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Is there Still a PR Problem Online? Exploring the Effects of Different Sources and Crisis Response Strategies in Online Crisis Communication Via Social Media

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Abstract

This study examined the effects of source and crisis response strategy on crisis communication outcomes in the context of social media. A 3 (source: organization, CEO, or customer) × 2 (strategy: accommodative or defensive) × 2 (crisis type: airline crash or bank hacking) mixed experimental study was conducted with 391 participants. The organizational sources were more likely to be perceived as more credible than the non-organizational sources. In particular, the CEO appeared to be the most trustworthy and credible source in delivering crisis messages. The path analysis indicated that perceived source credibility mediated the effect of source on

reputation and behavioral intentions. This mediation appeared to be contingent on the type of crisis response strategy.

Keywords

source credibility, crisis response strategies, crisis communication outcomes, social media, online crisis communication

In the era of social media, a plethora of crisis messages travel in no time when a crisis occurs (Helsloot and Groenendaal, [2013](#); Wang, [2016](#)). These messages may contain crisis information disseminated by an organization experiencing a crisis or relay unconfirmed negative information (e.g., rumors) or non-relevant crisis news posted by others (Freberg, [2012](#); Helsloot and Groenendaal, [2013](#)). Organizations are often challenged by user-created content prevalent on social media, which is more likely to be sought than their own messages in crisis situations (Austin *et al.*, [2012](#)). In this regard, source credibility is important in online crisis communication via social media, as credibility perceptions of an organizational source can determine publics' crisis perceptions and their likelihood of accepting the organizational messages as primary sources over a number of others (Coombs, [2015](#); van Zoonen and van der Meer, [2015](#)).

Early research on credibility suggests that people tend to trust others like themselves more than companies and to view company-affiliated sources as hiding the truth and lacking credibility (Callison, [2001](#); Callison and Zillmann, [2002](#)). This tendency may still stand true in social media (Liu *et al.*, [2011](#)), but company-affiliated sources, especially those playing a symbolic role for the company (e.g., chief executive officers), may serve as more credible spokespersons than “faceless” organizations themselves in delivering an immediate crisis response via social media (Turk *et al.*, [2012](#); van Zoonen and van der Meer, [2015](#)). The direct and interactive nature of social media has created the potential for companies to improve publics' credibility perceptions about corporate communications (Park and Cameron, [2014](#); Sweetser and Metzgar, [2007](#)). However, there has been scant research illuminating how publics perceive different company-affiliated sources vs. third parties and how such perceptions influence the effectiveness of crisis communication, which leaves ample room for further research.

This backdrop lends impetus to this study. Through an online experiment with 391 participants, the current study explored how organizational and non-organizational sources have different credibility and interplay with response strategies in affecting crisis communication outcomes, such as perceived crisis responsibility, reputation, and supportive behavioral intentions. This study further sought to provide an understanding of how the source effects are mediated by perceived credibility and how this mediation process may differ by the type of crisis response strategy being used in crisis communication via social media.

Literature Review

Different Sources and Credibility in Online Crisis Communication Via Social Media

Scholars have found that an information source becomes more important in social media space because multiple actors are engaged in delivering and sharing crisis information rather than a single organization or an official spokesperson (Frandsen and Johansen, [2010](#); Heath, [2010](#); van Zoonen and van der Meer, [2015](#)). Crisis managers are challenged by the emergence of social media, which has accelerated a shift from traditional one-to-many channels to a many-to-many channel of communication (Coombs, [2015](#)). The many-to-many channels hinder organizational crisis messages from reaching out to the public as intended (Freberg, [2012](#); Helm, [2011](#); van Noort and Willemsen, [2012](#); van Zoonen *et al.*, [2014](#)). The organization's messages can be buried under an avalanche of other sources; furthermore, unconfirmed messages, such as rumors and misunderstandings on social media, can become dominant rather than official information issued by the organization (Helsloot and Groenendaal, [2013](#)). Liu and colleagues have explored the effects of different sources in social media to influence how the publics seek information and respond to crisis communication strategies (e.g., Austin *et al.*, [2012](#); Jin *et al.*, [2014](#)). They suggest that publics' use of social media for crisis information varies by the information sources in crisis communication (Austin *et al.*, [2012](#)). Publics are also more likely to accept crisis information about the organization experiencing a crisis when they hear about the crisis from a third party via social media (Liu *et al.*, [2011](#)).

For organizational crisis responses to be acceptable, the messages should have credibility because the publics are more likely to overlook them if they do not trust or believe what they see or hear from online sources (Stavrositu and Sundar, [2008](#)). Thus, source credibility makes the effects of different sources on crisis communication via social media more imperative and in need of investigation (Westerman *et al.*, [2014](#)). Source credibility is defined as "the judgment made by a message recipient concerning the believability of a communicator" (Callison, [2001](#): 220). Source credibility also refers to "a message source's perceived expertise and trustworthiness" (Tormala *et al.*, [2006](#): 684). The degree of source credibility is contingent on different dimensions that reflect whether a perceiver believes a sender (a) knows the truth (i.e., expertise/competence), (b) will tell the truth as he or she knows it (i.e., trustworthiness), and (c) has his or her best interests at heart (i.e., goodwill) (Avery *et al.*, [2010](#); Westerman *et al.*, [2014](#)). Perceived source credibility has been examined previously as either a determinant affecting publics' message acceptance of crisis response strategies (e.g., Liu *et al.*, [2011](#); Turk *et al.*, [2012](#)) or an outcome that varies by crisis response strategy (e.g., Haigh and Brubaker, [2010](#); van Zoonen and van der Meer, [2015](#)).

Using high credibility in a communication strategy is strongly suggested because source credibility makes messages persuasive (Haigh and Brubaker, [2010](#)) and thus induces more favorable attitude changes (Heinze *et al.*, [2014](#); Hovland and Weiss, [1951](#); Tormala *et al.*, [2006](#)) and positive behavioral responses (Arora *et al.*, [2006](#)). In other words, credibility can be considered a critical determinant for effective crisis communication, protecting reputation, and increasing supportive behavioral intention; the loss of credibility hampers the organization's

communication (Heath, [1997](#); Yang *et al.*, [2010](#)). For this reason, a well-trained spokesperson should be employed to be perceived as a seemingly credible source for the organization during a crisis (Park and Cameron, [2014](#)).

