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Cross-national ongoing crisis communication using social media: A comparative analysis of Twitter regarding Asiana Airlines crash crisis in South Korea and U.S.

Young Kim
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Andrea Miller

The purpose of this study is to help fill a gap in research that examines sustained cross-national crisis communication using social media. Using the 2013 Asiana Airlines crash crisis, a content analysis was conducted, analyzing the airlines' 1,685 tweets and 1,386 public's responses in terms of type of tweets, message strategies and publics' emotions, communication tools (text, video, photo, hyperlinks, #hashtag, and conversation), and message tones. During the crisis, the organization used the same crisis response, a very passive response, as the US and Korean publics. As a result, the crisis response affected different emotions of the publics based on culture; the US publics felt anger and presented a more negative tone than the Korea publics did. Further, the US and Korean Twitter were utilized differently over the duration of the crisis according to. Thus, the findings demonstrate the importance of sustained crisis communication before, during, and post-crisis and the inevitable effect

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of culture on crisis communication. This study therefore aims to offer theoretical and practical implications in social media crisis communication by providing researchers and crisis managers with a more comprehensive and realistic picture that considers the entire crisis cycle as well as cultural differences .

Key words: *ongoing crisis communication, cross-national crisis communication, cultural issues, Asiana Airlines crash, social media*

INTRODUCTION

As "the essence of crisis management," communication is critical throughout the entire duration of the crisis management process (Coombs, 2010, p. 25). In this sense, a more comprehensive approach to crisis communication research exploring the entire process, including pre-crisis, during, and post-crisis, has been emphasized (Coombs, 2012). Most crisis communication researchers, nonetheless, focus on either the post-crisis, recovery stage, or communication during the crisis, not ongoing approach which investigates crisis communication throughout the life cycle of the crisis (Avery, Lariscy, Kim, & Hocke, 2009). Additionally, the use of social media in in the ongoing approach to crisis communication has not been considered although Facebook and Twitter have become the most utilized tools for organizations to cope with crises (Fearn-Banks, 2011). Moreover, most existing studies focus heavily on the organization, analyzing message contents or strategies disseminated by organizations, not the public (Muralidharan, Dillistone, & Shin, 2011a). Further, the growing effort for more realistic approaches to crisis communication research considering general public under the real crisis cases suggests that cultural issues should be incorporated into effective crisis communication (Choi & Chung, 2013; Wertz & Kim, 2010). However, there has been, to date, little attention to cross-national studies based on different cultural issues in crisis communication via using social media.

These gaps in the research are the primary rationale for this study. Based on ongoing approaches to crisis communication and the different

cultural issues (e.g., collectivist and individual culture), the study explores how an organization implements different crisis communication and how the publics respond differently to the organization through social media. This study also examines how the crisis affects an organization's use of social media by analyzing Twitter messages across the duration of the crisis a sustained(Coombs, 2012). A content analysis of Twitter was conducted to identify different crisis messages between South Korea and the U.S. (Hofstede, 1980; Wertz & Kim, 2010). the Asiana Airlines crash crisis which occurred on July 6, 2013 was adopted because the real crisis not only affected both countries, South Korea and US, but also forced an organization (Asiana Airlines) to communicate with both countries' publics. From June 6 to September 5, 2013, representing pre-crisis, during and post-crisis, a total of 2,972 Twitter messages, Asiana Airlines' 1,685 tweets (South Korea: 1,425, US: 260) and 1,386 public's responses (South Korea: 1,039, US: 347), was analyzed by type of messages (original, retweeted, and replied messages), communication tools (text, video, photos, link, #Hashtag, and conversation), message strategies (Coombs'(2007) SCCT), and message tones (positive, neutral, and negative).

LITERATURE REVIEW

Crisis response strategies and situational crisis communication and situational crisis communication theory (SCCT)

Crisis is an occurrence (e.g., disaster, a plant explosion, transportation accident, and so on) which involves a negative outcome affecting an organization and its industry's reputation, as well as publics and other stakeholders (Fearn-Banks, 2011; Reynolds & Seeger, 2005). The crisis occurs when the publics and other stakeholders perceive an unpredictable event which is highly likely to threaten their expectations of and confidence in the organization (Coombs, 2012; Meyers & Holusha, 1986). As an organizational activity following a crisis, crisis communication is an effort to strategically manage and frame public perceptions of the occurrence so that damage and harm can be minimized for the organization, publics and stakeholders, and industry (Coombs, 2012; Reynolds & Seeger, 2005). Crisis communication involves a dialog, the sending and receiving of an

organization's messages that help explain and manage the crisis as well as address and its stakeholders or the publics (Coombs, 2010; Fearn-Bank, 2012). Such dialog details strategies and tactics designed to prevent or lessen the negative outcomes of a crisis, thereby protecting the image of the organization as well as publics, other stakeholders, and industry (Coombs, 2012; Fearn-Bank, 2011). Thus, crisis communication plays a critical role in effective crisis management (Coombs, 2010).

Coombs' (1998, 2007) situational crisis communication theory (SCCT) has been used extensively to analyze crisis response strategies during a crisis (Avery et al., 2010; Choi & Chung, 2013; Kim & Liu, 2012; Wertz & Kim, 2012). SCCT maintains that crisis response content can be divided into three sequential categories, instructing information (e.g., telling stakeholders what to do to protect themselves physically in the crisis), adjusting information (e.g., helping stakeholders cope psychologically with the crisis), and reputation information (e.g., protecting a reputation of the organization during a crisis) (Coombs, 2007; 2012). SCCT also posits 10 crisis response strategies grouped into four postures, denial (attack, denial, scapegoating), diminishment (excusing and justification), rebuilding (compensation and apology), and bolstering posture (reminding, ingratiation, and victimage) (Coombs, 2012). The strategies represent varying degrees of accommodation, reflecting "the different amount of responsibility an organization is perceived to have accepted for the crisis" (Coombs, 1998, 2012, p. 156). The crisis responsibility triggers affective reactions from the publics which influence behavior intentions such as purchase intention and support for an organization (Coombs, & Holladay, 2005). Specifically, increased attributions of crisis responsibility on the organization lead the publics or stakeholders to feel strong anger and schadenfreude ("drawing pleasure from the pain of others") toward the organization rather than the feeling of sympathy (i.e., reduced sympathy for the organization) (Coombs, 2007, p. 169; Coombs, & Holladay, 2009). Thus, publics' affections play a key role in crisis communication, influencing how the organization should choose crisis response strategies (Coombs, 2007). To confirm the relationship crisis strategies and publics' emotions, hypothesis 1 is posed:

Hypothesis 1 (H1): In a crisis, the organization will disseminate crisis response messages and employ strategies differently based on publics' emotional differences.

