conducted to evaluate the impact of the accidental crisis type on brand reputation (Table 4.5). There was a significant decrease in brand-reputation scores from the pre-brand-reputation test ( $M = 4.44$ ,  $SD = .94$ ) to

post-brand-reputation test ( $M = 4.25$ ,  $SD = .97$ ),  $t(124) = 6.75$ ,  $p = .000$  (two-tailed) for accidental control. The mean decrease in brand score was .18 with a 95% confidence interval ranging from .28 to .51. The eta squared statistic (.52) indicated a large effect size.

Using Coombs' theory, the matched accidental crisis included four diminishing responses via Twitter that stated the issue, highlighted the importance of Piedmont's standards and emphasized that its IT department was working to solve the issue. For the accidental crisis, unmatched response, Piedmont sent four rebuilding responses via Twitter that tried to improve the organization's reputation. Statements such as "your trust is our top priority" and "we will continue to work with our IT partners so this error does not occur again" were used. The matched condition, per SCCT, should have stabilized the brand's reputation or caused minimal damage and the mismatched should have increased the brand reputation due to overcompensating. After running a paired samples t-tests for both research question and hypothesis statement revolving around the accidental crisis, it was found there was a significant decrease in brand mean change (Table 4.5). This finding goes against what was suggest in Coombs' theory.

It is possible that the organization's responses did not come across as a denial or apologetic stance. This would have caused the matched and unmatched responses to be insignificant with the post-brand-reputation measurement. A different approach to help avoid limitation one and two would be to implement a pilot study with multiple crisis scenarios to measure reliability, along with responses, then use those most reliable in the larger study. This approach would have ensured the preventable and accidental crisis selected were relatable for participants for the target population and that the responses had the effect intended by SCCT. It has also been found by Brown, Long, and Dickhaus (2012) that longer crisis response statements have been shown to

improve one's reputation after a crisis. Since responses from Piedmont Health were limited to 140 characters, it could be that the persuasiveness of the message was not perceived. This will be discussed further in the recommendations for social-media section.

### ***The effects of a preventable crisis and responses on brand reputation***

SCCT defines a preventable crisis as an event that has strong attributions of crisis responsibility due to human-error accidents, human-error product harm, or organizational misdeeds (Coombs, 2015). The crisis situation presented in this study involved a doctor accessing student records and exchanging information for money with a pharmaceutical company. Since this falls under misdeed by an employee, the matched response for Piedmont was rebuilding and mismatched was diminishing. The rebuild response included statements such as the health center's standards, information on how to contact the center, and additional staff training to be implemented. The diminish response included information on the center policy for accessing data information, that it was a one-time occurrence, and it was only one doctor who accessed the information.

To answer research question 4, a paired-samples t-test was conducted to evaluated the impact of the preventable crisis type on brand reputation. There was significant decrease in brand reputation scores from the pre-brand-reputation test (Table 4.5). Scores from the pre-brand-reputation test were ( $M = 4.57$ ,  $SD = .83$ ) to post-brand-reputation test ( $M = 3.84$ ,  $SD = 1.04$ ),  $t(127) = 7.22$ ,  $p = .000$  (two-tailed) for preventable control. The mean decrease in brand score was .72 with a 95% confidence interval ranging from .570 to 1.00. The eta squared statistic (.54) indicated a large effect size.

To confirm the effects of a preventable crisis on brand reputation, a one-way ANOVA found that the preventable matched, unmatched, and control were all significantly different from

one another (Table 4.6). Like the findings for the preventable crisis t-tests, this signifies that a decrease in brand reputation could occur, regardless of response type when a preventable crisis occurs.

This finding aligns with the SCCT theory in that a preventable crisis will cause reputational damage. This also mirrors what Thiessen and Ingenhoff (2011) published, stating that preventable crises hold higher levels of responsibility. Due to the significance in the negative, brand-reputation change, researchers suggest that organizations complete a risk analysis to identify any potential crises that could arise. Conducting a thorough risk assessment could help decrease potential preventable crisis occurrences (Coombs & Holladay, 2010).

Based off SCCT and previous crisis-communications research, it was hypothesized ( $H_3$ ) that an unmatched preventable response would decrease the brand-reputation score. This hypothesis was accepted as the study found that participants who received the unmatched condition had a .96 decrease from the pre- to post-brand-reputation test. This signifies the need for an organization to understand the crisis type and ensure that the response aligns. This finding also reinforces that an unmatched response could cause more damage than having no response at all. Having unmatched responses could create contradictions and cause statements to seem egotistical, lack control and compassion for victims (Coombs, 2015). The acceptance of hypothesis 3 confirms that crisis communicators must be aware of crisis-communication theories, such as the SCCT, that provide guidelines for what appropriate responses match within a crisis situation.

### ***Justification of Crisis Responses***

In addition to looking if crisis type effects brand reputation, researchers also looked at if participants' perception of justification of responses and responsibility of crisis correlated with

post-brand-reputation scores. There was a weak, negative correlation between the two variables,  $r = -.13$ ,  $n = 296$ ,  $p < .05$ , with agreement of justification of tweets associated with higher levels of brand reputation. Findings from the Spearman's rho correlation coefficient suggest there could be a possible correlation between justification of Piedmont's response post-crisis and post-brand reputation. Per the results, if responses are seen as justified then brand reputation could increase. If the response is not justified, then brand reputation could decrease. Whether participants thought Piedmont's responses were justified and aligned with the crisis presented could have influenced post-brand-reputation scores. Future research studies should ensure that participants view responses as the researchers intended. This can be done by adding a qualitative aspect to the study and holding focus groups or a manipulation check question related to perception of the crisis.

### ***Perceived Responsibility of a Crisis***

The findings from the Pearson product-moment correlation coefficient between perceived responsibility of crisis and post-brand reputation suggest there could be a low correlation between responsibility of crisis and post-brand reputation. There was a weak, negative correlation between the two variables,  $r = -.14$ ,  $n = 296$ ,  $p < .05$ , with high levels of perceived responsibility of crisis yielding lower levels of brand reputation.

This finding suggests that if the organization is perceived as being responsible for the crisis, then brand reputation scores could decrease and vice-versa if the organization is found not responsible for the crisis. This aligns with Coombs' theory in that organizations with low attribution will have its brand reputation impacted less than if it is a high attribution situation. Crisis events that fall under accidental, such as the crisis described to participants of this study, are considered by Coombs (1996) to be of low attribution of crisis responsibility. High

attribution crises would be like the preventable crisis shown to participants. How participants view the responsibility of the crisis is important because for each crisis type, there is a recommended response strategy stated in SCCT (Coombs, 2016). Future research should ensure that the intended level of attribution occurs for each crisis-type treatment.

### **Implications and Recommendations**

#### ***Practice***

This study is applicable for crisis managers who are responsible for protecting the reputation and reducing harm to an organization's brand (Brown, Long, & Dickhaus, 2012; Coombs, 2015; Ulmer, Sellnow, & Seeger, 2015). Many organizations neglect to address social media as a multifaceted platform that may induce harm or good to its brand. Most organizations acknowledge that internal and external crises will and do occur, however, do not predict and prepare for unconventional crises outside of traditional media (Coombs, 2015).

The findings of the study confirm the need for practitioners to understand the crisis type prior to responding and understand the role of social media in communication. As shown in the study, using an unmatched response could cause a decrease in brand reputation. This is especially true when using a low-attribution response for a high-attribution situation, as the response will fall short of what the crisis demands. Due to findings suggesting there is a correlation between use of Twitter and understanding an organization's response, it is especially important for communication professionals to be concise and use the right strategies to disseminate information.

The researchers suggest that organizations have a crisis-communications plan and conduct crisis-communication sessions prior to a crisis scenario to be fully prepared for an event to occur. Crises can be unexpected and stressful. By having training prior to a crisis event,

organizations can minimize internal confusion about who the crisis-communication team is and the communication strategy. Significant planning is suggested prior to a crisis event occurring since there can be a substantial impact if an organization does not align response to the crisis occurring (Table 4.5). Due to crisis being moments of stress and chaos, having plans in place will help ensure proper communication strategies are used.

It also would be of benefit for organizations to provide social-media training for employees, especially those charged with communications. Ideally, companies would provide social-media training for all employees to teach how to present themselves professionally. In addition, this training would cover what employees should or should not say on social-media during a crisis. At a minimum, organizations should provide social-media training for those charged with handling communications during a crisis. Trainings should ensure that the communicator is up-to-date on popular social-media platforms, what outlets the organization has accounts on, has literacy about outlets and that the person(s) understand(s) what role social media plays in the organization's response strategy.

The above recommendations require communication managers to have strong buy-in from the executive team of an organization, or what is called the dominant coalition (Ulmer, Sellnow, & Seeger, 2015). The dominant collection is defined by Cyert and March (1963) as a group whose purpose is largely set by a negotiation process among members of dominant coalitions pursuing certain interests. It is important for crisis-communication managers to build a reputation with the coalition prior to a crisis occurring. Most often crisis planning and training will need to be approved by an executive board since it will take time and money. Once a crisis does occur, a crisis manager might be charged with convincing the group that there is a problem that requires action to be taken. According to Larson (1989) and Tan (1985), people are

persuaded by three factors: 1) credibility, 2) emotion, and 3) reason. Crisis managers can appeal to a dominant coalition by using rational appeal and facts, or by using emotion. Having a strong reputation with the dominant coalition can provide less resistance to crisis planning and crisis resolution.