However, publics are likely to perceive public relations sources as less credible than unidentified sources. This tendency further leads to negative perceptions of both the information source and the organization (Callison, [2001](#); Callison and Zillmann, [2002](#)). A third-party's source with high credibility is widely confirmed in other disciplines as well. Online agents' (e.g., virtual salesperson) recommendations using non-organizational spokespersons (experts or customers) are perceived as more credible than those using an organization's spokesperson (Wang and Doong, [2010](#)). Furthermore, source credibility helps that company-independent sources (word-of-mouth) can be associated with higher organizational attractiveness and more organizational pursuit behavior than company-dependent sources in the context of recruitment practices (Mack *et al.*, [2008](#); Hoyer and Lievens, [2007](#)). When publics receive a crisis response from a communicator with greater credibility in a crisis situation, they are more likely to think that it is acceptable and truthful and, in turn, have a high level intent of supportive behavior (Arpan and Roskos-Ewoldsen, [2005](#); Stephens and Malone, [2010](#)). In crisis communication, publics tend to increase scrutiny of organizational responses because they perceive public relations practitioners and organizations they represent as less credible (Callison, [2001](#); Stephens and Malone, [2010](#)). The lower that credibility is perceived, the more likely publics are to feel that the organization is in crisis (Sweetser and Metzgar, [2007](#)). Thus, credibility becomes a challenge for the organization's crisis communicators.

Recently, Yang *et al.* ([2010](#)) revealed the minimal effect of source credibility (e.g., bloggers) on supportive word-of-mouth intentions and positive attitudes toward an organization in online crisis communication via blog. Park and Cameron ([2014](#)) also examined source credibility in crisis communication, and they found that a public relations blogger was perceived as being more credible and knowledgeable than a non-organizational blogger. Since blogs generally are not considered as useful for crisis communication as Facebook and Twitter (Liu *et al.*, [2012](#)), additional research using other social media needs to be conducted to retest the positive effect of non-organizational source on credibility in online crisis communication. In addition, Haigh and Brubaker ([2010](#)) found that the type of source (CEO, spokesperson, or man-on-the-street as a non-corporate source) did not matter, contradicting previous research, but message strategy impacted credibility as accommodative strategies (e.g., apology) led to higher levels of credibility.

Third-party sources (e.g., testimonials and word-of-mouth) are more persuasive and effective in influencing organizational attraction than are PR sources (Hoyer and Lievens, [2007](#); Metzger *et al.*, [2010](#)). In particular, independent sources not affiliated with a company are more likely to obtain more favor than are PR sources (Callison and Zillmann, [2002](#)). This tendency may occur because publics' perceived similarities to the independent sources may be higher than to the PR sources, but it is more likely due to publics' perceptions that company-affiliated sources want to present the company in the most positive light and thus conceal some facts about the crisis (Callison, [2001](#)).

To retest the effect of source on credibility in online crisis communication via social media, the following hypothesis was posited:

Hypothesis1 (H1)

In online crisis communication, non-organizational sources will generate greater perceptions of source credibility than will organizational sources in social media.

This study further proposed the following hypotheses to retest the effect of source on crisis communication outcomes in a social media context:

Hypothesis2 (H2)

In online crisis communication, participants who received non-organizational social media messages related to a crisis will attribute lower level of crisis responsibility to the organization than will those who received organizational social media messages.

Hypothesis3 (H3)

In online crisis communication, participants who received non-organizational social media messages related to a crisis will have more positive crisis communication outcomes (reputation and behavioral intentions) than will those who received organizational social media messages.

The Moderating Effect of Source on the Effectiveness of Crisis Response Strategies

Crisis response strategies are the essence of crisis communication, designed to reduce or minimize reputational damage to an organization (Fearn-Banks, [2016](#)). In this sense, the body of crisis communication research that has been conducted explores the most appropriate crisis response strategies on a continuum from accommodative to defensive (Hung-Baesecke and Chen, [2013](#)). Accommodative strategies are used when an organization accepts responsibility for a crisis by asking for an apology or offering compensation to victims (Coombs and Holladay, [2002](#); Marcus and Goodman, [1991](#)). An organization uses defensive strategies to claim there is no problem or try to deny responsibility for the crisis by blaming or attacking others outside (Allen and Caillouet, [1994](#); Coombs, [1998](#)). The choice of whether to use an accommodative or defensive strategy is based on different levels of crisis responsibility attributed to the organization (Coombs, [2007a](#), [2007b](#)). While accommodative strategies are useful when crisis responsibility is strong, defensive strategies are effective when crisis responsibility is perceived as minimal (Claeys and Cauberghe, [2012](#)).

Accommodative strategies are often used to change publics' negative perceptions of a crisis or an organization (Allen and Caillouet, [1994](#); Coombs, [2015](#); Kiambi and Shafer, [2016](#)). When the publics' negative perceptions of a crisis are alleviated, they may attribute less crisis responsibility to the organization, which decreases the threat of reputational damage (Coombs and Holladay, [2008](#); Hearit, [2001](#), [2006](#)). Some researchers support this logic by maintaining

that accommodative strategies, especially apology, should be chosen by crisis managers regardless of crisis responsibility in order to restore organizational reputation in times of crisis (Choi and Chung, [2013](#); Kiambi and Shafer, [2016](#); Lee, [2005](#)). Furthermore, other researchers have found that using an apologetic response (accommodative strategy) is more effective for supportive behaviors (e.g., positive purchasing intentions) toward the organization than using a defensive response (Lyon and Cameron, [2004](#)). Evidence from a content analysis of crisis studies indicates that defensive strategies are effective for minimizing reputational damage only when there is a clear indication of no association between a crisis and an accused organization (Kim *et al.*, [2009](#)). Otherwise, the best response option, especially for a preventable crisis, is seemingly to use one or a combination of accommodative strategies, including full apology, mortification, and corrective action (Kim *et al.*, [2009](#)).

More recently, blaming others and denying responsibility (defensive strategy) in a preventable crisis (e.g., human-error accident or product harm) were found to trigger negative reputational outcomes (Claeys *et al.*, [2010](#); Dutta and Pulling, 2011; Schwarz, [2012](#)). However, online users indicated positive purchase intentions after accepting the apology (accommodative strategy) for an organization's unexpected mistake (e.g., erasing online e-book service) (Coombs and Holladay, [2012](#)). To confirm the effect of crisis response strategies in the context of online crisis communication via social media, the following hypotheses were proposed:

Hypothesis4 (H4)

Participants in the accommodative social media message condition will attribute lower levels of crisis responsibility to the organization than will those in the defensive social media message condition.