Crisis communication using social media

The growing use of social media has made scholars pay special attention to exploratory online research in crisis communication (Freberg, Palenchar, & Veil, 2013; Kim & Liu, 2012; Liu & Kim, 2011; Muralidharan et al., 2011a; Muralidharan, Rasmussen, Patterson, & Shin, 2011b). The researchers have demonstrated that organizations strategically used social media during a crisis by applying crisis communication theories such as Coombs' (2007) situational crisis communication (SCCT) and Benoit's (1997) image restoration theory. Regarding the 2009 H1N1 pandemic, researchers found differences in media usage. Organizations used social media to disseminate SCCT's instructing information of H1N1 more frequently than traditional media, but relied more on traditional media to address emotions than on social media (Liu & Kim, 2011; Kim & Liu, 2012). Further, findings show social media, particularly Twitter, was the most popular source being referenced for H1N1 (Freberg et al., 2013). Some researchers investigated the organization's social media products (BP's Facebook, Twitter, YouTube and Flickr) in terms of image restoration theory and found that BP focused on corrective action after the oil spill crisis (Muralidharan et al., 2011a). Other researchers pointed out that organizations failed to take advantage of the full potential of social media for effective crisis communication. During the 2010 Haiti earthquake, for example, organizations (nonprofit and media) just focused on information dissemination as relief efforts (one-way communication), not on the innate two-way communication nature of social media (Facebook and Twitter) (Muralidharan et al., 2011b). However, their studies were not realistic approaches to crisis communication because they investigated organizations' crisis messages on social media rather than publics' reactions to crisis or the organizations (i.e., a sender perspective: what organization communicates) (Coombs & Holladay, 2012).

More recently, crisis communication scholars have insisted that more realistic approaches to crisis communication (e.g., general publics under the real crisis cases) need to be used, especially in an online environment providing "a naturally occurring forum" (Choi & Chung, 2013; Coombs, & Holladay, 2012, p. 280). In such an attempt, Schwarz (2012) tested SCCT through an analysis of comments on an online board and found a positive relationship between blaming others and crisis responsibility when the Love Parade of Germany in 2010 was perceived as a human error accident. In

addition, the effectiveness of apology (SCCT) was demonstrated through an analysis of online reactions on a discussion board regarding the 2009 Kindle crisis on Amazon.com (Coombs, & Holladay, 2012). Because the studies analyzed publics' online comments (i.e., publics' responses), not via social media, researchers failed to illuminate the two-way communication between parties in a crisis situation(Lovejoy, Water, & Saxton, 2012; Muralidharan et al., 2011b). A study attempted to examine the two-way communication during a sudden crisis and found that the organization's (government's) tweets were buried under "an avalanche of citizen tweets" regarding the 2011 large-scale fire in the Netherlands (Helsloot & Groenendaal, 2013, p. 178). Nevertheless, their study focused on the initial stage of the crisis, only three days, not on the life cycle of crisis, including prevention and recovery.

Against this backdrop of social media research in crisis communication, scholars suggest the need to not only educate organizational leadership about the benefits of more fully integrating social media into crisis responses (i.e., two-way communication) but also conduct additional research on social media applying an ongoing, sustained approach (pre, during, and postcrisis) to crisis communication (Liu & Kim, 2011; Muralidharan et al., 2011a). To fill the gaps, the following research questions are asked:

Research question 1 (RQ1): How does an organization utilize social media differently in pre, during, and post-crisis through communication tools available on social media?

Research question 2 (RQ2): How do publics communicate differently with an organization in pre, during, and post-crisis through communication tools available on social media?

Cultural issues in crisis communication

Some researchers attempted to fill the realistic approach gap by considering cultural issues in crisis communication (Fragkos & Valvi, 2013; Haruta & Hallahan, 2003; Low, Varughese, & Pang, 2011; Taylor, 2000; Wertz & Kim, 2010). Culture conceptually evolved from anthropology,

but its orientation, dimensions, and principles have been underlined in a wide range of research disciplines such as sociology, business management, and communication (Haruta & Hallahan, 2003; Wertz & Kim, 2010). Culture is defined as "a universal construct that promotes people's actions and behavior in a society" (Kroeber & Kluckhoh, 1952; Haruta & Hallahan, 2003, p. 126). Also, culture can be specified through the concept of high versus low context in order to understand cultural orientation (Hall, 1976). Members in a society of high context culture are deeply involved with one another, forming intimate relationships (e.g., China, Japan, and Korea), but members in the society of a low context culture are highly individualized (e.g, European, African and the Middle Eastern Arab countries) (Hall, 1976; Low et al., 2011). Based on Hall's (1976) conceptual foundation, a social psychologist, Geert Hofstede, identified five basic dimensions of culture: masculinity-femininity, individualism-collectivism, long-term orientation, power distance, and uncertainty avoidance (Hofstede, 1980). Hofstede's (1980) five cultural dimensions have provided a useful framework for comparative studies in cross-national crisis communication (Haruta & Hallahan, 2003; Low et al., 2011; Taylor, 2000; Wertz & Kim, 2010).

In a tainting crisis (the 1999 Coca-Cola recall in Europe), Taylor (2000) found that publics who live in nations high in uncertainty avoidance and power distance (e.g., Belgium, France, and Spain) tend to "react more strongly, and more quickly, to perceive threat" (p. 277). Regarding similar food crisies (the US E. coli spinach and Korea's rotten dumpling), cultural differences influenced news framing as well. News articles in South Korea with high uncertainty avoidance and collectivism contained more corrective action and fully apology message strategies than U.S. with low uncertainty avoidance and individualism (Wertz & Kim, 2010). Similarly, Haruta and Hallahan's (2003) content analysis and in-depth interviews of two major airlines crash crises occurred in 1985 in Japan and the United States revealed how cultural differences affected crisis communication strategies of both countries. The high long-term orientation and collectivism (Japan Air Lines) organization repeatedly made public apologies to the victims' families and the survivors, but the low long-term and individualism (US's Delta Air Lines) never made a public apology (Haruta & Hallahan, 2003). In natural disasters, US Hurricane Katrina (2005) and Taiwan Typhoon Morakot (2009), Taiwan with high uncertainty avoidance and power distance pursued a mortification strategy, but the US with low uncertainty avoidance and

power distance adopted mixed strategies of defeasibility and bolstering (Low et al., 2011). In the 2010 BP oil spill crisis, Fragkos et al. (2013) also emphasized the cultural issue by attributing the failure of BP's crisis communication to distinguish the difference between British and American culture.