### ***Agricultural Communications***

Unlike the healthcare industry which has HIPPA, the agricultural industry lacks standardized guidelines on how to handle data (Plume, 2014). Agricultural data can include, but is not limited to, farm financial documents, crop yields, soil types, and market positions. Data privacy concerns in the agricultural industry has been discussed for almost 25 years since the first global positioning system was used (Russo, 2013). The discussion of data guidelines has increased with the popularity of precision agriculture, which is the use of information technology and a wide array of items such as GPS guidance, control systems, sensors, robotics, drones, autonomous vehicles, variable rate technology, GPS-based soil sampling, automated hardware, telematics, and software (Schmaltz, 2017). The use of global precision agriculture is set to grow to \$10.70 billion by 2025 (Market Watch, 2017).

A study conducted by University of Nebraska – Lincoln looked at issues of precision agriculture technology adoption and opinions with 135 participants throughout Nebraska in 2015. Questions asked in the survey included common technology-based application techniques, participants' perceptions to precision agriculture, and value in data ownership. In addition, participants were asked about how farm data was managed. Nearly 80% responded that farm data was managed, however it was not specified if it was self-managed or through a third party (Castle, Lubben, & Luck, 2015). Nearly 95% of participants agreed in the value of precision

agriculture, however opinions on how the data that stems from such technology is used varied (Castle, Lubben, & Luck, 2015).

With the rise in use of precision agriculture, the question of who has access to the data will continue to be questioned (Russo, 2013). Without set guidelines on who can access the data, the chance of experiencing a data breach will increase. It is important that if a data breach with private farms' data does occur from a third party, such as a university or equipment company, that an appropriate response is given to stakeholders and the public. Using SCCT, along with findings from this research, organizations who experience a data breach, whether it is accidental or preventable, can avoid potential damage to brand reputation. As previously discussed in chapter 4 and 5, if an inappropriate response is given, brand reputation can decrease. Poor brand reputation could cause an equipment company loss of sales or a university loss of credibility in the research field. Further research should be conducted to determine if data collected from precision agriculture has the same value as what was described as "personal information" such as social security number, home addresses, and medical information in this study.

### ***Social Media***

Social media is constantly shifting in its interface; however, it continues to play a major part of society's communication. To align with the current theory, researchers suggest crisis-communication professionals use the following rules for social media during a crisis: 1) be present, 2) be where the action is, and 3) be there before the crisis (Coombs, 2001).

This research study focused on Twitter in particular. Twitter differs from other social-media networks (i.e., Instagram, Facebook, Pinterest) in the way that relationships exist among the users. Broström (2010) notes that Facebook friends mirror more around real-world relationships; whereas, Twitter followers are connected to share similar interests and

information. Since Facebook has a larger following than Twitter, additional studies should be examined on the outlet to see if similar findings are found as they were on Twitter.

### ***Experimental Design Research***

A designed experiment was conducted for this study to help fill the gap in research within crisis communications via social media. Due to data not aligning with previous work done in regards to SCCT, it would be of benefit to take the limitations from this study and duplicate the project. Due to this study being one of the first designed experiments looking at the effects of SCCT via Twitter on brand reputation, researchers have tracked items to enhance future studies in this area in addition to the suggestions already mentioned. The first item of importance to note is that researchers had attempted to mimic a real organization, crisis situation and responses via Twitter. However, the overall experience for participants was within Qualtrics and not real interactions with the organization or being on a social-media site. Empirical research shows that the most effective condition that brings forth positive relationship management outcomes is through facilitating two-way, open communication that seeks mutual benefit (Grunig, 2001; Hon & Grunig, 1999). Researchers believe that having a higher level of interactive messaging and two-way communication could help increase the positive feelings toward the organization in question. Ideally, a future research study would be conducted in a way that more realistically reproduces a live, interactive experience on an organization's website and social-media feed. Since participants were aware the organization was fake and the website being viewed was designed specifically for the study, results for brand reputation could have been skewed. Additional focus on designing the crisis situation, crisis type, and crisis response could warrant more significant findings to occur.

This research study created a starting point for future experimental design studies. By

modeling the experiment with the suggestions above, an experiment with more reliable results could occur. If insignificant findings continue to occur, it might be possible to determine that SCCT does not translate to social-media outlets with character limits and a different theory is needed for the industry to utilize in formulating social-media responses.

### ***Theory***

This thesis provides new insight to the importance of how messages are curated on social media to respond to a crisis. Previously, Coombs (2001) stated that the Internet did not “revolutionize” crisis communication; rather it “merely hastened the evolution” of crisis communication (p. 19). There is a lack of empirical evidence about the most effective strategies for communicating and presenting crisis-communication content via social media. However, there have been examinations of longer crisis response statements that have shown to improve one’s reputation after a crisis (Brown, Long, & Dickhaus, 2012). This finding from Brown, Long, and Dickhaus needs to be further examined and determined how it implicates how social media is used for SCCT. If 140 characters is not enough to persuade an audience, it may be necessary for crisis communicators to utilize images or other forms of media in social-media posts instead of just text.

This study contributed to the body of empirical knowledge of how social media with limited character space impacts how a message is received. Findings also indicate that some response strategies utilized on traditional media might not hold true for Twitter and that further investigation is needed.

### ***Education***

Social-media instruction throughout communication programs is important for students’ preparedness to enter the workforce. Learning and using new-media technology cultivates an

open mind and strong critical thinking skills that will benefit students when challenged in the future to look at and assess a variety of technological advancements and innovations within the journalism field (Auxier, 2012). According to Splichal and Sparks (1994), the general dominant areas usually considered important by communications scholars are: (a) training in skills/craft competencies or communication techniques; (b) theoretical knowledge on communication, particularly mass communication and the media; (c) methodology; and (d) background knowledge and specialization in specific areas of reporting, such as politics, economics, and arts. However, seven journalism academics co-authored “Learning Reconsidered: Education in the Digital Age: Communications, Convergence and the Curriculum,” (Meyer, et. al. 2003), which emphasizes the long-standing gap between the journalism industry and journalism education; which creates a faction among journalism and communications scholars. From the current research, it is suggested that new-media techniques should be taught in the classroom to ensure that students have knowledge of how to effectively communicate to a public within a limited character space. Attention also should be given on how to create a crisis-communication plan specifically for new-media outlets.

In addition to incorporating new-media technology in the classroom, it is recommended that crisis-communication courses further theory-based teaching to incorporate empirical research. New media is constantly changing, and with it comes a need to constantly review how crisis communications takes place. Crisis-communication courses should strive to create a “living” syllabus that is updated based on what is occurring in the industry. Taking these considerations into mind would ideally improve the marketability of students in the field when starting a career. If students are aware of social-media and crisis-communication techniques prior to graduating, they will be able to provide quality and quick assistance to a company if a crisis

situation should arise. This not only strengthens the crisis-communications response team, but also helps protect a company's brand reputation.

Outside of the communication based departments, it has also been found by researchers at George Washington University School of Medicine and Health Sciences that much of the school's first-year medical students changed social-media behavior after participating in a social media and professionalism course (Gomes, Butera, Chretien, & Kind, 2017). The study results showed that the "formal" education benefited medical students as they developed professional habits inclusive of social media and looked to avoid behavior detrimental to careers. Having social-media courses provided to all students throughout the higher education system could potentially lead to future employees understanding the importance of social media and how to conduct themselves during a crisis, or prevent an organizational crisis from occurring online.

### **Additional Limitations and Recommendations for Future Research**

Participants of this study were limited to millennials in the Midwest region. The millennial generation was chosen due to being consistently associated with higher digital and use of social media (Millennials in Adulthood, 2014; Zickuhr, 2010). The crisis scenario was created at a university health center in hopes that individuals ranging from ages 18 to 34 would relate to either the university or health center aspect. Future studies should expand to cover generations outside of millennials and make sure that the population chosen can relate to the organization in crisis.

In addition, at least 33% of participants had no college experience and another 50% only had an associate's degree. It is possible that, due to participants not having a bachelor's degree or higher, they were unable to relate to the organization. Researchers tried to overcome this obstacle by focusing on the healthcare aspect, for future studies it is recommended that participants are

limited to those who have university campus experience or that the organization is changed. A different approach would be to possibly incorporate more identifiable brands in the experiment or provide more extensive information about the organization. In addition, a focus group would be of benefit to discuss with participants the strengths and weaknesses of the brand to create an organization that is relatable or include a manipulation check for crisis within experiment.

Participant locations included Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. Midwestern states were chosen to keep findings generalizable to one area of the United States. It could be of benefit for future research studies to capture an estimated ratio of social-media users from each state to represent what might occur in a national crisis. Since the organization was located in Delaware, participants in outside states might not have cared. However, if a participant was in Delaware, bias or confusion of knowing it was a fake organization may have occurred. Lastly, as previously mentioned this was a designed experiment. The pilot study that was conducted during the summer 2016 semester did not produce

### **Final Thoughts**

This research study was initiated due to the lack of research regarding crisis communications and social-media messaging outlets. As discussed in chapter two, there is limited research surrounding social media and crisis communications. The research that does exist mainly uses case studies and does not employ a designed experiment. This study serves as a reference point to future studies looking to empirically test the effects of SCCT via social media on brand reputation.

This study suggests that parts of SCCT hold true on social media, including how a crisis is received and the impact of unmatched crisis-communication strategies. Reputation protection

is a valuable aspect of crisis communication and organizations invest a substantial amount of money and effort into building reputations. It would benefit organizations to have a theory-based strategy that is proven to protect reputation as much as possible when using social media in times of crisis.