Hypothesis5 (H5)

Participants in the accommodative social media message condition will have more positive crisis communication outcomes (reputation and behavioral intentions) than will those in the defensive social media message condition.

While the effect of using accommodative strategies, as opposed to defensive strategies, has been well documented, some crisis communication researchers have attempted to examine the role of different sources as intervening factors that may influence the effectiveness of crisis strategies (Haigh and Brubaker, [2010](#); Park and Cameron, [2014](#); Turk *et al.*, [2012](#); van Zoonen and van der Meer, [2015](#)). Turk *et al.* ([2012](#)) found that an organization's defensive response to a crisis was as acceptable as an apologetic response if the CEO was visible or audible in an online video. Source effects found in prior crisis studies have been inconsistent in determining publics' responses to organizational crisis messages and have not been fully explored with different types of crisis response strategies in consideration. Therefore, the following research questions were posed:

Research Question 1 (RQ1)

Is there a two-way interaction effect between the type of source and crisis response strategy on crisis responsibility?

Research Question 2 (RQ2)

Are there any two-way interaction effects between the type of source and crisis response strategy on crisis communication outcomes (reputation and behavioral intentions)?

The Mediating Role of Credibility in Online Crisis Communication

As aforementioned, credibility studies have suggested the mediating role of credibility between sources and positive communication outcomes, such as message acceptance, positive attitude toward organizations, and supportive behaviors (Arpan and Roskos-Ewoldsen, [2005](#); Hoye and Lievens, [2007](#); Mack *et al.*, [2008](#); Stephens and Malone, [2010](#)). Credibility can function as an influential trigger for publics in their participation in online communication and, at the same time, it can result in positive crisis communication outcomes by reducing publics' suspicion of information in online crisis communication using social media (Heath, [1997](#); Scoble and Israel, [2006](#); Westerman *et al.*, [2014](#); Yang *et al.*, [2010](#)). Haigh and Brubaker ([2010](#)) speculated that credibility may come into play in how publics perceive a company's crisis responses and react to the company accordingly.

As social media have enabled non-organizational sources to create, deliver, and exchange crisis-related information at no cost, the role of source credibility has become more important in the context of online crisis communication. Recently, van Zoonen and van der Meer's ([2015](#)) study found that the effects of an organization's crisis response strategies via social media (e.g., Twitter) on reputation were mediated by content source credibility. However, they suggested that additional research is needed to further investigate the dynamics underlying the relationships between crisis response strategy, source credibility, and crisis communication outcomes (van Zoonen and van der Meer, [2015](#)). Thus, perceived source credibility has not been fully explored in a social media context. Therefore, this study proposed the following research questions:

Research Question 3 (RQ3)

How will credibility mediate the effect of different sources on crisis responsibility to the organization in online crisis communication via social media?

Research Question 4 (RQ4)

How will credibility mediate the effect of response strategies on outcomes (reputation and behavioral intentions) in crisis communication via social media?

Method

This study used a 3 (source: organization, CEO, or customer) × 2 (crisis response strategy: accommodative or defensive) × 2 (crisis types: airline crash or bank hacking) mixed experimental design. The crisis type was a stimulus repetition factor used to avoid a single-message design, and the other variables were between-subjects factors.

Participants

The participants in this study were 391 people living in the United States. They were recruited from an online web-based platform (Amazon.com's Mechanical Turk: MTurk) with a diverse subject pool that maintains more than 400,000 available HITs (panel members) who have voluntarily registered (Bartneck *et al.*, [2015](#); Berinsky *et al.*, [2012](#)). MTurk is a burgeoning and promising vehicle for experimental studies in the social sciences because its panels constitute a more representative sample of the general population compared to other convenience samples (Bartneck *et al.*, [2015](#); Berinsky *et al.*, [2012](#)). MTurk serves as a viable and economic option for researchers, as it allows the timely collection of high-quality data that are superior to those collected via social media and face-to-face (Buhrmester *et al.*, [2011](#); Casler *et al.*, [2013](#)). For this study, MTurk participants were paid 50 cents to complete the questionnaire. Participant ages ranged from 18 to 70 years old, with the average age of 33.11 years. Females constituted 62.1 percent ($n = 243$) of the participants, while males made up 37.9 percent ($n = 148$). Of the 391 participants, 74.2 percent ($n = 290$) were Caucasian, 9.2 percent ($n = 36$) were African American, 7.4 percent ($n = 29$) were Asian American, and 8.4 percent ($n = 33$) were other races (e.g., Hispanic/Latino). These demographics were comparable to those of the U.S. population (U. S. Census Bureau, [2010](#)).

Instrument

To enhance the ecological validity of the experimental design, this study used actual companies and adapted actual crises to fictitious scenarios (Lyon and Cameron, [2004](#); Turk *et al.*, [2012](#)). In order to determine crisis types, the crisis-prone industries in the United States were investigated, and the air transportation and banking industries were chosen because they continuously ranked among the top five most crisis-prone industries (ICM crisis report, 2013). A pre-test ($N = 200$) with a separate sample from the same pool (MTurk) was conducted to measure the familiarity of the existing companies in the industries. Considering their higher levels of familiarity compared to other organizations in the same industry, two companies, Delta Airlines ($M = 5.31$) and Bank of America ($M = 5.83$) on a 7-point bipolar scale (1 = not familiar at all, 7 = extremely familiar), were selected.