Thus, scholars have demonstrated the importance of cultural issues in crisis communication and maintained the inevitability of culture as a key consideration in management communications planning (Haruta & Hallahan, 2003; Taylor, 2000; Wertz & Kim, 2010). However, little cross-national research on crisis communication using social media has dealt specifically with different cultural issues. Accordingly, this study posits hypothesis 2 and three research questions (RQ 3, 4, & 5):

Hypothesis 2 (H2): In a crisis, the organization will disseminate crisis response messages and employ response strategies based on different cultures as apology for collectivist country and compensation for individualist country.

Research question 3 (RQ3): How do publics feel different emotions toward the organization in the crisis by cultural differences?

Research question 4 (RQ4): How does an organization utilize the communication tools available on social media by cultural differences?

Research question 5 (RQ5): How do publics communicate differently with an organization through social media communication tools based on cultural differences?

METHODOLOGY

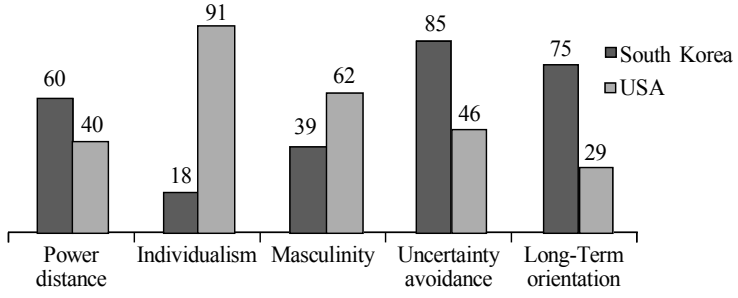
Sampling and Data Collection

To test the hypotheses and answer the research questions, a content analysis of an organization's Twitter account was conducted. As the most popular communication source in a crisis situation, communication tools (tweets and replied messages, videos, photos, hyperlink, #Hashtag, and convertsation) on Twitter have been increasingly analyzed in crisis communication research (Helsloot & Groenendaal, 2013; Freberg, 2013; Rogers, 2012). A real crisis case, the Asiana Airlines crash crisis which occurred on July 6, 2013, was used. Asiana Airlines (headquartered in South Korea) flight 214 with 307 passengers on board crashed while landing at the San Francisco International Airport (SFO) in the United States. Three teen-aged girls from China were killed, and 181 serious injuries were reported. The National Transportation Safety Board (NTSB) conducted a year-long investigation and concluded that Asiana Airlines pilot's mismanagement cause the crash (ABC NEWS, 2014).

Airline crashes are relatively. rare Most organizations face more of a threat from three more common crises which are rumors, financial threats, and personnel changes (Coombs, 1998; Haruta & Hallahan, 2003). However, a crash can result in more devastating and serious consequences compared to other crises because it not only evokes disturbing images of agony and death but also causes wide media coverage, which could damage the organization's reputation (Haruta & Hallahan, 2003). The crisis triggers immediate responses, but sometimes international carriers hinder the effective crisis responses because the incident often occurs in other countries, where cultural differences exist. In this sense, an airlines crash crisis is a suitable case for a comparative analysis considering cultural issues (Haruta & Hallahan, 2003; Lee, 2005). Moreover, the Asiana Airlines crash crisis not only affected both countries, South Korea and US, but also forced an organization (Asiana Airlines) to communicate with both countries' publics. Comparing two countries in terms of Hofstede's (1980; 2014) five cultural dimensions, the US has higher individualism and masculinity, but lower long-term orientation (Confucian dynamism), powerdistance, and uncertainty avoidance than South Korea as Figure 1 shows.

From two Asiana Airlines official accounts in each country, US

Figure 1. Cultural differences between the United States and South Korea.



(https://twitter.com/AsianaAirlines) and South Korea (https://twitter.com/Flyasiana), 2,972 Twitter messages (South Korea: 2,464, US: 507) posted from June 6 to September 5, 2013 were collected. Asiana Airlines 1,685 tweets (South Korea: 1,425, the United States: 260) and 1,386 public's responses (South Korea: 1,039, US: 347) were analyzed.

Coding Scheme

Coding categories were developed based on previous Twitter studies in public relations and crisis communication research (Lovejoy et al., 2012; Rybalko & Seltzer, 2010; Waters, Burnett, Lamm, & Lucas, 2009; Wertz & Kim, 2010). A dichotomous decision (yes/no) for each category was made. Each message was coded based on three time periods, 1) June 6 to July 5, 2013, 2) July 6 to August 5, 2013 and 3) August 6 to September 5, 2013, reflecting pre (1) - during (2) - post-crisis (3). To find differences in each time periods' and country accounts, the type of tweets, communication tools, message strategies and emotion during a crisis, and message tones Asiana Airlines utilized were coded (Lovejoy et al., 2012). Each message was identified into four different types, 1) original, 2) retweeted (RT), or 3) replied (@) from an organization (Asiana) and 4) replied (@) by public. Communication tools on Twitter, text, videos, photos, hyperlink, #Hashtag, and conversation, were coded with a dichotomous decision (yes/no). The crash crisis messages were analyzed in terms of Coombs' SCCT. If the messages were from the organization (Asiana), they were measured in terms of types of message contents (instructing, adjusting,

or reputation) and crisis response strategies (attack, denial, scapegoat, excuse, justification, ingratiation, concern, compassion, regret, and apology) (Coombs, 1998, 2007, 2012, Wertz & Kim, 2010). The public's messages were coded based on three different emotions, sympathy, anger, and schadenfreude (Coombs, 2007; Coombs & Holladay, 2005).

Throughout the crisis phases (pre, during, and post-crisis), the publics' tone of response messages was coded as negative, neutral, and positive. Negative tone referred to any message that condemned Asiana, others supporting Asiana or that criticized Asiana's comments or replies as ineffective, insufficient, or improper. Neutral tone was coded for messages that did not express strong feelings and that gave clarifications. Positive tone accounted for messages that were in support of Asiana and its efforts to solve the problem or in praise of Asiana and its services (Rogers, 2012).