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## Appendix A - Background of Organization

The screenshot shows the 'ABOUT' page of the Northern Delaware University Piedmont Student Health Center website. At the top left is the PH logo and the text 'NORTHERN DELAWARE UNIVERSITY PIEDMONT STUDENT HEALTH CENTER'. At the top right are links for 'ABOUT', 'PEOPLE', 'RESOURCES', 'FORMS', a plus sign, and a search icon. The main heading 'ABOUT' is large and bold. Below it is the tagline 'Always thinking about students well-being'. To the left is a small image of a gold award ribbon. In the center is a photo of a man and a woman looking at a computer screen. On the right is a sidebar with links: 'schedule an appointment', 'reorder a prescription', and 'view patient records'. Below the sidebar are three news items with 'Read More >>' links: 'Piedmont honored with best in the nation award', 'Piedmont students receive free flu shots', and 'Brownbag lunch health series open to community'.

**our mission**  
The mission of Piedmont Student Health Center is to provide better care of the sick, investigation into their problems, and be a resource and an advocate for health education, promotion and wellness. The Center shall, at all times and to the best of its ability, be responsive to the needs and concerns of the student body and general community of the university.

**our vision**  
Striving to be a leader in patient experience, clinical outcomes, student health and community education.

The doctors and staff of Piedmont recognize the importance of personal care and individualized attention, yet we stay current with the ever-changing discipline of collegiate medical services. Piedmont works with many university departments to maintain our focus on serving students and is part of the Office of the Vice Provost for Student Affairs. Full-time students receive FREE doctor appointments and consultations, making Piedmont the #1 choice for Piedmont students.

**about us**  
Founded in 1913 by Dr. Piedmont and his colleagues the health center started on the second floor of Butler Hall. Dr. Piedmont was focused on providing quality healthcare to those who were studying away from home. The founders of Piedmont Health Center were dedicated to improving the health of those attending Northern Delaware and the local community.

Today Piedmont Health Center employs over 70 staff including six full-time physicians with a full complement of medical and clerical support personnel. On the average, over 300 students are being cared for at Piedmont each week. In addition to its focus on student health, Piedmont continues to be dedicated in health education and awareness in the community.

## Appendix B - Twitter Responses about Crisis

### Responses PR - Preventable, Rebuild



Piedmont Health (@PiedmontHealth) is a Twitter account with 962 tweets, 515 followers, 1200 following, and 354 likes. The profile picture shows a woman with red hair drinking from a white mug. The bio reads: "Piedmont Student Health Center strives to be the leader in patient experience, clinical outcomes, student health and community education." It includes location (Western, Minnesota), website (westernpiedmont.edu/healthcenter), and joining date (September 2012). There are 124 photos and videos. The feed contains four tweets from @PiedmontHealth:

- Piedmont Health Cntr @PiedmontHealth 2h**  
We will continue to work with & train staff to ensure this does not occur again. We apologize for any inconvenience caused. #PiedmontSH
- Piedmont Health Cntr @PiedmontHealth 3h**  
Your trust is our top priority, we are committed to making this right. If you have any questions please call us (324) 234-4555. #PiedmontSH
- Piedmont Health Cntr @PiedmontHealth 4h**  
We strive to offer the very best care, this access error means we've not met our standards & policies set in place were not followed. #PiedmontSH
- Piedmont Health Cntr @PiedmontHealth 5h**  
This morning we learned that there was unauthorized access to student data. We will alert you when more is known. #PiedmontSH

## Response PD - Preventable, Diminished



Piedmont Health Cntr @PiedmontHealth · 2h  
We will continue holding training sessions and are confident our administration will use better judgement going forward.  
#PiedmontSH

Piedmont Health Cntr @PiedmontHealth · 3h  
IT has confirmed that a doctor accessed student data and gave info to third party. This is against our policies. #PiedmontSH

Piedmont Health Cntr @PiedmontHealth · 4h  
Piedmont staff are trained and up-to-date on all federal privacy policies, this has been a one time occurrence. #PiedmontSH

Piedmont Health Cntr @PiedmontHealth 5h  
We have been alerted that a doctor has broken health center policies and we are working to resolve the issue. #PiedmontSH

## Response AR - Accident, Rebuild

Piedmont Health (@PiedmontHealth) is a Twitter account managed by Piedmont Health. The profile includes a large orange PH logo, a photo of two people outdoors, and the following statistics: TWEETS 962, FOLLOWING 515, FOLLOWERS 1200, LIKES 354.

**Tweets**

- Piedmont Health Cntr @PiedmontHealth · 2h**  
We will continue to work with our IT partners so this error does not occur again. We apologize for any added stress. #PiedmontSH
- Piedmont Health Cntr @PiedmontHealth · 3h**  
Your trust is our top priority, we are committed to making this right. If you have any questions please call us (324) 234-4555. #PiedmontSH
- Piedmont Health Cntr @PiedmontHealth · 4h**  
We strive to offer the very best care and this data breach means we've not met our standards. We will contact students who were affected. #PiedmontSH
- Piedmont Health Cntr @PiedmontHealth · 5h**  
We are conducting an investigation over possible a possible data breach. We will alert you when more is known. #PiedmontSH

## Response AD - Accident, Diminish



Piedmont Health

TWEETS 962 FOLLOWING 515 FOLLOWERS 1200 LIKES 354

**Piedmont StuHealth** @PiedmontHealth

Piedmont Student Health Center strives to be the leader in patient experience, clinical outcomes, student health and community education.

Western, Minnesota  
[westernpiedmont.edu/healthcenter](http://westernpiedmont.edu/healthcenter)  
Joined September 2012  
124 Photos and videos



**Piedmont Health Cntr** @PiedmontHealth · 2h

We will continue to work with the developers to ensure your info stays secure. We will hold them to the highest standards.  
#PiedmontSH

**Piedmont Health Cntr** @PiedmontHealth · 3h

Our IT staff is working with the system developers to repair their server issues. Your data privacy is important to us. #PiedmontSH

**Piedmont Health Cntr** @PiedmontHealth · 4h

Please be aware that there is an ongoing investigation on a system breach. The vast majority of our patients will not be affected. #PiedmontSH

**Piedmont Health Cntr** @PiedmontHealth · 5h

We have been alerted that there has been a possible data leak due to system failure from our provider. #PiedmontSH

## **Appendix C - Crisis Briefs**

### **Crisis I - Preventable**

#### **Crisis Brief**

The Piedmont Student Health Center was notified Thursday morning that a doctor repeatedly accessed patient records and sold personal information to a pharmaceutical company. This is a known federal violation of privacy and security of health information as well as against the health center's policies. His actions put student's personal information such as medical history, social security numbers, insurance details and contact information at risk to be distributed to third parties, which can cause identity fraud.

### **Crisis II - Accidental**

#### **Crisis Brief**

The Piedmont Student Health Center was notified Thursday morning that its computer database, used to store students' personal information, failed and redirected all entries to an unsecured network location. Due to information being unsecured, third parties could have been able to access information such as medical history, social security numbers, insurance details and contact information, which can cause identity fraud.

## Appendix D - Brand Reputation Survey

I believe Piedmont Student Healthcare Center...

	Agree Very Much Agree					
	Absolutely Disagree	Disagree Very Much	Somewhat Disagree	Somewhat Agree	Agree Very Much Agree	Absolutely Agree
Is a socially responsible company - This company contributes actively and voluntarily to the social improvement, economic and the environmental of society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a company that has good products/services - This company stands behind its products and services with good price and good quality that meet consumer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a company that relates well with consumers (Customer Orientation) - This company treats customers courteously, communicates with them and takes care of their safety and health.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a company that generates positive feelings in people - This company generates respect, admiration esteem and confidence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a company with leadership and innovation - This company is recognized, has excellent leadership, is innovative, and seeks constant overcoming.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a company with a good workplace environment - This company looks like a good company to work, already be by its infrastructure such as its working environment, benefits and good treats with its employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is an ethical company - This company is a company with values that obeys the laws, transparent and respects people and the environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is a company that practices social responsibility - This company supports good causes that benefits society and environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix E - IRB Approval Letter



University Research Compliance Office

TO: Jason Ellis  
Communications  
309 Umberger

Proposal Number: 8348

FROM: Rick Scheidt, Chair  
Committee on Research Involving Human Subjects

DATE: 07/05/2016

RE: Proposal Entitled, "The Effects of Crisis Communication Strategies Via Twitter On Brand Reputation"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §46.101, paragraph b, category: 2, subsection: ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

## Appendix F - IRB Application

FOR OFFICE USE ONLY:    IRB Protocol #    Application Received:    Routed:    Training Complete:



### Committee for Research Involving Human Subjects (IRB) Application for Approval Form

Please send your completed application to [comply@k-state.edu](mailto:comply@k-state.edu)

#### INSTRUCTIONS

**Be sure to save the application PDF to your computer before you begin completing the form. You may not be able to save your changes if you edit this form in a web browser.**

The KSU IRB is required by law to ensure that all research involving human subjects is adequately reviewed for specific information and is approved prior to inception of any proposed activity. Consequently, it is important that you answer all questions accurately. If you need help or have questions about how to complete this application, please call the Research Compliance Office at 532-3224, or e-mail us at [comply@ksu.edu](mailto:comply@ksu.edu).