A freelance journalist was recruited to create fictitious crisis scenarios of an airline crash and bank hacking based on news articles about recent actual crises in the same industries (e.g., the 2013 Asiana Airlines crash and the 2013 Barclays Bank hacking). The fictitious scenarios were written differently in accordance with different sources. The type of source was manipulated as

an organizational source (CEO or company) or a non-organizational source (customer) for each company. The company and its CEO served as distinct organizational sources because CEOs have been found to have a different effect from companies as entities in crisis communication (González-Herrero and Smith, [2008](#); Turk *et al.*, [2012](#)). The non-organizational source was operationalized as a customer,¹ often representing a third-party or independent source in credibility research (Edelman Trust Barometer, [2016](#); Wang and Doong, [2010](#)). To obtain a realistic setting for the Facebook messages, real pictures for the customer, a random person under his permission, the CEOs of both companies, and actual company logos were presented according to the experimental condition. After creating the six scenarios of the two organizations (two companies × three different types of sources), Coombs's ([1998](#), [2015](#)) crisis response strategies were applied to the fictitious scenarios, and the stimuli were written again with two different strategies (accommodative and defensive). Therefore, 12 different mock-up Facebook messages were created as stimuli (See Appendix A).

Procedure

The questionnaire was created on Qualtrics.com, a web-based tool for building surveys, and the link was used on the MTurk website for diverse subjects. Participants were randomly assigned to one of the six experimental conditions (three sources × two strategies). They viewed crisis messages in the same condition for the airline crash and bank hacking in random order by using a technical service on Qualtrics.com. After reading each stimulus message, participants answered questions measuring dependent variables: source credibility, crisis responsibility, reputation, and supportive behavioral intentions. On the last page, participants were debriefed that the crises and Facebook messages were fictitious and had solely been created for the purpose of the study.

Measures

Credibility was measured in terms of two evaluations: specific information source and company employing the information source (Callison, [2001](#)). Participants were asked to rate the information source (airline crash: $\alpha = .85$, bank hacking: $\alpha = .88$) with three items asking if the source was a good spokesperson, telling the truth, and a credible source. In addition, participants were asked to indicate if the company employing the information source is credible (airline crash: $\alpha = .87$, bank hacking: $\alpha = .87$) with four items, including whether the company (a) was trying to do what it believes is best for society, (b) had honest intentions, (c) had a hidden agenda (reverse-coded for analysis), and (d) was telling the truth in its entirety. To measure crisis responsibility, reputation, and supportive behavioral intentions, the SCCT scales (Coombs and Holladay, [1996](#)) were used. Crisis responsibility was measured by how strongly participants agreed that the blame for the crisis lies with the organization (Coombs, [1998](#)). Crisis reputation (airline crash: $\alpha = .77$, bank hacking: $\alpha = .85$) was measured with four items, including "The organization is concerned with the well-being of its publics." Supportive behavioral intentions (airline crash: $\alpha = .83$, bank hacking: $\alpha = .86$) were measured by four

items, including “I would say nice things about the organization to other people.” All of the items were measured on a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree).

Results

Manipulation Checks

The manipulation of crisis response strategies (defensive vs. accommodative) appeared to be successful. Participants who read defensive Facebook messages were more likely to perceive that the organization was trying to protect its reputation by blaming others outside against the crisis for both the airline crash, $t(389) = 11.33, p < .001$ ($M_{\text{defensive}} = 4.74, M_{\text{accommodative}} = 2.52$) and the bank hacking, $t(389) = 3.31, p < .01$ ($M_{\text{defensive}} = 4.69, M_{\text{accommodative}} = 3.99$). Those who read accommodative Facebook messages were more likely to perceive that the organizations took full responsibility for the crisis and were asking for forgiveness ($M_{\text{defensive}} = 2.46, M_{\text{accommodative}} = 5.23, t(389) = -15.07, p < .001$ for the airline crash; $M_{\text{defensive}} = 2.80, M_{\text{accommodative}} = 4.85, t(389) = -11.48, p < .001$ for the bank hacking).

Effect of Source on Credibility and Crisis Responsibility in Online Crisis Communication

H1 hypothesized that a non-organizational source would be perceived as more credible than would an organization source in social media. The results of a mixed ANOVA revealed that the effect of source was significant on source credibility, $F(2, 385) = 12.44, p < .001, \eta_p^2 = .06$. However, contrary to the expectation, the organizational sources – CEO ($M = 5.01, SD = 1.29$) and company ($M = 4.91, SD = 1.30$) – appeared to be more credible than the non-organizational source ($M = 4.38, SD = 1.29$) across the crises. Therefore, H1 was not supported. Regarding the perceived credibility of the company, there was no main effect of source, $F(2, 385) = .19, p = .83$.

H2 and H3 predicted that the non-organizational source (customer’s Facebook message) would have a more positive effect on crisis responsibility (H2), as well as reputation and supportive behavioral intentions (H3), compared to the organizational sources (organization’s and CEO’s Facebook message). A series of mixed between-within analysis of variance (ANOVA) revealed that there was no main effect of source in any crisis type, $F_{\text{responsibility}}(2, 385) = 2.24, p = .11; F_{\text{reputation}}(2, 382) = .30, p = .74; F_{\text{behavior}}(2, 385) = .52, p = .59$. Accordingly, H2 and H3 were not supported.

Different Sources and Strategies in Online Crisis Communication (H4, H5, RQ1, and RQ2)

Another mixed ANOVA was run to examine the positive effect of the accommodative strategy on crisis responsibility, reputation, and behavioral intentions in the context of online crisis communication via social media. There was no main effect of crisis response strategies on crisis

responsibility, $F(1, 385) = 1.76, p = .19$. The defensive and accommodative strategies did not differ regarding reputation, $F(1, 385) = .27, p = .61$, and behavioral intentions, $F(1, 385) = 1.10, p = .30$. Accordingly, H4 and H5 were not supported.

The interaction effect between strategy and sources on crisis responsibility (RQ1) was not significant for any crisis type, $F(2, 385) = 1.99, p = .14$. Regarding RQ2, there was also no significant interaction effect on reputation, $F(2, 385) = 1.39, p = .25$, or behavioral intentions, $F(2, 385) = .21, p = .81$.

The Mediating Role of Credibility in Online Crisis Communication (RQ3 and RQ4)

To answer RQ3 and RQ4, a path analysis using structural equation modeling was conducted using SPSS Amos 20. For the inclusion of source type in the analysis, two dummy variables were created: (a) organizational source (1 = company, 0 = other) and (b) non-organizational source (1 = customer, 0 = other). The type of strategy was also recoded as a dichotomous variable (1 = accommodative, 0 = defensive). Interaction terms between the strategy and each type of source (strategy \times organization source and strategy \times non-organization source) were created for detecting possible moderated mediation effects (see Figure 1). The model fit indices met all of the criteria suggested by Hu and Bentler (1999) and confirmed that the model was good enough to analyze estimated effects, $\chi^2(10, N = 391) = 23.53, p = .01, CFI = .99, SRMR = .03, RMSEA = .04$.

