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Emotions in Social Media: An Analysis of Tweet Responses to MH370 Search Suspension Announcement

Su Lin Yeo[1], Augustine Pang[1], Michelle Cheong[1], and Jerome Quincy Yeo[1]

Abstract
Considered one of the deadliest incidents in the history of aviation crises and labelled a "continuing mystery," the ongoing search for the missing Malaysia Airlines Flight 370 offers no closure. With endless media attention, and negative reactions of stakeholders to every decision made by the airline, this study investigates the types of emotions found in social media posted by publics to the MH370 search suspension announcement. It content analyzed 5,062 real-time tweet messages guided by the revised integrated crisis mapping model. Our findings indicated that, in addition to the four original emotions posited, there was a fifth emotion because of the long-drawn crisis and only two dominant emotions were similar to the model. A redrawn version to better encapsulate all the emotions is offered for one quadrant in the model. Implications for both crisis communication scholarship and the importance of social listening for organizations are discussed.

Keywords
integrated crisis mapping model, crisis communications, emotions in social media, tweet messages, corporate reputation

Introduction

Organizational crises are disruptive and unexpected events that pose significant threats that often result in negative consequences, which if not well managed, can create

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reputational damage to organizations, and affect relationships with stakeholders (Coombs, 2014). In today's digital era, the multitude and diversity of voices contributing from different communication platforms accompanied by their changing contexts have been undermining organizational response. One such crisis is the disappearance of Malaysia Airlines 370 (MH370), which disappeared on March 8, 2014 with all 239 passengers on board (Westbrook & Freed, 2017). Considered one of the deadliest incidents in modern day aviation crisis and labelled a "continuing mystery" by the Australian Transport Safety Bureau (Knaus, 2017), the search for the missing MH370 remains an air disaster that offers no closure (Bellamy, 2018).

Inflicting massive reputational damage on Malaysia Airlines, the MH370 disaster was what Rosenthal, Boin, and Bos (2001) termed as a "crisis after crisis" (p. 201) type of crisis due to a series of unfortunate events that occurred continuously after the aircraft went missing. First, MH was accused of failing to disclose information promptly and adequately in the aftermath of the incident, which led to extensive speculations and rumors (Moore-Copple, Climek, & Pritchard, 2015). Second, on July 12, 2014, barely 3 months after the crisis, another of its aircraft flight MH17 was shot down by Ukrainian rebels while flying from Amsterdam to Kuala Lumpur, killing all 298 passengers and crew on board (Nazari, 2014). Third, a month after the second tragedy on August 14, 2014, a HSBC employee and her husband were arrested for allegedly siphoning 111,000 Malaysian ringgit (US$35,000) from the bank accounts of several MH370 passengers (Culzac, 2014). Fourth, the airline provoked another storm of controversy in September 2014 when it launched an ill-conceived campaign called "My Ultimate Bucket List" in Australia and New Zealand in an attempt to regenerate business (Visentin, 2014).

The combination of mismanaged crisis responses, botched communication initiatives coupled with follow-up crises have negatively affected publics' perception of the management's competency and trust in the airline (Changsong, Yiming, Ahmad, & Jinsheng, 2017). As a result, when the authorities made known that the futile search for the missing aircraft would be suspended on July 21, 2016—2 years and 4 months after its disappearance—the announcement unleashed a second wave of negative emotions targeted at an organization already struggling to recover from the crisis (Cockburn, 2016).

Crisis communication scholars have advocated for more emotion-focused research to better understand how publics' appraisals of organizations' management of crises (e.g., Jin & Pang, 2010; Kim & Cameron, 2011). To better comprehend emotions, Jin, Pang, and Cameron (2012) developed the integrated crisis mapping (ICM) model, which offers a systematic and integrated approach to understanding emotions that audiences experience in times of crises.

This study aims to investigate emotions in social media by content analyzing 5,062 real-time tweets posted by publics and their responses to MH370 search suspension announcement. By selecting to examine an Asian mega-crisis, this research hopes to offer additional empirical evidence to further generate analytical generalizations for the ICM model (Jin, Pang, & Cameron, 2009).