Please provide the requested information in the outlined text boxes. The text boxes are designed to accommodate responses within the body of the application. As you type your answers, the text boxes will expand where appropriate and as needed. After completion send your application by e-mail to [comply@k-state.edu](mailto:comply@k-state.edu).

*Additional material is requested with this application. Be sure to provide electronic copies of the following documents (if applicable) and submit them to [comply@k-state.edu](mailto:comply@k-state.edu) along with your application:*

*Consent Form (see *Administrative Information, IX. Informed Consent A.*)*

*Sponsor's grant application or contract as submitted to the funding agency. (See *Administrative Information*)  
Surveys, instruments, etc used for data collection (see *V. Design and Procedures C.* and *X. Project Information P.*)  
Debriefing statement to be utilized (see *IX. Informed Consent E.*)*

**FAILURE TO PROVIDE ALL INFORMATION REQUESTED MAY LEAD  
TO A DELAY IN PROCESSING YOUR REQUEST.**

**Please proof read and check spelling BEFORE submitting the form.  
To use Acrobat spelling check, press F7 or select EDIT, CHECK SPELLING**

**PLEASE CONTINUE TO THE NEXT PAGE  
TO BEGIN COMPLETING THE FORM**

**ADMINISTRATIVE INFORMATION:**

Title of Project/Course:	The Effects of Crisis Communication Strategies Via Twitter On Brand Reputation
--------------------------	--

Type of Application: (check one box)	<input checked="" type="checkbox"/> New / Renewal <input type="checkbox"/> Revision (to a pending new application) <input type="checkbox"/> Modification to an existing approved application #: _____
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Principal Investigator Details: (must be a KSU faculty member):

Name:	Jason Ellis	Degree/Title:	Associate Professor
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Department:	Dept. of Communications and Agricultural Education	Campus Phone:	785-532-3438
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Campus Address:	309 Umberger Hall Manhattan, Kansas 66506
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E-mail:	jellis@ksu.edu	Fax #:	785-532-5633
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Responsible Graduate Student: (Person to contact for questions/problems with the form):

Name:	Courtney Boman	Campus Phone:	785-608-0445
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E-mail:	cdboman@ksu.edu
---------	-----------------

Does this project involve any collaborators not part of the faculty/staff at KSU? (projects with non-KSU collaborators may require additional coordination and approvals):

No  Yes

Project Classification (Is this project part of one of the following?):

<input checked="" type="checkbox"/> Thesis	<input type="checkbox"/> Dissertation	<input type="checkbox"/> Faculty Research
<input type="checkbox"/> Other: _____		

*Note: Class Projects should use the short form application for class projects.*

Copy of the Consent Form:  Copy will be submitted to comply@ksu.edu with this application  Consent form not used

Funding Source:  Internal  External (Identify source. You will also need to provide a copy of the sponsor's grant application or contract as submitted to the funding agency. This should be submitted to comply@ksu.edu with your application.)  
\_\_\_\_\_

Based upon criteria found in 45 CFR 46 – and the overview of projects that may qualify for exemption explained at <http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html>, I believe that my project using human subjects should be determined by the IRB to be exempt from IRB review:

No  Yes (If yes, please provide the category of "Exemption" in the space below)

**Exempt Projects:** 45 CFR 46 identifies six categories of research involving human subjects that may be exempt from IRB review. The categories for exemption are listed here: <http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html#c2> If you believe that your project qualifies for exemption, please indicate which exemption category applies (1-6). Please remember that only the IRB can make the final determination whether a project is exempt from IRB review, or not.

Exemption Category: 45 CRF 46.101(b)(2) \_\_\_\_\_

**MODIFICATION:**

**Is this a modification of an approved protocol?**  No  Yes If yes, please comply with the following:

If you are requesting a modification or a change to an IRB approved protocol, please provide a concise description of all of the changes that you are proposing in the following block. Additionally, please highlight or bold the proposed changes in the body of the protocol where appropriate, so that it is clearly discernible to the IRB reviewers what and where the proposed changes are. This will greatly help the committee and facilitate the review.

_____
-------

I. **NON-TECHNICAL SYNOPSIS** (Please provide a brief narrative description of proposal. This should typically be less than 75 words and be easily understood by nonscientists):

This study should help fulfill the gap for unique crisis communications content strategy needs for social media. The study also aims to define how the type of crisis communications strategy used on Twitter affects brand reputation. Prior research has rarely applied experimental, quantitative designs to investigate the topic of crisis response strategies (Benoit, 1995). Therefore, the main goal of this study is to test how crisis type and response strategies influence brand reputation when using Twitter.

II. **BACKGROUND** (concise narrative review of the literature and basis for the study):

In 1995, Coombs shifted the conversation surrounding crisis communications with his Situational Crisis Communications Theory that focused on organizations maintaining or reestablishing a favorable reputation during and after a crisis. During the last 21 years, limited experimental design research has been done to expand upon his literature and bring it into the digital age. A large span of studies suggest that social media networks can be very useful in times of crisis by quickly and effectively distributing information (Jin & Lin, 2011; Heverin & Zach, 2010; Wollen & Smith, 2010; Hand & Ching, 2011; Procopio & Procopio, 2007; Harman, 2011). Past studies have analyzed how practitioners and organizations use social media (Eyrich, Padman, & Sweetser, 2008; Lariscy, Avery, Sweetser, & Howes, 2009), but lack analysis on how social media used during a crisis affects brand reputation. The literature reflects that there has been a small number of studies that focus on social media content used during a crisis through case studies and non-experimental design research (Bauer, 2012; Boyd & Ellison, 2007; DeMers, 2014; Wollen & Smith, 2010). The current study questions how the crises strategy utilized on Twitter during a crisis affects brand reputation using a designed experiment.

III. **PROJECT/STUDY DESCRIPTION**

(Please provide a concise narrative description of the proposed activity in terms that will allow the IRB or other interested parties to clearly understand what it is that you propose to do that involves human subjects. This description must be in enough detail so that IRB members can make an informed decision about the proposal).

Guided by Coombs' (1996) Situational Crisis Communications Theory, this experimental design will employ a 2x2 factorial design. The independent variables are (a) type of crisis (preventable and accidental) and (b) type of response (rebuild and diminish). The dependent variable is organizational reputation. The participants for this survey will be recruited from an undergraduate population at Kansas State University. Approximately 2,400 of 24,146 undergraduates will be chosen at random from the main university's campus and satellite campuses for the questionnaire distributed through Qualtrics. This study will utilize a CRI model to measure reputation with 8 questions covering participants perceptions of the organization. The online simulation and questionnaire will take less than 20 minutes to complete.

IV. **OBJECTIVE**

(Briefly state the objective of the research – what you hope to learn from the study).

Using Coombs' (1995) Situational Crisis Communications Theory, this research investigates how crisis communication strategies affect brand reputation, specifically when used on Twitter.

Research Questions

- RQ1: What is the relationship between matched and unmatched response conditions on brand reputation?
- RQ2: What is the interaction between crisis type and brand reputation?

V. **DESIGN AND PROCEDURES** (succinctly outline formal plan for study)

A. List all sites where this research will be conducted:

Kansas State University

B. Variables to be studied: Independent variables - crisis type (preventable and accidental) and crisis response type (rebuild and diminish)

Dependent variable - organizational reputation, Twitter use, demographics (age, gender, ethnicity and grade level)

C. Data collection methods: (surveys, instruments, etc - **copies must submitted to comply@k-state.edu**).

Online survey system (Qualtrics) incorporating: Organization background, pre-test on brand reputation and Twitter use,

	mock briefs, mock response tweets, post-test on brand reputation and demographics questionnaire
D.	List any factors that might lead to a subject dropping out or withdrawing from a study. These might include, but are not limited to emotional or physical stress, pain, inconvenience, etc. Time inconvenience, lack of interest/relevance in subject or boredom; however this should be counter balanced by the topic
E.	List all biological samples taken: (if any) N/A
F.	Debriefing procedures for participants: Informed consent before participating and debriefing message at the end of the post-test

**VI. RESEARCH SUBJECTS:**

A.	Source: K-State student email address will be provided by K-State Information Technology Services
B.	Number: (provide a brief rationale for your sample size) 2,500-3,000 will be requested for ITS to populate our survey panel in Qualtrics. This number has been calculated by having a minimum of 100 participants per one of the six conditions (600) with an estimated 20-25% participation rate to exceed minimum needs.
C.	Inclusion criteria: (List any unique qualifiers desirable for research subject participation) Undergraduate students
D.	Exclusion criteria: (list any unique disqualifiers for research subject participation) Under 18 years old, not undergraduate students
E.	Recruitment procedures: How will subjects be identified? Survey of undergraduate student database provided by K-State Information Technology Services  How will subjects be recruited (advertisement, associates, etc.) ? ITS will upload random student email addresses into the panel of our Qualtrics survey. Email will be distributed to participants and they will be eligible for one of thirty \$10 gift cards to the K-State Student Union Food Trucks.  How will subjects be enrolled? Consenting to participate on Qualtrics  Describe any follow-up recruitment procedures: (reminder emails, mailings, etc.) Reminder emails

**VII. RISK - PROTECTION - BENEFITS:** The answers for the three questions below are central to human subjects research. You must demonstrate a reasonable balance between anticipated risks to research participants, protection strategies, and anticipated benefits to participants or others.**A. Risk for Subjects:** (check all that apply)

- Exposure to infectious diseases
- Use of confidential records
- Exposure to radiation
- Manipulation of psychological or social variables such as sensory deprivation, social isolation, psychological stressors
- Examining for personal or sensitive information in surveys or interviews
- Presentation of materials which subjects might consider sensitive, offensive, threatening, or degrading
- Invasion of privacy of subject or family
- Social or economic risk
- Risk associated with exercise or physical exertion
- Legal risk
- Review of medical records
- Review of criminal records
- HIV/AIDS or other STD's
- Employment/occupational risk
- Others – Please explain below (Indirect risks, risk to individuals who are not the primary subjects):

B. **Minimizing Risk:** (Describe specific measures used to minimize or protect subjects from anticipated risks.)

Participants have the option to stop the study at any point

C. **Benefits:** (Describe any reasonably expected benefits for research participants, a class of participants, or to society as a whole.)