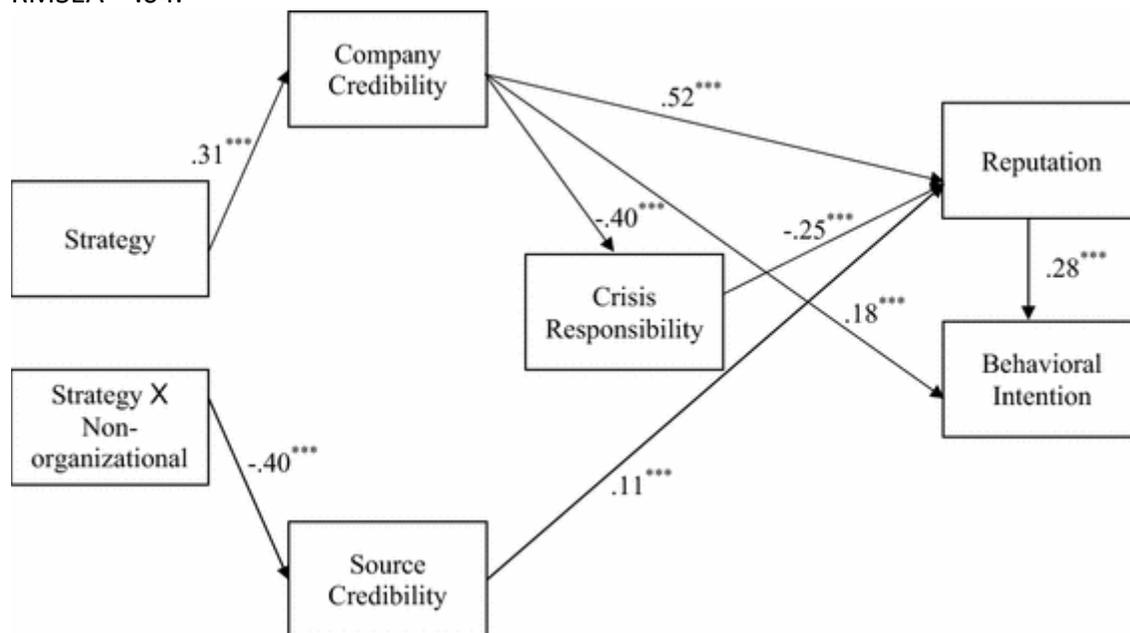


Figure 1 Path diagram of mediation analysis: Mediating effects of credibility. Strategy was dummy coded (accommodative = 1, defensive = 0), and dichotomous source variables, organizational (organization = 1, others = 0) and non-organizational (customer = 1, others = 0) sources, were included. $\chi^2(10, N = 391) = 23.53, p = .009, CFI = .99, SRMR = .03, RMSEA = .04$. For the sake of brevity and clarity, only statistically significant paths are drawn and the error terms were omitted in the figure. *** $p < .001$

The results indicate that both company credibility and source credibility serve as mediators between strategy and crisis communication outcomes (see Figure 1). However, the mediation

effect of source credibility on the path from strategy to reputation was moderated by the type of source ($\beta = -.40$), while this moderated mediation did not occur for company credibility. Specifically, the accommodative strategy significantly had a positive effect on company credibility ($\beta = .31$). Company credibility had a negative effect on crisis responsibility ($\beta = -.39$) and positive effects on reputation ($\beta = .51$) and supporting behavioral intentions ($\beta = .18$). In this chain, crisis responsibility acted as a mediator by transferring the influence of company credibility on reputation ($\beta = -.25$). The reputation has a positive direct effect on supporting behavioral intentions ($\beta = .28$). Company credibility did not mediate the relationship between any of the sources and crisis outcomes. However, source credibility was a mediator of relationship between non-organizational accommodative source and organizational reputation. A non-organizational source using the accommodative strategy had a negative effect on source credibility ($\beta = -.40$), and source credibility had a positive effect on reputation ($\beta = .11$). Reputation was a mediator that transferred a positive effect from source credibility to behavioral intentions ($\beta = .28$).

Discussion

Understanding the Different Contexts of Online Crisis Communication

This study aimed to help fill the dearth of research by examining how type of source can moderate the effectiveness of crisis response strategy and how the effects of source and crisis strategy are mediated by source credibility in online crisis communication via social media. Contradicting findings of previous research (Callison, [2001](#); Callison and Zillmann, [2002](#); Wang and Doong, [2010](#)), the non-organizational source did not appear to be perceived as more credible than the company or its CEO. Rather, the organizational sources, especially the CEO, were rated to be more credible as information sources than the customer regardless of crisis type. These results suggest that different dynamics may exist in online crisis communication than in the traditional context (Kioussis and Dimitrova, [2006](#)). Given the abundance of information available on social media, publics may be motivated to avoid uncertainty about a crisis situation and thus prefer to seek crisis information from a company's official sources rather than those who are not affiliated with the company and may share unconfirmed news.

Furthermore, the finding that the CEO spokesperson was the most trustworthy and credible source points to the importance of CEO visibility in organizational crisis messages. This also suggests that using a CEO is a viable tactic for improving credibility when the organization is responding to a crisis (Turk *et al.*, [2012](#)). The role of organizational leaders in the effective handling of a crisis is emphasized, especially in the era of social media, because "the presence or absence of a CEO can be communicated virally" (Turk *et al.*, [2012](#): 581). Thus, the presence and active role of a CEO as a spokesperson can add more leverage to a company's crisis communication and allow the company to have more response options to choose from. For this reason, crisis managers should incorporate their CEO's presence when sending out their official messages to respond to a crisis efficiently. Particularly, a CEO's positive reputation can be a strategic asset in protecting a company's reputation during and after a crisis (Sohn and Lariscy, [2012](#)).