Coding Procedure and Intercoder Reliability

The initial drafts of the written codebook and coding sheet were developed, and two coders bilingual in Korean and English were recruited and trained. They independently coded the individual tweet (the unit of analysis) in the Asiana Twitter account in each country, analyzing approximately five percent of the total sample randomly chosen (South Korea: 123, US: 26) as a pilot test. Based on the results of the test, unclear and disputable items were discussed and clarified, and then the codebook and coding sheet were finalized after the instrument was revised. Another subsample, ten percent of total messages randomly selected (South Korea: 246, US: 52), were double-coded to determine intercoder reliability (Lombard, Snyder-Duch, & Bracken, 2002). Since Krippendorff's (1970; 2004) alpha has been the standard reliability measure for content analysis, this study calculated the reliability by Krippendorff's alpha formula. An average. acceptable alpha of .85 acceptable was obtained (Lombard et al., 2002).

Results

The total 2,968 messages of Asiana Twitter, US ($N = 506$) and Korea ($N = 2,462$), were analyzed. In the US Asiana Twitter account, the original tweets from the organization (the US Asiana Airlines) were 130 (25.7%), and 21 (4.2%) messages were retweeted (RT). Also, there were 355 replied

Table 1. Type of tweets on Asiana Airlines Twitter accounts

Twitter Account	Original Tweets	Retweets (RT)	Replied tweets by organization	Replied tweets by the publics	Total
USA	130 (25.7%)	21 (4.2%)	112 (22.1%)	243 (48.0%)	506 (100.0%)
Korea	255 (10.4%)	55 (2.2%)	1,116 (45.3%)	1,036 (42.1%)	2,462 (100.0%)
Total	385 (13.0%)	76 (2.6%)	1,228 (41.4%)	1,279 (43.1%)	2,968 (100.0%)

Table 2. Communication tools on Asiana Airlines Twitter accounts.

Twitter Account	Tweets (Text)	Videos	Photos	Hyperlinks	Hashtag(#)	Conversation	Total
USA	502 (99.2%)	0 (0.0%)	64 (12.6%)	101 (20.0%)	89 (17.6%)	276 (54.5%)	506 (100.0%)
Korea	2,460 (99.9%)	9 (0.4%)	212 (8.6%)	231 (9.4%)	79 (3.2%)	2,162 (86.4%)	2,462 (100.0%)
Total	2,962 (99.8%)	9 (0.3%)	276 (9.3%)	332 (11.2%)	168 (5.7%)	2,402 (80.9%)	2,968 (100.0%)

Note. Since multiple coding was conducted, the sum of each percentage and number is not equal to total.

messages (@) messages, including 112 (22.1%, organization replied) and 243 (48.0%, the publics replied). The Korea Asiana Twitter account had 255 original tweets posted by the organization (the Korea Asiana Airlines), 55 (2.2%) retweeted messages (RT), 2,152 replied messages (@) such as 1,116 (45.3%) by the organization and 1,036 (42.1%) by the publics (See Table 1).

When it comes to communication tools, text tweets ($N = 502$, 99.2%) were dominant, followed by conversation ($N = 276$, 54.5%), hyperlinks ($N = 101$, 20.0%), hashtag (#) ($N = 89$, 17.6%), and photos ($N = 64$, 12.6%), Video ($N = 0$, 0.0%) was not posted at all in the US Asiana Twitter. In the Korea Asiana Twitter, text tweets ($N = 2,460$, 99.9%) appeared in almost every tweet, followed by conversation ($N = 2,162$, 86.4%), hyperlinks($N = 231$, 9.4%), photos ($N = 212$, 8.6%), hashtag (#) ($N = 79$, 3.2%), and videos ($N = 9$, 0.4%) (See Table 2).

Crisis response strategies and ongoing approach to crisis communication (H1, RQ1, & 2)

Based on SCCT, H1 predicted that the organization will disseminate crisis response messages and employ strategies differently based on publics' different emotional responeses to the crisis. However, there were no sufficient messages for statistical analyses as Asiana Airlines organization posted only 14 tweets on the US Twitter and 16 tweets on the Korean Twitter regarding the crash crisis (Knoke, Bohrnstedt, & Mee, 2002). Moreover, any SCCT strategies were not identified in each message. Instead, the organization (Asiana Airlines) chiefly disseminated instructing information with updates (e.g., New updates from Press Conference listed on our website: http://bit.ly/18Js0hI) in both US and South Korea after the crash crisis occurred (instructing information: $N = 11$, 5.5% (U.S.) / $N = 12$, 1.7% (Korea)) and during the crisis (total in the crisis phase: $N = 201$ (U.S.) / $N = 691$ (Korea)). Adjusting information was 1.0% ($N = 2$, US) and 0.1% ($N = 1$, Korea), and reputation information was rarely disseminated (US: $N = 1$, 0.5% / Korea: $N = 0$, 0.0%). Regarding emotion, the US publics felt anger ($N = 35$, 6.9%) rather than sympathy ($N = 17$, 3.4%) toward Asiana Airlines regarding the crash crisis, but the Korean publics felt sympathy ($N = 60$, 2.4%) toward the organization more than anger ($N = 3$, 0.1%). Accordingly, H1 could not be statistically tested.

In order to answer two research questions (RQ1 and 2), all communication tools on Twitter such as tweets, videos, photos, hyperlinks, #hashtag, and conversation were measured (Lovejoy et al., 2012). A series of chi-square tests were run to examine how each communication tool varied by crisis stages. Only text tweets appeared in every message ($N = 263$, 100.0%) in the US Asiana Twitter account (organization). Conversation tool was second ($N = 121$, 46.0%), followed by hyperlinks ($N = 76$, 29.9%), hashtag (#) ($N = 73$, 27.8%), and photos ($N = 44$, 16.7%). The video tool was not used at all by the US Asiana Airlines. When looking at differences over time periods, the overall proportions of messages decreased as much as 17.3% from precrisis ($N = 21$, 46.0%) to crisis ($N = 64$, 24.3%) and increased as small as 5.4% in postcrisis ($N = 78$, 29.7%). A series of chi-square tests revealed that each communication tool varied in the samepattern as the overall proportions in the US Asiana Twitter account (See Table 3). In the Korea Asiana Twitter account, the overall proportions

Table 3. Organization's (Asiana's) use of communication tools on Twitter over crisis