Our study will contribute to the current literature regarding the effects of crisis communication strategies utilized on social media for a crisis on brand reputation. Participants will be entered to win one of 30 \$10 gift cards to the K-State Student Union Food Trucks.

D. **More than Minimal Risk?** In your opinion, does the research involve more than minimal risk to subjects? ("Minimal risk" means that "the risks of harm anticipated in the proposed research are not greater, considering probability and magnitude, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.")

Yes       No

**VIII. CONFIDENTIALITY:** Confidentiality is the formal treatment of information that an individual has disclosed to you in a relationship of trust and with the expectation that it will not be divulged to others without permission in ways that are inconsistent with the understanding of the original disclosure. Consequently, it is your responsibility to protect information that you gather from human research subjects in a way that is consistent with your agreement with the volunteer and with their expectations.

Explain how you are going to protect confidentiality of research subjects and/or data or records. Include plans for maintaining records after completion.

We will be relying upon Qualtrics integrated privacy software to maintain confidentiality for participants. We will have access to their emails in order to send follow up and reminder email messages, however, their names will not be connected to their responses and will be kept confidential. The participants will have the option to exit the Qualtrics questionnaire and enter a new Qualtrics form for the opportunity to enter to win a gift card. This will ensure their personal information is not tied to the experiments Qualtrics questionnaire.

- IX. INFORMED CONSENT:** Informed consent is a critical component of human subjects research - it is your responsibility to make sure that any potential subject knows exactly what the project that you are planning is about, and what his/her potential role is. (There may be projects where some forms of "deception" of the subject is necessary for the execution of the study, but it must be carefully justified to and approved by the IRB). A schematic for determining when a waiver or alteration of informed consent may be considered by the IRB is found at <http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html#c10>

Even if your proposed activity does qualify for a waiver of informed consent, you must still provide potential participants with basic information that informs them of their rights as subjects, i.e. explanation that the project is research and the purpose of the research, length of study, study procedures, debriefing issues to include anticipated benefits, study and administrative contact information, confidentiality strategy, and the fact that participation is entirely voluntary and can be terminated at any time without penalty, etc. Even if your potential subjects are completely anonymous, you are obliged to provide them (and the IRB) with basic information about your project. See informed consent example on the URCO website. It is a federal requirement to maintain informed consent forms for 3 years after the study completion.

**Answer the following questions about the informed consent procedures.**

Yes     No    **A.** Are you using a written informed consent form? If "yes," include a copy with this application. If "no" see B.

Yes     No    **B.** In accordance with guidance in 45 CFR 46, I am requesting a waiver or alteration of informed consent elements (see section VIII above). If "yes," provide a basis and/or justification for your request.

Yes     No    **C.** Are you using the online Consent Form Template provided by the URCO? If "no," does your Informed Consent document have all the minimum required elements of informed consent found in the Consent Form Template? (Please explain)

Yes     No    **D.** Are your research subjects anonymous? If they are anonymous, you will not have access to any information that will allow you to determine the identity of the research subjects in your study, or to link research data to a specific individual in any way. Anonymity is a powerful protection for potential research subjects. (An anonymous subject is one whose identity is unknown even to the researcher, or the data or information collected cannot be linked in any way to a specific person).

We will have access to participants' email addresses

Yes     No    **E.** Are subjects debriefed about the purposes, consequences, and benefits of the research? Debriefing refers to a mechanism for informing the research subjects of the results or conclusions, after the data is collected and analyzed, and the study is over. (If "no" explain why.) **Copy of debriefing statement to be utilized should be submitted to [comply@k-state.edu](mailto:comply@k-state.edu) with your application.**

**F. Describe the Informed Consent Process:**

Who is obtaining the consent? (i.e. Principle Investigator, Graduate Student, etc.)

Principle Investigator and Graduate Student

When and where will consent be obtained?

Within Qualtrics, prior to the start of the questionnaire

If assent (for minors) is required, please describe who will obtain the assent? (Assent means a child's affirmative agreement to participate in research)

N/A

If assent (for minors) is required, when and where will assent be obtained?

N/A

How will consent be obtained from non-English speaking participants? (a translated written form, orally, identify the name and qualifications of the individual providing the translation)

N/A

#### **Informed Consent Checklist**

##### **Items**

	YES	NO	N/A
Does the title appear at the top of the consent/assent form?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the consent/assent form written toward the subject?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there a statement that explains that the study is <i>research</i> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there a statement that explains the <i>purpose</i> of the research?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the procedures to be followed explained clearly and adequately?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the consent document describe <i>risks or discomforts</i> to subjects as a result of participating in the research?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the consent/assent form written in the <i>native language</i> of the potential subject?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are participants compensated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If the subjects' identity is known to the PI, does the form detail how confidentiality of records will be maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is contact information for both the PI and the URCO/IRB office included?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the consent document indicate to the participant that he/she can withdraw at any time from the project without penalty or loss of benefit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there probable circumstances which would require the PI to terminate a subject's participation regardless of his or her consent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the consent document written in lay language (Recommended 8th grade level)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**X. PROJECT INFORMATION:** (If you answer Yes to any of the questions below, you should explain them in one of the paragraphs above)

Yes     No    A. Deception of subjects? If "YES" explain why this is necessary.

[Large empty rectangular box for response]

Yes     No    B. Shock or other forms of punishment

Yes     No    C. Sexually explicit materials or questions about sexual orientation, sexual experience or sexual abuse

Yes     No    D. Handling of money or other valuable commodities

- |   |  |    |   |
|---|--|----|---|
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | E. | Extraction or use of blood, other bodily fluids, or tissues (if "yes", you must comply with facility and handling protections detailed in the 5th Edition of the Biosafety in Biomedical Laboratories (BMBL)) |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | F. | Questions about any kind of illegal or illicit activity   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | G. | Questions about protected health information as defined by HIPAA  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | H. | Purposeful creation of anxiety  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | I. | Any procedure that might be viewed as invasion of privacy   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | J. | Physical exercise or stress   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | K. | Administration of substances (food, drugs, etc.) to subjects  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | L. | Any procedure that might place subjects at risk   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | M. | Will there be any use of Radioactive materials and/or use of Radioactive producing machines   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | N. | Any form of potential abuse; i.e., psychological, physical, sexual  |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | O. | Is there potential for the data from this project to be published in a journal, presented at a conference, etc?   |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | P. | Use of surveys or questionnaires for data collection. <b>Copies should be submitted to comply@k-state.edu with your application.</b>  |

**XI. SUBJECT INFORMATION:** (If you answer yes to any of the questions below, you should explain them in one of the paragraphs above)

- |                              |  |    |  |
|------------------------------|--|----|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | a. | Under 18 years of age (these subjects require parental or guardian consent)  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | b. | Over 65 years of age   |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | c. | Minorities as target population  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | d. | Physically or mentally disabled  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | e. | Economically or educationally disadvantaged  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | f. | Unable to provide their own legal informed consent   |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | g. | Pregnant females as target population  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | h. | Victims  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | i. | Subjects in institutions (e.g., prisons, nursing homes, halfway houses)  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | j. | Are subjects likely to be vulnerable to coercion or undue influence  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | k. | Is this international research? If yes, provide details as to if OHRP regulations apply in or near the area you intend to conduct research or if you have contacted individuals for applicable regulations to human subject research.  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | l. | Are research subjects in this activity students recruited from university classes or volunteer pools? If so, do you have a reasonable alternative(s) to participation as a research subject in your project, i.e., another activity such as writing or reading that would serve to protect students from unfair pressure or coercion to participate in this project? If you answered this question "Yes," explain any alternatives options for class credit for potential human subject volunteers in your study. (It is also important to remember that: Students must be free to choose not to participate in research that they have signed up for at any time without penalty. Communication of their decision can be conveyed in any manner, to include simply not showing up for the research.)<br><br><div style="border: 1px solid black; height: 40px; width: 100%;"></div> |

- |                              |  |    |  |
|------------------------------|--|----|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | m. | Is audio from the subjects recorded? If yes, how do you plan to protect the recorded information and mitigate any additional risks?<br><br><div style="border: 1px solid black; height: 40px; width: 100%;"></div> |
|------------------------------|--|----|--|

- |                              |  |    |   |
|------------------------------|--|----|---|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | n. | Are research subjects' images being recorded (video taped, digitally recorded, photographed)? If yes, how do you plan to protect the recorded information and mitigate any additional risks?<br><br><div style="border: 1px solid black; height: 40px; width: 100%;"></div> |
|------------------------------|--|----|---|

**XII. FDA ACTIVITIES:** Answer the following questions about potential FDA regulated activities:

- |                              |  |    |                           |
|------------------------------|--|----|---------------------------|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | a. | Is this a Clinical Trial? |
|------------------------------|--|----|---------------------------|