The results of this study showed that the type of crisis communication strategy did not produce any significant effect on crisis responsibility and crisis outcomes. This finding implies the possibility that the effect of crisis response strategies may be contingent upon other factors in a social media context. This speculation is partly supported by the result of the path analysis, which showed that the type of strategy and source interacted with each other in affecting perceived source credibility and subsequent crisis communication outcomes (i.e., reputation and behavioral intentions). It is also plausible that the use of a simple modality (i.e., text and static photos of sources) in the stimulus Facebook messages may have led the participants not to perceive the messages as reflecting organizational strategies, but rather to think of them to include just fact-based information (Kiousis and Dimitrova, [2006](#)). High modality is more likely to impact attitude toward the online media platforms because online users tend to “judge Web pages with higher modality as more attractive, better organized, and more functional” (Kiousis and Dimitrova, [2006](#): 179). More research needs to be conducted using different levels of modality, including videos to determine the effects of crisis response strategies.

Mediating Role of Credibility in Online Crisis Communication

The findings for source credibility and company credibility suggest ways for public relations practitioners to utilize social media in the context of online crisis communication. Company credibility mediated the effect of strategy on crisis outcomes, including crisis responsibility, reputation, and behavioral intentions. The company was perceived as more credible when the accommodative strategy was used than when the defensive strategy was used. A higher level of company credibility, in turn, reduced perceived crisis responsibility of the organization, as well as positively affecting organizational reputation and supporting behavioral intention toward the organization. This finding indicates that the accommodative response strategy can be effective in online crisis communication if it increases publics’ perceptions of company credibility, instilling perceptions that the organization is trying to do what it believes is best for society, reflecting honest intentions without any hidden agendas, and telling the truth in its entirety about the crisis situation.

In the new media environment based on a variety of online media, the assurance of telling the truth is an appropriate message strategy because it leads the organization to be viewed as more transparent and helps it create favorable reputation perceptions toward the organization (Kim *et al.*, [2014](#)). Consequently, the perceived quality of organizational accounts or arguments can also be strengthened if its publics perceive the organization to be truthful and trustworthy. This may significantly help the organization reduce “the effortful task of securitizing the message” (Chu and Kamal, [2008](#): 33). When the participants felt the organization had high company credibility, the participants may have accepted the organization’s apology without additional effort. Consistent with previous online crisis communication studies (Park and Cameron, [2014](#); Yang *et al.*, [2010](#)), this study confirms the positive effects of credibility and provides important insights into how public relations practitioners can take advantage of company credibility for effective online crisis communication.

In this sense, this study offers a propitious direction for crisis managers by suggesting that company credibility can lead to positive outcomes in online crisis communication. The problem of PR sources in the public relations practice should be revisited when it comes to the context of online crisis communication. It has been a common notion that PR sources are less credible and effective than third-party and independent sources (Callison, [2001](#); Callison and Zillmann, [2002](#); Stephens and Malone, [2010](#)). The finding of source credibility, nonetheless, supports the rebuttal ideas by demonstrating that apologetic messages delivered by a non-organizational source (i.e., customer) could negatively affect source credibility, which subsequently influences reputation. As the high credibility scores of organizational sources indicated, when an organization communicates its crisis messages (e.g., apology), especially through a CEO, rather than non-organizational sources, publics can perceive the CEO as a credible and trustworthy spokesperson. In turn, the organization can reduce reputational threat and negative behavioral consequences (e.g., negative word-of-mouth) caused by the crisis. This result is in line with the suggestions of previous online crisis communication research that PR professionals should have credibility in the new media environment as reliable spokespersons for an organization in a crisis (Heath, [1997](#); Park and Cameron, [2014](#)). Thus, this study corroborates the importance of credibility in crisis communication by maintaining that credibility in the context of online crisis communication can empower crisis managers for effective crisis communication.

Implications

People actively engage in information seeking via social media in crisis situations (Austin *et al.*, [2012](#); Westerman *et al.*, [2014](#)). Although information on social media is often viewed as untrustworthy and inaccurate due to the prevalence of unconfirmed rumors and non-relevant messages, social media are gaining prominence as information sources (Gordon, [2010](#)). Moreover, the environment of online communication based on many-to-many channels of communication requires crisis communication managers to use social media in different ways than the traditional paradigm suggests (Grunig, [2009](#)). Rather than relying on non-organizational sources and crisis response strategy, making sure CEO visibility in the social message is more appropriate and suggested during a crisis. This also confirms that previous research put it forward for primary corporate assets in the optimized online crisis communication (Turk *et al.*, [2012](#)). Thus, this study practically resonates with a long-held tenet of crisis management – emphasizing the role of organizational leadership for effective online crisis communication (Ulmer *et al.*, [2010](#)).

The results in this study also corroborate how communication based on credibility can be used as a symbolic resource in attempting to protect organizational reputation in a crisis. The main stream in crisis communication theories, including Coombs's (2007) SCCT and Benoit's ([1997](#)) image repair theory, has been developed and tested in terms of how strategic messages can create or change impressions in the minds of publics that can allow the organization to buffer itself against damage in the crises (i.e., protecting reputation) (Avery *et al.*, [2010](#); Olsson, [2014](#); Parquette, [2015](#)). Despite incredible contributions for practice and research, the dominant crisis communication theories do not consider the importance of different sources and credibility to protect and restore organizational reputation, especially in the online context of crisis

communication (Liu *et al.*, [2011](#)). More specifically, the current theories are limited to helping practitioners how to protect their organizational reputation when unconfirmed negative or false information about the organization (e.g., rumors) is widespread in the social media during or after a crisis (Helsloot and Groenendaal, [2013](#)). Emphasizing source and company credibility, however, this study suggests that crisis managers can exert leverage over the online rumors in their crisis communication by heightening their crisis response strategies acceptance and believability. Thus, the results can help crisis communication researchers explicate how different dimensions of credibility, company, and source are linked to protecting or restoring of organizational reputation, thereby ensuring effective crisis communication.

Relatedly, the empirical evidence, as the theoretical implication, that credibility mediates the effect of source on crisis outcomes provides a meaningful step to building and developing a theoretical framework of online crisis communication via social media. In response to the critiques on current crisis communication theories, Coombs ([2015](#)) underscored that crisis managers should consider the role of credibility in tandem with crisis response strategies. During crises caused by moral challenges and rumors, publics tend to “support the side that is the most credible to them” (Coombs, [2015](#): 153). Competing with those challenge and rumor messages is inevitable – and critical – for an organization to make its publics believe and accept the organization’s definition of crisis, as well as response strategies in online crisis communication. The findings of this study pave the way for theoretical insights into future directions of crisis communication research.