Tools	Twitter Account	Precrisis (Jun 6 - July 5)	Crisis (Jul 6 - Aug 5)	Postcrisis (Aug 5 - Sep 5)	Total	$\chi 2$
Tweets (Text)	USA	121 (46.0%)	64 (24.3%)	78 (29.7%)	263 (100.0%)	0.0
	Korea	353 (24.8%)	384 (26.9%)	689 (48.3%)	1,426 (100.0%)	0.0
Videos	USA	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0.0
	Korea	5 (71.4%)	0 (0.0%)	2 (28.6%)	7 (0.5%)	8.62*
Photos	USA	22 (50.0%)	6 (13.6%)	16 (36.4%)	44 (16.7%)	3.47
	Korea	55 (33.3%)	29 (17.6%)	81 (49.1%)	165 (11.6%)	11.63**
Hyper-links	USA	36 (47.4%)	20 (26.3%)	20 (26.3%)	76 (29.9%)	6.18
	Korea	65 (29.7%)	50 (22.8%)	104 (47.5%)	219 (15.4%)	4.13
#Hash-tag	USA	31 (42.5%)	13 (17.8%)	29 (39.7%)	73 (27.8%)	5.50
	Korea	20 (40.0%)	11 (22.0%)	19 (38.0%)	50 (3.5%)	6.47*
Convert-sation	USA	49 (40.5%)	31 (25.6%)	41 (33.9%)	121 (46.0%)	2.98
	Korea	241 (21.9%)	321 (29.1%)	540 (49.0%)	1,102 (77.3%)	25.50**
Total	USA	121 (46.0%)	64 (24.3 %)	78 (29.7%)	263 (100.0%)	
	Korea	353 (24.8%)	384 (26.9%)	689 (48.3%)	1,426 (100.0%)	

Note. The percentages in total column were calculated based on the total number (US = 263, Korea = 1,426), not being summed across the row. $df = 2$, $^{*}p < .05$, $^{**}p < .01$,$^{***}p < .001$.

increased throughout the three crisis phases (pre-crisis: $N = 353$, 24.8% / crisis: $N = 384$, 26.9% / post-crisis: $N = 689$, 48.3%). Only text tweets appeared in every message ($N = 1,426$, 100.0%) in the Korea Asiana Twitter account (organization) and showed the same tendencies regarding changes over crisis phases. Videos ($\chi^2 = 8.62$, $p < .05$), photos ($\chi^2 = 11.63$, $p < .01$), hashtag (#) ($\chi^2 = 6.47$, $p < .05$), and conversations ($\chi^2 = 25.50$, $p < .001$) showed statistically significant differences from the overall tendency. Video, photos, and hashtag (#) decreased in crisis but increased in post-crisis. Videos ($N = 5$, 71.4%) and hashtags (#) ($N = 20$, 40.0%) were dominant in pre-crisis, and photos ($N = 81$, 49.1%) appeared in post-crisis more than in other phases. Conversations ($N = 540$, 49.0%) were most frequent in post-crisis compared to other phases. Nevertheless, the tendency of hyperlinks' proportions did not significantly different from the overall in the Korea Asiana organization' Twitter (See Table 3).

Regarding the publics' using communication tools on Twitter, American publics utilized text tweets ($N = 239$, 98.4%), and conversation ($N = 155$, 63.8%), more than other tools, photos ($N = 20$, 8.2%), hyperlinks ($N = 25$, 10.2%), and hashtag (#) ($N = 16$, 6.6%), but did not use the video tool at all. When investigating differences of each tool by crisis phases, overall proportions of messages were crisis higher ($N = 137$, 56.4%) than other crisis phases, pre-crisis ($N = 67$, 27.6%) and post-crisis ($N = 39$, 16.0%); that is, there were increased and decreased tendencies. Text tweets, hyperlinks, and conversation showed the same tendency in differences over the crisis phases. There were significant differences in photos ($\chi^2 = 25.08$, $p < .001$) and hashtag (#) ($\chi^2 = 6.03$, $p < .05$) Photos were decreased throughout the crisis phase (photos) (pre-crisis: $N = 15$, 75.0%, crisis: $N = 5$, 25.0%, and post-crisis: $N = 0$, 0.0%), and hashtag (#) decreased from pre-crisis to crisis and stagnated from crisis to post-crisis (hashtags (#)) (pre-crisis: $N = 4$, 25.0%, crisis: $N = 6$, 37.5%, and post-crisis: $N = 6$, 37.5%) (See Table 4). Likewise, Korean publics predominantly used text tweets ($N = 1,034$, 99.8%), and conversation ($N = 1,024$, 98.8%), more than other tools, photos ($N = 47$, 4.5%), hyperlinks ($N = 12$, 4.5%), and hashtag (#) ($N = 16$, 6.6%), and rarely used videos ($N = 2$, 0.01%). When examining differences of each tool use over crisis phases, the Korean publics utilized hashtag (#) ($\chi^2 = 11.85$, $p < .01$) and conversations ($\chi^2 = 33.31$, $p < .001$) in statistically different ways. Both tools significantly decreased and increased compared to others tools and overall proportions of changes in pre, during,

Table 4. Publics' use of communication tools on Twitter over crisis phases

Tools	Twitter Account	Pre-crisis (Jun 6 - July 5)	Crisis (Jul 6 - Aug 5)	Post-crisis (Aug 5 - Sep 5)	Total	X^2
Tweets (Text)	USA	67 (28.0%)	134 (56.1%)	38 (15.9%)	239 (98.4%)	1.57
	Korea	234 (22.6%)	306 (29.6%)	494 (47.8%)	1,034 (99.8%)	.74
Videos	USA	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0
	Korea	0 (0.0%)	1 (50.0%)	1 (50.0%)	2 (0.0%)	.74
Photos	USA	15 (75.0%)	5 (25.0%)	0 (0.0%)	20 (8.2%)	25.08***
	Korea	16 (34.0%)	15 (31.9%)	16 (34.0%)	47 (4.5%)	4.89
Hyper-links	USA	6 (24.0%)	17 (68.0%)	2 (8.0%)	25 (10.2%)	1.92
	Korea	4 (33.3%)	1 (8.3%)	7 (58.3%)	12 (4.5%)	2.76
#Hashtag	USA	4 (25.0%)	6 (37.5%)	6 (37.5%)	16 (6.6%)	6.03*
	Korea	14 (48.3%)	4 (13.8%)	11 (37.9%)	29 (2.8%)	11.85**
Convert-sation	USA	46 (29.7%)	88 (56.8%)	21 (13.5%)	155 (63.8%)	2.37
	Korea	223 (21.8%)	306 (29.9%)	495 (48.3%)	1,024 (98.8%)	33.31***
Total	USA	67 (27.6%)	137 (56.4%)	39 (16.0%)	243 (100.0%)	
	Korea	234 (22.6%)	307 (29.6%)	495 (47.8%)	1,036 (100.0%)	

Note. The percentages in total column were calculated based on the total number (USA = 243, Korea = 1,036), not being summed across the row. df=2, *p <.05, **p <.01,***p <.001.