- |                              |  |    |   |
|------------------------------|--|----|---|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | b. | Are you using an FDA approved drug/device/diagnostic test?  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | c. | Does this activity involve the use of FDA-Regulated products? (biological products, color additives, food additives, human drugs, etc.) |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | d. | Has the protocol been submitted to the FDA, or are there plans to submit it to the FDA?   |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | e. | Have you submitted an FDA form 3454 or 3455 (conflict of interest)?   |

**XIII. CONFLICT OF INTEREST:** Concerns have been growing that financial interests in research may threaten the safety and rights of human research subjects. Financial interests are not in themselves prohibited and may well be appropriate and legitimate. Not all financial interests cause Conflict of Interest (COI) or harm to human subjects. However, to the extent that financial interests may affect the welfare of human subjects in research, IRB's, institutions, and investigators must consider what actions regarding financial interests may be necessary to protect human subjects. Please answer the following questions:

- |                              |  |    |  |
|------------------------------|--|----|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | a. | Do you or the institution have any proprietary interest in a potential product of this research, including patents, trademarks, copyrights, or licensing agreements? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | b. | Do you have an equity interest in the research sponsor (publicly held or a non-publicly held company)?   |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | c. | Do you receive significant payments of other sorts, eg., grants, equipment, retainers for consultation and/or honoraria from the sponsor of this research?           |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | d. | Do you receive payment per participant or incentive payments?  |
|                              |  | e. | If you answered yes to any of the above questions, please provide adequate explanatory information so the IRB can assess any potential COI indicated above.          |

**XIV. PROJECT COLLABORATORS:**

- A. **KSU Collaborators:** List anyone affiliated with KSU who is collecting or analyzing data: (list all collaborators on the project, including co-principal investigators, undergraduate and graduate students).

Name:	Department:	Campus Phone:	Campus E-mail:
Jason Ellis	Dept. of Communications and Agricultural Education	785-532-3438	jellis@ksu.edu
Courtney Boman	Dept. of Communications and Agricultural Education	N/A	cdboman@ksu.edu
Add Row	Delete Row		

- B. **Non-KSU Collaborators:** List all collaborators on your human subjects research project not affiliated with KSU in the spaces below. KSU has negotiated an Assurance with the Office for Human Research Protections (OHRP), the federal office responsible for oversight of research involving human subjects.

Name:	Organization:	Phone:	Institutional E-mail:
Add Row	Delete Row		

- C. Does your non-KSU collaborator's organization have an Assurance with OHRP? (for Federalwide Assurance listings of other institutions, please reference the OHRP website under Assurance Information at: <http://ohrp.cit.nih.gov/search>).

Yes     No    If yes, Collaborator's FWA #

Is your non-KSU collaborator's IRB reviewing this proposal?

Yes     No    If yes, IRB approval #

XV. **IRB Training:**

- A. The URCO must have a copy of the Unaffiliated Investigator Agreement on file for each non-KSU collaborator who is not covered by their own IRB and assurance with OHRP. When research involving human subjects includes collaborators who are not employees or agents of KSU the activities of those unaffiliated individuals may be covered under the KSU Assurance only in accordance with a formal, written agreement of commitment to relevant human subject protection policies and IRB oversight. The Unaffiliated Investigators Agreement can be found and downloaded at <http://www.k-state.edu/research/comply/irb/forms>

**Online Training**

**\*TRAINING REQUIREMENTS HAVE RECENTLY CHANGED\***

The IRB has mandatory training requirements prior to protocol approval. Training is now offered through the Collaborative Institutional Training Initiative (CITI) Program. Instructions for registration and access to training are on the URCO website <http://www.k-state.edu/research/comply/>.

Use the check boxes below to select the training courses that apply to this application. If you have any questions about training, contact URCO at [comply@ksu.edu](mailto:comply@ksu.edu), or (785) 532-3224.

**Mandatory Training**

Required for all Principal Investigators, research staff and students

- Responsible Conduct of Research  
 IRB core modules

**Required (Provost-mandated) for all full-time K-State employees**

- Export Compliance

**Required procedure-specific training (check all that apply to this protocol):**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Students in Research (check if students are listed as personnel on this protocol) | <input type="checkbox"/> International Research                                      |  |
| <input type="checkbox"/> Research in Public Elementary and Secondary Schools                               | <input type="checkbox"/> Research with Children                                      | <input type="checkbox"/> Research with Prisoners |
| <input checked="" type="checkbox"/> Internet Research  | <input type="checkbox"/> Vulnerable Subjects - Research Involving Workers/Employees  |  |
| <input type="checkbox"/> Research with Subjects with Physical Disabilities and Impairments                 | <input type="checkbox"/> Illegal Activities or Undocumented Status in Human Research |  |
| <input type="checkbox"/> Gender and Sexuality Diversity in Human Research                                  | <input type="checkbox"/> Research with human blood, body fluids, or tissues          |  |
| <input type="checkbox"/> Research with Older Adults  |  |  |

All new personnel or personnel with expired training are required to register for CITI and take the new training requirements. If you previously completed online IRB modules, your training status will remain current until it expires. URCO will verify training from the previous system as well as the new system prior to approval of any protocol.

- C. Does your non-KSU collaborator's organization have an Assurance with OHRP? (for Federalwide Assurance listings of other institutions, please reference the OHRP website under Assurance Information at: <http://ohrp.cit.nih.gov/search>).

Yes     No    If yes, Collaborator's FWA #

Is your non-KSU collaborator's IRB reviewing this proposal?

Yes     No    If yes, IRB approval #

XV. **IRB Training:**

- A. The URCO must have a copy of the Unaffiliated Investigator Agreement on file for each non-KSU collaborator who is not covered by their own IRB and assurance with OHRP. When research involving human subjects includes collaborators who are not employees or agents of KSU the activities of those unaffiliated individuals may be covered under the KSU Assurance only in accordance with a formal, written agreement of commitment to relevant human subject protection policies and IRB oversight. The Unaffiliated Investigators Agreement can be found and downloaded at <http://www.k-state.edu/research/comply/irb/forms>

**Online Training**

**\*TRAINING REQUIREMENTS HAVE RECENTLY CHANGED\***

The IRB has mandatory training requirements prior to protocol approval. Training is now offered through the Collaborative Institutional Training Initiative (CITI) Program. Instructions for registration and access to training are on the URCO website <http://www.k-state.edu/research/comply/>.

Use the check boxes below to select the training courses that apply to this application. If you have any questions about training, contact URCO at [comply@ksu.edu](mailto:comply@ksu.edu), or (785) 532-3224.

**Mandatory Training**

Required for all Principal Investigators, research staff and students

- Responsible Conduct of Research  
 IRB core modules

**Required (Provost-mandated) for all full-time K-State employees**

- Export Compliance

**Required procedure-specific training (check all that apply to this protocol):**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Students in Research (check if students are listed as personnel on this protocol) | <input type="checkbox"/> International Research                                      |  |
| <input type="checkbox"/> Research in Public Elementary and Secondary Schools                               | <input type="checkbox"/> Research with Children                                      | <input type="checkbox"/> Research with Prisoners |
| <input checked="" type="checkbox"/> Internet Research  | <input type="checkbox"/> Vulnerable Subjects - Research Involving Workers/Employees  |  |
| <input type="checkbox"/> Research with Subjects with Physical Disabilities and Impairments                 | <input type="checkbox"/> Illegal Activities or Undocumented Status in Human Research |  |
| <input type="checkbox"/> Gender and Sexuality Diversity in Human Research                                  | <input type="checkbox"/> Research with human blood, body fluids, or tissues          |  |
| <input type="checkbox"/> Research with Older Adults  |  |  |

All new personnel or personnel with expired training are required to register for CITI and take the new training requirements. If you previously completed online IRB modules, your training status will remain current until it expires. URCO will verify training from the previous system as well as the new system prior to approval of any protocol.

## INVESTIGATOR ASSURANCE FOR RESEARCH INVOLVING HUMAN SUBJECTS

(Print this page separately because it requires a signature by the PI.)

P.I. Name: Jason Ellis

Title of Project: The Effects Of Crisis Communication Strategies Via Twitter On Brand Reputation

**XVI. ASSURANCES: As the Principal Investigator on this protocol, I provide assurances for the following:**

- A. **Research Involving Human Subjects:** This project will be performed in the manner described in this proposal, and in accordance with the Federalwide Assurance FWA00000865 approved for Kansas State University available at <http://www.hhs.gov/ohrp/assurances/forms/filasurt.html>, applicable laws, regulations, and guidelines. Any proposed deviation or modification from the procedures detailed herein must be submitted to the IRB, and be approved by the Committee for Research Involving Human Subjects (IRB) prior to implementation.
- B. **Training:** I assure that all personnel working with human subjects described in this protocol are technically competent for the role described for them, and have completed the required IRB training accessed via the URCO website at: <http://www.k-state.edu/research/comply/irb/training>. I understand that no proposals will receive final IRB approval until the URCO has documentation of completion of training by all appropriate personnel.
- C. **Extramural Funding:** If funded by an extramural source, I assure that this application accurately reflects all procedures involving human subjects as described in the grant/contract proposal to the funding agency. I also assure that I will notify the IRB/URCO, the KSU PreAward Services, and the funding/contract entity if there are modifications or changes made to the protocol after the initial submission to the funding agency.
- D. **Study Duration:** I understand that it is the responsibility of the Committee for Research Involving Human Subjects (IRB) to perform continuing reviews of human subjects research as necessary. I also understand that as continuing reviews are conducted, it is my responsibility to provide timely and accurate review or update information when requested, to include notification of the IRB/URCO when my study is changed or completed.
- E. **Conflict of Interest:** I assure that I have accurately described (in this application) any potential Conflict of Interest that my collaborators, the University, or I may have in association with this proposed research activity.
- F. **Adverse Event Reporting:** I assure that I will promptly report to the IRB / URCO any unanticipated problems involving risks to subjects or others that involve the protocol as approved. Unanticipated or Adverse Event Form is located on the URCO website at: <http://www.k-state.edu/research/comply/irb/forms>. In the case of a serious event, the Unanticipated or Adverse Events Form may follow a phone call or email contact with the URCO.
- G. **Accuracy:** I assure that the information herein provided to the Committee for Human Subjects Research is to the best of my knowledge complete and accurate.