Limitations and Future Research

This study has limitations that should be addressed in future research. First, other types of non-organizational or third-party sources should be considered in further research. This study only investigated customers, and the results may reflect this specific type of source. Future research can provide a more prolific result by examining other third-party sources, such as a customer advocacy group or other non-governmental organizations. As one crisis response strategy, announcing an investigation with external third groups can help companies facing crises to protect or restore their credibility (Heinze *et al.*, [2014](#)). Also, this study used a single social media platform, Facebook. Different social media platforms, including blogs and online videos, can have different effects on the effectiveness of an organization’s crisis communication efforts (Austin *et al.*, [2012](#)). Examining source credibility across different online media is likely to produce more fruitful results. Furthermore, considering online video will help researchers to measure or control for modality of individual sources, including CEO and spokesperson, by heuristic information (e.g., appearance, expression of emotion, and tone) that results in perceptions of source credibility (Claeys *et al.*, [2013](#); Hong and Len-Rios, 2015). Future research can also consider interactive features of online media and publics’ perceptions about an organization’s use of those features in crisis communication. Interactive features are important components of strategic communication for reaching online media users and promoting positive attitudes and intentions to engage in word-of-mouth communication in a crisis situation (Kioussis and Dimtrova, 2006; Lee and Park, 2013; Yang *et al.*, [2010](#)).

Note

¹This study focused on trustworthiness, especially the construct of believability, among source credibility dimensions. The construct of “believability” indicates to what extent stakeholders or publics are willing to accept the information of a corporate message (i.e., crisis response) (DiStaso et al., [2015](#): 224). As such, believability can determine the success of crisis management efforts in crisis communication by enhancing the effectiveness of crisis response strategies (Coombs, [2015](#); DiStaso et al., [2015](#)). Also, credibility can be defined as the worthiness of being believed in the social media context (e.g., Johnson and Kaye, 2004). Following both areas – crisis communication and social media – this study focused on the “trustworthiness” dimension (i.e., believability) rather than other dimensions such as expertise, competence, and good will. In terms of this dimension, customer source was chosen rather than experts or other NGO groups as a non-organizational source.

Appendix A: Examples of Facebook Messages with Fictitious Crisis Scenarios

Highlights ▾

Post Photo / Video

Write something on Delta...

 **Delta**
1 hour ago

This afternoon, Delta flight 216 departed from the Zurich, Switzerland, International Airport bound for San Francisco. The plane crashed into a hangar shortly after takeoff, leaving a yet unknown number of passengers injured. There are early reports of some fatalities. Along with associated government agencies, Delta Airlines is also currently investigating the specific cause of the incident. An error by air traffic controllers may be to blame. While we plan to hold those responsible for today's tragedy accountable, our priority at this time are the victims and their families. New developments will be announced as they become available.

Like · Comment · Share

 Write a comment... 

Defensive message for airline crisis
from the Delta organization

Highlights ▾

Post Photo / Video

Write something on Richard H. Anderson...

 **Delta Air Lines, CEO Richard H. Anderson**
1 hour ago

My thoughts and prayers are with those who were involved in the Delta flight 216 crash this afternoon. The flight, which departed from the Zurich, Switzerland, International Airport, was bound for San Francisco. The plane crashed into a hangar shortly after takeoff, leaving a yet unknown number of passengers injured. There are early reports of some fatalities. Along with associated government agencies, Delta Airlines is also currently investigating the specific cause of the incident. An error by air traffic controllers may be to blame. As CEO, I vow to hold the responsible parties accountable for their actions that resulted in this tragedy. New developments will be announced as they become available.

Like · Comment · Share

 Write a comment... 

Defensive message for airline crisis
from the Delta CEO

Highlights ▾

Post Photo / Video

Write something on Young...

 **Young Kim**
1 hour ago

My prayers go out to the friends and family of the victims of today's Delta flight 216 crash that crashed into a hangar shortly after takeoff. They say there are an unknown number of passengers hurt and some fatalities. The flight was en route to San Francisco from the Zurich, Switzerland, International Airport. I fly Delta and haven' had any problems so somebody better get to explaining what happened. Delta reps said the air traffic controllers may be to blame, but I guess we'll know more after Delta and the govt. officials finish their investigations.

Like · Comment · Share

 Write a comment... 

Defensive message for airline crisis
from a Delta customer

Highlights ▾

Post Photo / Video

Write something on Delta...

 **Delta**
1 hour ago

We express our sincere condolences to the family, friends, colleagues and relatives on the unexpected turn of events for today's passengers of Delta flight 216. The flight, which departed from the Zurich, Switzerland, International Airport, was bound for San Francisco. The plane crashed into a hangar shortly after takeoff this afternoon, leaving a yet unknown number of passengers injured. There are early reports of some fatalities. While an error by air traffic controllers may have played a factor in the crash, we at Delta apologize for the situation and take full responsibility of the consequences. Therefore, we are conducting our own investigation of the crash separate from those being conducted by government agencies. Delta values its customers safety, and we're doing all we can to prevent tragedies like this from happening in the future. New developments will be announced as more information becomes available.

Like · Comment · Share

 Write a comment... 

Accommodative message for airline crisis
from the Delta organization

Highlights ▾

Post Photo / Video

Write something on Richard H. Anderson...

 **Delta Air Lines, CEO Richard H. Anderson**
1 hour ago

It is days like this that make being CEO difficult. My thoughts and prayers are with those who were involved in the Delta flight 216 crash this afternoon. The flight, which departed from the Zurich, Switzerland, International Airport, was bound for San Francisco. The plane crashed into a hangar shortly after takeoff, leaving a yet unknown number of passengers injured. There are early reports of some fatalities. We as a company, take full responsibility for the consequences. Yet, as CEO, I take double the blame. I apologize this tragedy occurred under my watch. We don't take lightly the fact that you entrust your safety to us in the skies. Therefore, Delta is conducting its own independent investigation of the crash in addition to those being conducted by government agencies. Delta values its customers safety, and we're doing all we can to prevent unfortunate situations like this from happening in the future. New developments will be announced as more information becomes available. Our thoughts and prayers remain with those involved.

Like · Comment · Share

 Write a comment... 

Accommodative message for airline crisis
from the Delta CEO



Accommodative message for airline crisis
from a Delta customer

Highlights ▾

Post Photo / Video

Write something on Bank of America...