Table 5. Publics' tone differences over crisis phases

Twitter Account	Tone	Pre-crisis (Jun 6 - Jul 5)	Crisis (Jul 6 - Aug 5)	Post-crisis (Aug 5 - Sep 5)	Total	χ^2
USA	Negative	2 (3.0%)	19 (13.9%)	0 (0.0%)	21 (8.6%)	15.69**
	Neutral	41 (61.2%)	91 (66.4%)	26 (66.7%)	158 (65.0%)	
	Positive	24 (35.8%)	27 (19.7%)	13 (33.3%)	64 (26.3%)	
	Total	67 (27.8%)	137 (56.4%)	39 (16.0%)	243 (100.0%)	
Korea	Negative	7 (3.0%)	7 (2.3%)	4 (0.8%)	18 (1.7%)	9.99*
	Neutral	54 (23.1%)	97 (31.6%)	135 (27.3%)	286 (27.6%)	
	Positive	173 (73.9%)	203 (66.1%)	356 (71.9%)	732 (70.7%)	
	Total	234 (22.6%)	307 (29.6%)	495 (47.8%)	1,036 (100.0%)	

df = 4, *p < .05, **p < .01.

and post-crisis; hashtag (#) (pre: $N = 14$, 48.3%, crisis: $N = 4$, 13.8%, and post-crisis: $N = 11$, 37.9%) and conversation (pre: $N = 223$, 21.8%, crisis: $N = 306$, 29.9%, and post-crisis: $N = 495$, 48.3%). Other tools (text tweets, conversations, hyperlinks, and videos) were significantly different over crisis phases (See Table 4).

To more specifically examine how the publics communicate differently with the organization in pre, during, and post crisis, text tweets were analyzed by tone differences, negative, neutral, and positive. Overall, the publics showed neutral tone ($N = 158$, 65.0%) in text tweets regardless of crisis phases in the US Twitter account. However, negative tone increased from pre-crisis ($N = 2$, 3.0%) to crisis ($N = 19$, 13.9%) and decreased in post-crisis ($N = 0$, 0.0%). Positive tone decreased and increased, $N = 24$, 35.8% (pre-crisis), $N = 27$, 19.7% (crisis), and $N = 13$, 33.3% (post-crisis) throughout three crisis phase. There were statistically significant differences, $\chi^2(4, N = 243) = 15.69$, $p < .01$ (See Table 6). In the Korea Twitter account,

positive tones ($N = 732$, 70.7%) were dominant. In addition, negative tone decreased over the crisis phases, $N = 7$, 3.0% (pre-crisis), $N = 7$, 2.3% (crisis), and $N = 4$, 0.8% (post-crisis), but positive tone declined in crisis ($N = 203$, 66.1%) from pre-crisis ($N = 173$, 73.9%) and rebounded post-crisis ($N = 356$, 71.9%). There were statistically significant differences as well, χ^2 (4, $N = 1{,}036$) = 9.99, $p < .05$ (See Table 5).

Cultural issues in crisis communication using social media (H2, RQ3, 4, & 5)

As aforementioned, Asiana did not use any crisis response strategies regarding the crash crisis, but disseminated informative messages, including instructing and adjusting information. A series of chi-square tests were conducted to examine how the messages were disseminated and how the publics presented their emotions to those messages via the Korea and US Asiana Twitter accounts (H2). The proportions of instructing ($N = 11$, 5.5%) and adjusting ($N = 2$, 1.0%) information to the total messages of the US Asiana organization disseminated during the crisis were higher than those (instructing: $N = 12$, 1.7% / adjusting: $N = 1$, 0.1%) in the Korea Asiana. However, H2 could not be supported because the sample size was not sufficient for statistical tests (Knoke et al., 2002). There were no messages using crisis response strategies. In publics' emotions (RQ 3), the Korean publics ($N = 60$, 95.2%) felt more sympathy than the Americans ($N = 17$, 32.7%) did, but the American publics ($N = 35$, 92.1%) felt more anger than the Korean publics ($N = 3$, 7.9%) regarding the crisis. There was a significant difference, χ^2 (1, $N = 115$) = 50.37, $p < .001$.

In order to answer RQ4 and 5, chi-square tests were conducted to compare how Asiana and publics utilized communication tools based on cultural differences. When comparing tool use between the US and Korea Asiana organization in terms of proportions, the US Asiana organization used hyperlinks and hashtags (#) more frequently than Korea throughout the crisis phases (hyperlinks – pre-crisis: $\chi^2 = 6.90$, $p < .01$, crisis: $\chi^2 = 13.75$, $p < .01$, and postcrisis: $\chi^2 = 5.75$, $p < .05$ / hashtags (#) - pre-crisis: $\chi^2 = 32.67$, $p < .001$, crisis: $\chi^2 = 32.94$, $p < .001$, and post-crisis: $\chi^2 = 141.52$, $p < .001$). Photos in the pre-crisis phase were also used more frequently by the US Asiana organization than the Korea Asiana ($\chi^2 = 4.86$, $p < .05$). Regarding the conversation tool, the Korea Asiana organization it utilized

Table 6. Comparisons of utilizing communication tools between USA and Korea Asiana Twitter

Tools	Crisis Phases	Twitter Account					
		Organization			Publics		
		USA	Korea	χ^2	USA	Korea	χ^2
Tweets (Text)	Precrisis	121 (100.0%)	353 (100.0%)	^	67 (100.0%)	234 (100.0%)	^
	Crisis	64 (100.0%)	384 (100.0%)	^	134 (97.8%)	306 (99.7%)	3.69
	Postcrisis	78 (100.0%)	689 (100.0%)	^	38 (97.4%)	494 (99.8%)	5.41
Videos	Precrisis	0 (0.0%)	5 (14.0%)	1.73	0 (0.0%)	0 (0.0%)	0
	Crisis	0 (0.0%)	0 (0.0%)	0	0 (0.0%)	1 (0.3%)	.45
	Postcrisis	0 (0.0%)	2 (0.3%)	.23	0 (0.0%)	1 (0.2%)	.08
Photos	Precrisis	22 (18.2%)	55 (15.6%)	.448	15 (22.4%)	16 (6.8%)	13.63**
	Crisis	6 (9.4%)	29 (7.6%)	.253	5 (3.6%)	15 (4.9%)	.34
	Postcrisis	16 (20.5%)	81 (11.8%)	4.86*	0 (0.0%)	16 (3.2%)	1.30
Hyper-links	Precrisis	36 (29.8%)	65 (18.4%)	6.90**	6 (9.0%)	4 (1.7%)	8.51*
	Crisis	20 (31.3%)	50 (13.1%)	13.75**	17 (12.4%)	1 (0.3%)	35.56***
	Postcrisis	20 (25.6%)	104 (15.1%)	5.75*	2 (4.9%)	7 (1.4%)	3.01
#Hashtag	Precrisis	31 (25.6%)	20 (5.7%)	37.67***	4 (6.0%)	14 (6.0%)	0.00
	Crisis	13 (20.3%)	11 (2.9%)	32.94***	6 (4.4%)	4 (1.3%)	4.07
	Postcrisis	29 (37.2%)	19 (2.8%)	141.52***	6 (15.4%)	11 (2.2%)	20.32**