P.I. Signature:



Digitally signed by Jason D. Ellis, Ph.D.

Date: 2016.06.23 09:34:09 -05'00'

Date:

# Appendix G - Qualtrics Controlled Experimental Survey Design

## Intro

With more than 500 million tweets being sent a day around the world, social media is an important tool for organizations to utilize in communication strategies to reach consumers. Educating the public regarding risks, encouraging visible support of an organization or cause, and establishing a venue for open dialog online are all strategies for using social media during a crisis. The current study questions how the communication strategy utilized on Twitter during a crisis affects brand reputation.

Thank you for your participation in this project. All information will be kept confidential and no identifying information will be gathered or included with your responses. Your participation in the research is voluntary and you may withdraw from the study at any time with no penalty. The study will only take about 10-15 minutes. Once again, thank you for helping me with this study. Your responses will help ensure the completion of my graduate degree at Kansas State University!

Having read about this study, I:

- agree to participate in this project.
- DO NOT agree to participate in this project.

What age did you turn at your most recent birthday?

What is your gender?

- Male
- Female
- Other

What is your highest level of education?

- Some high school, no diploma
- High school graduate, diploma or equivalent
- Some college credit, no degree
- Trade/technical/vocational training
- Associate degree
- Bachelor's degree
- Completed some postgraduate
- Master's degree
- Ph.D., law or medical degree
- Other advanced degree beyond a Master's degree

What state do you currently reside in?

What is the level of your typical Twitter use?

- At least once a day (Heavy User)
- At least once a week (Frequent User)
- Every month (Moderate User)
- Less often than every month (Light User)
- Don't use it

- Never heard of it, don't know what it is used for

#### Brand Website

##### **Instructions:**

Please study the web page shown below carefully. You will be asked questions about the organization on the following pages.

#### Questions about website

##### **What was the name of the student health center?**

- Piedmont Student Health Center
- Health Point Student Health Center
- Wilcox Student Health Center
- University Student Health Center

##### **How much are full-time students charged per a doctors appointment?**

- All doctor appointments are free
- Depends on students' insurance
- \$10 deductible
- \$15 per appointment

What state is the student health center in?

- Delaware
- Washington
- New Mexico
- Maine

#### Brand Website Second Viewing

**Instructions:**

It looks like you answered one or more of the previous questions incorrectly. Please study the web page shown below carefully before continuing.

The screenshot shows the homepage of the Piedmont Student Health Center. At the top, there's a navigation bar with links for ABOUT, PEOPLE, RESOURCES, FORMS, and a search icon. The main header is "ABOUT" with a sub-tagline "Always thinking about students well-being". Below the header, there's a banner featuring two students and a "NATIONAL HEALTH CENTER AWARD BEST STUDENT SERVICES 2016" badge. On the right side, there's a sidebar with links for "schedule an appointment", "reorder a prescription", and "view patient records". The central content area contains sections for "our mission", "our vision", and "about us", each with descriptive text and links to read more. There are also small callout boxes for "Piedmont honored with best in the nation award" and "Piedmont students receive free flu shots".

#### Pre-Brand Measurement

**Instructions:**

This survey contains a list of statements related to brand reputation. Please read each statement and indicate the extent to which you agree or disagree that the statement in regards to the organization's website you viewed on previous last screen. There are no right or wrong answers, please answer honestly and in line with your beliefs.

I believe Piedmont Student Healthcare Center...

	Absolutely Disagree	Disagree Very Much	Somewhat Disagree	Somewhat Agree	Agree Very Much Agree	Absolutely Agree
Is a socially responsible company - This company contributes actively and voluntarily to the social improvement, economic and environmental of society.	<input type="radio"/>					

	Absolutely Disagree	Disagree Very Much	Somewhat Disagree	Somewhat Agree	Agree Very Much Agree	Absolutely Agree
Is a company that has good products/services – This company stands behind its products and services with good prices and a good quality that meets consumer expectations.	<input type="radio"/>					
Is a company that relates well with consumers (Customer Orientation) – This company treats customers courteously, communicates with them, and takes care of their safety and health.	<input type="radio"/>					
Is a company that generates positive feelings in people – This company generates respect, admiration, esteem and confidence.	<input type="radio"/>					
Is a company with leadership and innovation – This company is recognized, has excellent leadership, is innovative and seeks constant overcoming.	<input type="radio"/>					
Is a company with a good workplace environment – This company looks like a good company to work for, by its infrastructure such as its working environment, benefits and how it treats its employees.	<input type="radio"/>					
Is an ethical company – This company is a company with values that obeys the laws, is transparent and respects people, along with the environment.	<input type="radio"/>					
Is a company that practices social responsibility – This company supports good causes that benefit society and environment.	<input type="radio"/>					

#### Crisis Brief P

##### Crisis Brief

The Piedmont Student Health Center was notified Thursday morning that a doctor repeatedly accessed patient records and sold personal information to a pharmaceutical company. This is a known federal violation of privacy and security of health information as well as against the health center's policies. His actions put student's personal information such as medical history, social security numbers, insurance details and contact information at risk to be distributed to third parties, which can cause identity fraud.

**These page timer metrics will not be displayed to the recipient.**

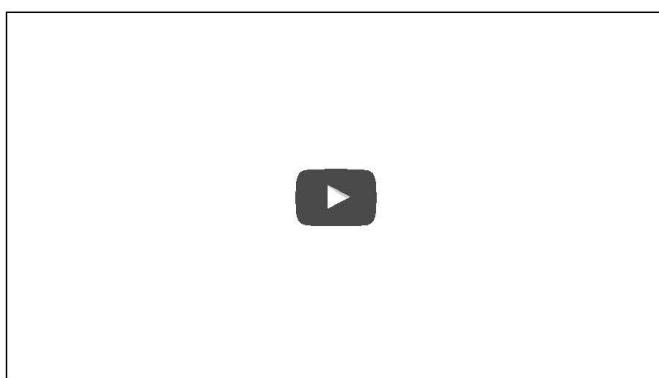
First Click: 0 seconds

Last Click: 0 seconds

Page Submit: 0 seconds

Click Count: 0 clicks

**Take a short break and watch the below video while the rest of your survey is being customized based off of your responses. You will be prompted to continue within two minutes.**



## Crisis Brief A

### Crisis Brief

The Piedmont Student Health Center was notified Thursday morning that its computer database, used to store students' personal information, failed and redirected all entries to an unsecured network location. Due to information being unsecured, third parties could have been able to access information such as medical history, social security numbers, insurance details and contact information, which can cause identity fraud.

**These page timer metrics will not be displayed to the recipient.**

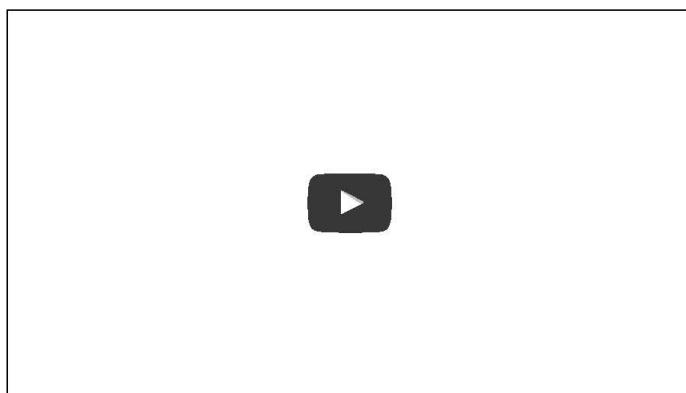
First Click: *0 seconds*

Last Click: *0 seconds*

Page Submit: *0 seconds*

Click Count: *0 clicks*

**Take a short break and watch the below video while the rest of your survey is being customized based off of your responses. You will be prompted to continue within two minutes.**



## Video Distractor

**These page timer metrics will not be displayed to the recipient.**

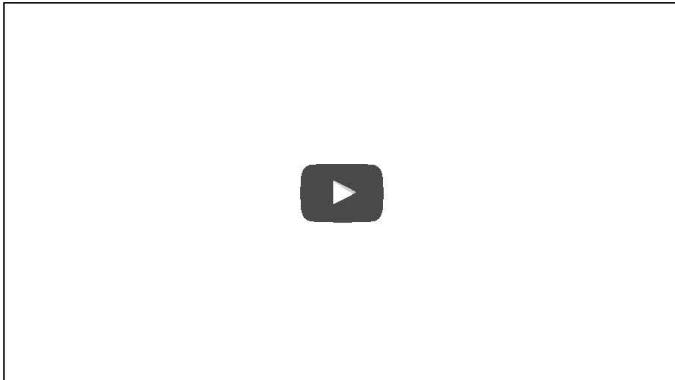
First Click: *0 seconds*

Last Click: *0 seconds*

Page Submit: *0 seconds*

Click Count: *0 clicks*

**Take a short break and watch the below video while the rest of your survey is being customized based off of your responses. You will be prompted to continue within two minutes.**