 **Bank of America**
1 hour ago

Bank of America officials are currently investigating a breach in personal customer data, resulting in the computer-aided robbery of nearly \$15 million. Bank officials discovered this breach on Monday after receiving several complaints from customers. So far, investigators have recovered a significant amount of the stolen funds. The Secret Service and the FBI have launched an investigation into the cyber-attack. So far, three people have been arrested in connection with the theft. That number is expected to increase as the investigation continues. The highly skilled individuals deceptively posed as information technology engineers who installed devices in local branches that allowed the group to remotely transfer money to accounts. Only a small amount of data may have been accessed by outsiders and does not include vital information such as social security numbers and email addresses. Unfortunately, sometimes situations that are out of our hands happen when hackers access data to steal identities for obtaining credit cards or to open bank accounts. We're doing all we can to identify victims of this cyber-attack, however, if you notice an irregularity with your account, please contact your local bank branch.

Like · Comment · Share

 Write a comment... 

Defensive message for bank hacking crisis
from the Bank of America organization

Highlights ▾

Post Photo / Video

Write something on Brian T. Moynihan

 **Bank of America Corporation, CEO Brian T. Moynihan**
1 hour ago

We are currently investigating a breach in personal customer data that resulted in the computer-aided robbery of nearly \$15 million. Bank officials discovered this breach on Monday after receiving several complaints from customers. So far, investigators have recovered a significant amount of the stolen funds. The Secret Service and the FBI have launched an investigation into the cyber-attack. So far, three people have been arrested in connection with the theft. That number is expected to increase as the investigation continues. The highly skilled individuals deceptively posed as information technology engineers who installed devices in local branches that allowed the group to remotely transfer money to accounts.

Only a small amount of data may have been accessed by outsiders and does not include vital information such as social security numbers and email addresses. Here at BOA, we do all we can to protect customer information. Unfortunately, sometimes situations that are out of our hands happen when hackers access data to steal identities for obtaining credit cards or to open bank accounts. We're doing all we can to identify victims of this cyber-attack, however, if you notice an irregularity with your account, please contact your local bank branch.

Like · Comment · Share

 Write a comment... 

Defensive message for bank hacking crisis
from the Bank of America CEO

Highlights ▾

Post Photo / Video

Write something on Young...

 **Young Kim**
1 hour ago

I just heard the news about the latest bank hacking scandal involving Bank of America. \$15 million gone! BOA said the crooks posed as information technology engineers and installed devices in local branches that allowed the group to remotely transfer money to accounts. They said only a small amount of data may have been accessed and doesn't include social security numbers and email addresses. As a customer, I'm sure BOA did all they could to prevent this theft, but these "highly skilled" hackers know how to use data to steal identities and obtain credit cards or open bank accounts.

They've recovered a significant amount of the stolen funds. The Secret Service and the FBI are investigating the cyber-attack. So far, three people have been arrested, but more may be forthcoming. If your account is missing money, call your local BOA branch ASAP!

Like · Comment · Share

 Write a comment... 

Defensive message for bank hacking crisis
from a Bank of America customer

Highlights ▾

Post Photo / Video

Write something on Bank of America...

 **Bank of America**
1 hour ago

Bank of America officials are currently investigating a breach in personal customer data, resulting in the computer-aided robbery of nearly \$15 million. Bank officials discovered this breach on Monday after receiving several complaints from customers. So far, investigators have recovered a significant amount of the stolen funds. The Secret Service and the FBI have launched an investigation into the cyber-attack. Only a small amount of data may have been accessed by outsiders and does not include vital information such as social security numbers and email addresses. Unfortunately, hackers do obtain data to obtain credit cards or to open bank accounts. We apologize for this security breach and any inconvenience. We take responsibility for the consequences, and we're doing all we can to identify victims of this cyber-attack. If you notice an irregularity with your account, please contact your local bank branch. We apologize for any inconvenience and continue to value our customers. We are working to improve account safety and prevent incidents such as this in the future.

Like · Comment · Share

 Write a comment... 

Accommodative message for bank hacking crisis
from the Bank of America organization

Highlights ▾

Post Photo / Video

Write something on Brian T. Moynihan

 **Bank of America Corporation, CEO Brian T. Moynihan**
1 hour ago

We are currently investigating a breach in personal customer data, resulting in the computer-aided robbery of nearly \$15 million. Bank officials discovered this breach on Monday after receiving several complaints from customers. So far, investigators have recovered a significant amount of the stolen funds. The Secret Service and the FBI have launched an investigation into the cyber-attack. Only a small amount of data may have been accessed by outsiders and does not include vital information such as social security numbers and email addresses. Unfortunately, sometimes situations that are out of our hands as hackers often use such data to steal identities for obtaining credit cards or to open bank accounts. As CEO, we apologize to you for this security breach and any inconvenience. We take responsibility for the consequences, and we're doing all we can to identify victims of this cyber-attack. If you notice an irregularity with your account, please contact your local bank branch. We apologize for any inconvenience and continue to value our customers. We are working to improve account safety and prevent incidents such as this in the future.

Like · Comment · Share

 Write a comment... 

Accommodative message for bank hacking crisis
from the Bank of America CEO

Highlights ▾

Post Photo / Video

Write something on Young...

 **Young Kim**
1 hour ago

I heard Bank of America is the latest cyber-attack victim. Bank official said that over \$15 million was taken! These cybercriminals are getting bolder. They discovered this breach on Monday after receiving several complaints from customers. Thankfully, they said investigators recovered a lot of the stolen funds, and the Secret Service and FBI have launched investigations.

They said only a small amount of data may have been accessed by outsiders and does not include vital information such as social security numbers and email addresses. BOA seemed genuinely sorry for the attack, unfortunately, sometimes situations are out of their hands as hackers use data to steal identities for obtaining credit cards or to open bank accounts.

The CEO was quoted as saying, "We take responsibility for the consequences, and we're doing all we can to identify victims of this cyber-attack. If you notice an irregularity with your account, please contact your local bank branch. We apologize for any inconvenience and continue to value our customers. We are working to improve account safety and prevent incidents such as this in the future"

Like · Comment · Share

 Write a comment... 

Accommodative message for bank hacking crisis
from a Bank of America customer

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