Convert-sation	Precrisis	49 (40.5%)	241 (68.3%)	29.27***	46 (68.7%)	223 (95.3%)	38.9***
	Crisis	31 (8.8%)	321 (91.2%)	40.27***	88 (64.2%)	306 (99.7%)	11.06***
	Postcrisis	41 (52.6%)	540 (78.4%)	25.41***	21 (53.8%)	495 (99.7%)	236.43***

Note. df = 1,*p< .05,**p< .01,***p< .001.

Percentages were calculated based on each total number of organization and publics in each phase and country account (e.g., since the total number of the USA Asiana organization is 121, the percent of tweets in pre crisis of the USA organization is 100%). ^ At least one variable is a constant.

more frequently than the US Asiana in all three crisis phases (pre-crisis: $\chi^2 = 29.27$, $p < .001$, crisis: $\chi^2 = 40.27$, $p < .001$, and post-crisis: $\chi^2 = 25.41$, $p < .001$) (See Table 6). In the proportions of publics' utilizing communication tools, the US publics used photos in pre-crisis ($\chi^2 = 13.63$, $p < .01$), hyperlinks in pre-crisis ($\chi^2 = 8.51$, $p < .05$) and during crisis ($\chi^2 = 35.56$, $p < .001$), and hashtags (#) in post-crisis ($\chi^2 = 20.32$, $p < .01$) more frequently than the Korean publics did. However, the Korean publics used the conversation tool more than the US publics did throughout all three crisis phases (precrisis: $\chi^2 = 38.9$, $p < .001$, crisis: $\chi^2 = 11.06$, $p < .001$, and postcrisis: $\chi^2 = 236.43$, $p < .001$). Other tools were not used differently between two countries (See Table 6).

DISCUSSION

This study attempted to fill a gap in the cross-cultural and ongoing approach to crisis communication. By analyzing social media (Twitter) messages and the communication tools the organization and publics disseminated and utilized, this study attempted to examine a naturally occurring crisis communication in a real crisis case, the 2013 Asiana Airlines crash crisis. Further, this study investigated not only how multinational organization (Asiana Airlines) conducted crisis communication but also how the publics responded differently to the crisis and the organization in terms of cultures (US and South Korea). As the first attempt to consider cross-cultural ongoing approach using a real crisis case, the findings provide important implications for crisis communication theory and practice in the

increasingly globalized and digitalized communication environment.

Unutilized potential and passive crisis response

The results from the analyses of Twitter messages and communication tools during the crisis substantiate previous research examining how social media is used in crisis communication and suggesting the importance of social media to be integrated into all crisis communication (Liu & Kim, 2011; Waters et al., 2009). After the crash occurred (crisis phase), Asiana showed a very passive response. When looking at crisis relevant messages, the organization disseminated only 14 tweets (text or text with hyperlinks) with instructing information (e.g., we posted a press release on most of our social media platforms). It did not use any crisis response strategies even though the American publics were angry about the crisis. As negative emotions can cause publics or stakeholders to "lash out at an organization" (Coombs, 2007, p. 169), the negative tone of messages publics posted increased and the positive tone decreased in the crisis phase compared to other phases (See Table 6). Applying SCCT (high anger and low sympathy), crisis responsibility on the organization strengthened during the crisis; however, the US Asiana organization did not implement any appropriate response strategies (e.g., apology) (Coombs, 2005, 2007, 2010). The passive response was supported by communication tools the US Asiana Airlines utilized. Even though there are various communication tools such as tweets, videos, photos, hyperlinks, hashtag (#), and conversation, the US Asiana utilized only text tweets and conversation during the crisis. The passive response may have led to a belief that the organization was not in control and was not trying to take control of how the crisis was perceived by the publics (Hearit, 1994; Coombs, 2012). Since such a passive response allows others to "own" the situation as well as define the crisis narrative for the publics, it was likely the airline crash crisis was defined for the US publics differently than the Korean publics (Coombs, 2012).

The passive response of the US Asiana organization also corroborates the findings of previous social media research on crisis communication (Helsloot & Groenendaal, 2013; Muralidharan et al., 2011a; Water et al., 2009). Specifically, the passive response reflects the "unutilized potential" of social media (Helsloot & Groenendaal, 2013, p. 182). Crisis managers tend to be skeptical of the ability and reach of social media and they do

not take advantage of all the options (communication tools) even though they recognize the rapid expansion and importance of social media. Rather, the organization continued to focus on dissemination of information through social media in the same way that it utilized traditional media as a one-way communication channel (Grunig, 2009; Lovejoy et al., 2012; Muralidharan et al., 2011a). For this reason, the messages of the organization often get buried by an avalanche of messages posted by publics in the crisis situation (Helsloot & Groenendaal, 2013). The US Asiana Twitter confirmed the findings; that is, crisis managers in the US Asiana Airlines were likely to be skeptical of using Twitter to deal with the crash crisis on social media. The organization utilized Twitter with a passive response based on minimal crisis relevant messages and tools (i.e., only 14 text tweets in a month) without any message strategies. The passive response led to invisibility and lost opportunities to engage with key supporters as publics' messages and tools decreased after the crisis (post-crisis phase) (Helsloot & Groenendaal, 2013; Lovejoy et al., 2012).