**Post Brand Rep Questions**

**I believe Piedmont Student Healthcare Center...**

	Absolutely Disagree	Disagree Very Much	Somewhat Disagree	Somewhat Agree	Agree Very Much Agree	Absolutely Agree
Is a company that has good products/services – This company stands behind its products and services with good prices and a good quality that meets consumer expectations.	<input type="radio"/>					
Is a company that generates positive feelings in people – This company generates respect, admiration, esteem and confidence.	<input type="radio"/>					
Is a company that relates well with consumers (Customer Orientation) – This company treats customers courteously, communicates with them, and takes care of their safety and health.	<input type="radio"/>					
Is not a socially responsible company – This company does not contribute actively and voluntarily to the social improvement, economic and environment of society.	<input type="radio"/>					
Is a company with a good workplace environment – This company looks like a good company to work for, by its infrastructure such as its working environment, benefits and how it treats its employees.	<input type="radio"/>					
Is a company that practices social responsibility – This company supports good causes that benefit society and environment.	<input type="radio"/>					
Is an ethical company – This company is a company with values that obeys the laws, is transparent and respects people, along with the environment.	<input type="radio"/>					
Is a company with leadership and innovation – This company is recognized, has excellent leadership, is innovative, and seeks constant overcoming.	<input type="radio"/>					

AD – 2a

**Instructions:**

The following pages will show tweets sent from Piedmont University Student Health Center following Thursday's events. Please read each tweet.

Twitter response from Piedmont University Student Health Center...



Piedmont Health Cntr @PiedmontHealth · 5h

We are conducting an investigation over a possible data breach. We will alert you when more is known. #PiedmontSH

15 15 11 ...

Twitter response from Piedmont University Student Health Center...



Piedmont Health Cntr @PiedmontHealth · 4h

We strive to offer the very best care and this data breach means we've not met our standards. We will contact students who were affected. #PiedmontSH

15 15 11 ...

Twitter response from Piedmont University Student Health Center...



Piedmont Health Cntr @PiedmontHealth · 3h

Your trust is our top priority, we are committed to making this right. If you have any questions please call us (324) 234-4555. #PiedmontSH

32 32 11 ...

Twitter response from Piedmont University Student Health Center...



Piedmont Health Cntr @PiedmontHealth · 2h

We will continue to work with our IT partners so this error does not occur again. We apologize for any added stress. #PiedmontSH

15 15 11 ...

I believe Piedmont Student Healthcare Center...

	Absolutely Disagree	Disagree Very Much	Somewhat Disagree	Somewhat Agree	Agree Very Much Agree	Absolutely Agree
Is a company that has good products/services – This company stands behind its products and services with good price and good quality that meet consumer.	<input type="radio"/>					
Is a company that generates positive feelings in people – This company generates respect, admiration esteem and confidence.	<input type="radio"/>					
Is a company that relates well with consumers (Customer Orientation) – This company treats customers courteously, communicates with them and takes care of their safety and health.	<input type="radio"/>					
Is not a socially responsible company – This company does not contribute actively and voluntarily to the social improvement, economic and the environmental of society.	<input type="radio"/>					
Is a company with a good workplace environment – This company looks like a good company to work, already be by its infrastructure such as its working environment, benefits and good treats with its employees.	<input type="radio"/>					
Is a company that practices social responsibility – This company supports good causes that benefits society and environment.	<input type="radio"/>					

	Absolutely Disagree	Disagree Very Much	Somewhat Disagree	Somewhat Agree	Agree Very Much Agree	Absolutely Agree
Is a company with leadership and innovation - This company is recognized, has excellent leadership, is innovative, and seeks constant overcoming.	<input type="radio"/>					
Is an ethical company - This company is a company with values that obeys the laws, transparent and respects people and the environment.	<input type="radio"/>					

I believe the Tweets Piedmont responded with were justified.

- Agree
- Disagree

The accusations that Piedmont Health Center is responsible for the data breach is reasonable.

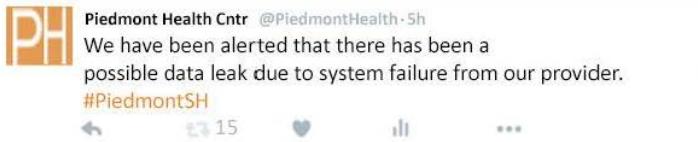
- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

AR - 2b

**Instructions:**

The following pages will show tweets sent from Piedmont University Student Health Center following Thursday's events. Please read each tweet.

Twitter response from Piedmont University Student Health Center...



Twitter response from Piedmont University Student Health Center...



Twitter response from Piedmont University Student Health Center...



Piedmont Health Cntr @PiedmontHealth · 3h

Our IT staff is working with the system developers to repair their server issues. Your data privacy is important to us. #PiedmontSH



10



...

Twitter response from Piedmont University Student Health Center...



Piedmont Health Cntr @PiedmontHealth · 2h

We will continue to work with the developers to ensure your info stays secure. We will hold them to the highest standards.

#PiedmontSH



6



...

I believe Piedmont Student Healthcare Center...

	Absolutely Disagree	Disagree Very Much	Somewhat Disagree	Somewhat Agree	Agree Very Much Agree	Absolutely Agree
Is a company that has good products/services – This company stands behind its products and services with good price and good quality that meet consumer.	<input type="radio"/>					
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Is a company that practices social responsibility – This company supports good causes that benefits society and environment.	<input type="radio"/>					
Is a company with leadership and innovation – This company is recognized, has excellent leadership, is innovative, and seeks constant overcoming.	<input type="radio"/>					
Is an ethical company – This company is a company with values that obeys the laws, transparent and respects people and the environment.	<input type="radio"/>					

I believe the Tweets Piedmont responded with were justified.

- Agree
- Disagree

The accusations that Piedmont Health Center is responsible for the data breach is reasonable.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree

- Agree
- Strongly Agree

PD – 1b

**Instructions:**

The following pages will show tweets sent from Piedmont University Student Health Center following Thursday's events. Please read each tweet.

Twitter response from Piedmont University Student Health Center...

 Piedmont Health Cntr @PiedmontHealth · 2h  
We will continue holding training sessions and are confident our administration will use better judgement going forward.  
[#PiedmontSH](#)

20 32 111 ...

Twitter response from Piedmont University Student Health Center...

 Piedmont Health Cntr @PiedmontHealth · 3h  
IT has confirmed that a doctor accessed student data and gave info to third party. This is against our policies. [#PiedmontSH](#)

32 32 111 ...

Twitter response from Piedmont University Student Health Center...

 Piedmont Health Cntr @PiedmontHealth · 4h  
Piedmont staff are trained and up-to-date on all federal privacy policies, this has been a one time occurrence. [#PiedmontSH](#)

111 ...

Twitter response from Piedmont University Student Health Center...

 Piedmont Health Cntr @PiedmontHealth · 5h  
We have been alerted that a doctor has broken health center policies and we are working to resolve the issue. [#PiedmontSH](#)

20 32 111 ...

I believe Piedmont Student Healthcare Center...

	Absolutely Disagree	Disagree Very Much	Somewhat Disagree	Somewhat Agree	Agree Very Much Agree	Absolutely Agree
Is a company that has good products/services - This company stands behind its products and services with good price and good quality that meet consumer.	<input type="radio"/>					

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- Agree
- Disagree

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- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

PR - 1a

**Instructions:**

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Twitter response from Piedmont University Student Health Center...



Twitter response from Piedmont University Student Health Center...



Piedmont Health Cntr @PiedmontHealth · 4h

We strive to offer the very best care, this access error means we've not met our standards & policies set in place were not followed. #PiedmontSH

15 5 ...

Twitter response from Piedmont University Student Health Center...



Piedmont Health Cntr @PiedmontHealth · 3h

Your trust is our top priority, we are committed to making this right. If you have any questions please call us (324) 234-4555.

#PiedmontSH

32 ...

Twitter response from Piedmont University Student Health Center...



Piedmont Health Cntr @PiedmontHealth · 2h

We will continue to work with & train staff to ensure this does not occur again. We apologize for any inconvenience caused.

#PiedmontSH

20 ...

#### I believe Piedmont Student Healthcare Center...

	Absolutely Disagree	Disagree Very Much	Somewhat Disagree	Somewhat Agree	Agree Very Much Agree	Absolutely Agree
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- Agree  
 Disagree

The accusations that Piedmont Health Center is responsible for the data breach is reasonable.

- Strongly Disagree  
 Disagree  
 Neither Agree nor Disagree  
 Agree  
 Strongly Agree

#### Debrief

Thank you for your time in completing the survey! With the information you provided in this survey, researchers can better understand the effects of crisis communications strategies via Twitter on brand reputation. As a reminder, all of your responses will be kept confidential and no personally identifiable information will be associated with your responses in any reports of this data.

If you have questions about this project, please contact me at [cdboman@ksu.edu](mailto:cdboman@ksu.edu). If you have any questions about your rights or treatment as a participant in this research project, please contact Kansas State University, Institutional Review Board (IRB), at (785) 532-3224. The IRB number is 8348.

Thanks again for participating in this graduate research project.

Courtney Boman  
Graduate Student  
Department of Communications and Agricultural Education