The need for ongoing crisis communication

Through analysis of Twitter in the post-crisis phase, this study extends the existing research suggesting the importance of social media by giving evidence of how the passive and inappropriate crisis response can leads to negative consequences. After the crisis, the public's use of communication tools, especially text tweets and conversations, considerably decreased in the US Asiana Twitter. The number of tools they utilized declined as well. In other words, the US publics focused on posting only text tweets, not using other tools, in post-crisis phase. For instance, the US publics did not share any photos at all via the US Asiana Twitter in post-crisis although the tool was used more frequently in pre-crisis phase compared to other. Since the US Asiana's messages were not aligned the with publics' needs during the crisis, the negative consequence was a lack of audience (publics) engagement in the US Asiana Twitter conversation (Slater, & Rouner, 2002). The users (publics) did not actively use various tools for sharing their information because the organization did not appropriately respond to them. Publics' engagement in crisis communication. Publics' engagement is positively associated with the attitudinal and behavioral effects such as reduction of negative emotion, supportive word of mouth intention, and

positive company attitude (Yang, Kang, & Johnson, 2010). Consequently, the substantive reduction in the publics' engagement via the US Twitter in the post-crisis phase indicates a direction the organization should focus on in the future for effective post-crisis communication.

More importantly, the decline in the US publics' use of the conversation tool in the post-crisis phase can negative role in the ongoing approach to crisis communication in terms of reputational threat (Coombs, 2007; 2010). In fact, the conversation tool on Twitter was made for social media users to easily keep up with conversations, but it also helps develop online relationships through interactivity and facilitate the scanning tool of social media (Coombs, 2012; Stern, 2013; Waters et al., 2009). In this sense, the reduction of conversation indicates the weakened interactivity and the lessened opportunity for finding a warning signs or prodrome generated by the publics (Coombs, 2012; Waters et al., 2009). In order to prevent crisis, finding a crisis warning through an excellent environmental scanning system is vital for an organization, and a good relationship based on interactivity positively influences the publics' perception when the organization faces a crisis (Coombs, 2007; 2012). Those activities are critical pre-crisis because they can by locate and reduce risk before crisis occurs (Coombs, 2010). Accordingly, exploring the results of crisis phases can not only help lead the direction of effective post-crisis communication, but also provide useful information for pre-crisis communication, thereby conducting more proactive crisis communication, not reactive approach.

Cultural issues as a key consideration in crisis communication

By comparing the US and the Korean Asiana Twitter, meaningful insights into crisis communication are apparent. Regarding crisis emotions the publics felt during the crisis, the US publics felt anger, while the Korean publics felt sympathy more than any other emotion. The results can be understood in terms of Hofstede's (1980) cultural dimensions, individualism / collectivism and long-term orientation (Haruta & Hallahan, 2003; Low et al., 2011; Wertz & Kim, 2010). South Korea has a high collectivism (low individualism) and high long-term orientation (Confucianism) compared to US (Hofstede, 1980; 2014) (See Figure 1). Koreans tend to value social harmony and expect people to help one another (high collectivism) and are willing to accept slow results (high long-term

orientation). In the same vein, the Korean publics felt more sympathy than anger toward the organization because they likely regard the Korean Asiana Airlines headquartered in South Korea as one of its social members, and therefore wanted to help the organization. The US publics likely felt anger rather than sympathy toward the organization when the organization did not respond immediately to the crisis (e.g., "… it looks like there has been no official PR statement from them either, this is really not good for a 5 star airline …"). However, the Korean publics did not feel anger regarding the response, because they are willing to accept slow results based on high long-term orientation (Confucianism). Thus, cultural differences of publics gave rise to differences in publics' responses to the organization in the crisis.

Likewise, the cultural differences brought about different use of communication tools in the US and Korea Twitter in the Korean Asiana Twitter (N = 2,462) much more than the US Asiana account (N = 506). Hyperlinks allow users to link to other websites sharing information as well as their photos and videos, and hashtags (#) denotes that a message is relevant to a particular topic (e.g., #SFOcrash) (Lovejoy et al., 2012). Using both tools reflects that users want to share and specify additional information through visual aids (hyperlinks) or relevant topics (hashtags); that is, those who require more explicit information are more likely to use both tools. Since people with high individualism "requires information to be stated explicitly," it was natural that the US Asiana organization and publics (high individualism) used hyperlinks and hashtags (#) more than the Korean publics (Hofstede, 1980, Haruta & Hallahan, 2003, p. 128). In addition, the proportions of the conversation tool utilized differently between the U.S. and Korea can be culturally explained. According to Hofstede's (1980) cultural dimensions, South Korea has the culture with high uncertainty avoidance, and Koreans "may take all the necessary actions to rectify the situation" (Low et al., 2011, p. 233). The results show that the Korean Asiana organization and publics were more likely to avoid uncertainty though various questions and answers than the US Asiana and publics did regardless of crisis phase. Thus, the cultural differences shed more light on globalized crisis communication, helping multinational companies and scholars successfully develop effective crisis communication theory as well as appropriate response strategies.

Implications

This study sought to find the importance of cross-national ongoing crisis communication which previous research has overlooked. The examination of each crisis stage, pre, during, and post-crisis, demonstrated the importance of ongoing crisis communication through how an organization using social media to meet different needs over the crisis phases. Such apparent differences between the pre-crisis, crisis, and post-crisis phases open up opportunities for new research directions that can in turn allow for more effective, ongoing and sustained crisis communication.

In addition, comparing two countries with different cultures provided important insights into how the organization can implement strategic crisis communication by better understanding publics' need and responses. Cultural issues are inevitable as a key consideration in crisis communication.

This study offered theoretical and practical implications in crisis communication using social media by providing crisis communication researchers and crisis managers with a more comprehensive and realistic picture throughout the entire crisis cycle as well as between cultures. In this regard, findings of this study provide crisis communication researchers and practitioners with theoretical and practical evidence to successfully develop more effective theory and practice.

Limitations and suggestions for future research

Nonetheless, there are some limitations to this research. First, this study has limited generalizablity. The results are exploratory and descriptive in nature. Since this study used only one case, it failed to illuminate different crisis strategies through social media messages. As results of a descriptive content analysis, the findings cannot serve as the sole basis for claims about the effects of crisis and cultural differences (Wimmer & Dominick, 2006). Also, it may be hard to generalize how multinational organizations communicate with publics on a variety of cultural similarities and differences because only two countries were selected (Taylor, 2000).

As another limitation, only one medium, Twitter, was analyzed even though the organization and publics use social media differently, including Facebook and YouTube, in the same crisis situation (Muralidharan et al., 2011a). Focusing on Twitter did not help illuminate how the organization and publics used social media through interplay with the media and

word-of-mouth during pre, during, and post-crisis phases (Liu et al., 2011). Further research should not only include more social media along with Twitter but also consider other factors (e.g., media) which can influence the use of social media.

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