Literature Review

Emotions in Social Media

Social media have become a part of everyday life. Considering that there are over 1 billion Facebook users (The Associated Press, 2013) and more than 115 million active Twitter users (Statistic Brain, 2016), digitized media platforms today are highly influential and are shaping publics' perceptions. As social media afford interactivity and connectedness, they enable users to share their views, thoughts, and personal information online with other individuals. Past studies have found that social sharing of emotions, for example, encourages social interaction and improves interpersonal connections (e.g., Correa, Hinsley, & de Zuniga, 2010; Langens & Schüler, 2005; Laurenceau, Barrett, & Pietromonaco, 1998; Lin, Tov, & Qiu, 2014). From an organization's perspective, it can trigger a tsunami of negative responses that can effectively disrupt companies' actions (Toubiana & Zietsma, 2017).

Understanding Emotions in Crisis Situations

Jin and Pang (2010) argued that emotions in crisis are the next frontier in crisis research, that is, to understand what are the emotional upheavals that the publics involved in the crisis are likely to experience so that strategies can be streamlined to address their specific needs. This is because the perception of a crisis, particularly from a given public, is not strictly a function of an environmental stimulus itself, but involves an interpretation of the stimulus (Carver & Blaney, 1977). Emotion is argued to be a critical stimulus. In a crisis, emotions are one of the anchors in the publics' interpretation of what is unfolding, changing, and shaping.

Jin, Pang, and Cameron (2007) developed the ICM model aimed at understanding the diverse and varied emotions likely to be experienced by the key stakeholders. Dominant emotions in the ICM model, developed from integrating work from psychology and crises literature, are extrapolated on two continua. On the *x*-axis is the publics' coping strategy (from cognitive to conative coping), which consists of the primary public's cognitive and behavioral efforts to manage specific external or internal demands and on the *y*-axis is the level of organizational engagement (from high to low). Different types of crises are mapped into each of the four quadrants, with the dominant and secondary emotions posited.

Based on the appraisal model of emotion (Lazarus, 1991), four negative emotions (*anger, fright, anxiety*, and *sadness*) are identified as the dominant emotions that are mostly likely to be experienced by the publics in crisis situations (see Figure 1).

Anger. The core relational theme underlying anger is a demanding offense against "me" and "mine" (Lazarus, 1991). In crisis situation, the primary publics tend to experience anger when facing a demanding offense from certain organization against them or their well-being.
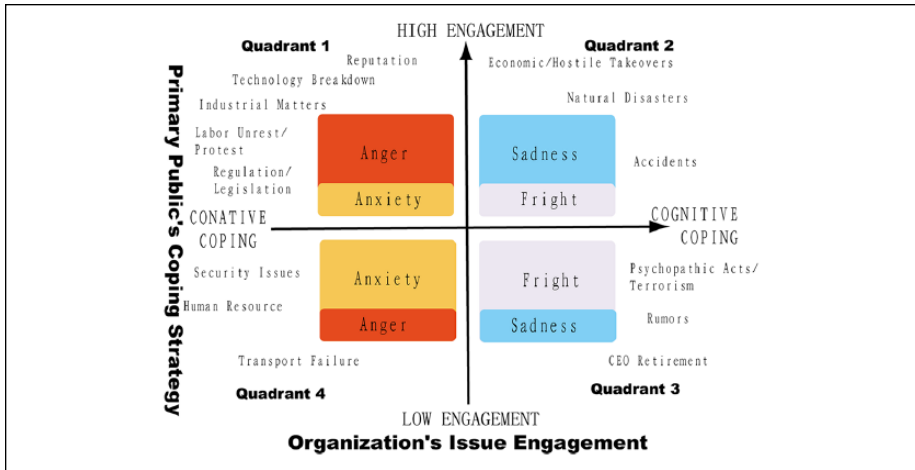
Figure 1. Integrated crisis mapping (ICM) model (Jin et al., 2007).

Fright. The core relational theme underneath fright is facing uncertain and existential threat (Lazarus, 1991). The public is not certain about how to cope with the loss as well as how the engaged organization may handle the situation.

Anxiety. By definition, anxiety stems from the core relational theme as facing an immediate, concrete, and overwhelming danger (Lazarus, 1991). The public may feel overwhelmed by the crisis situation and look for immediate solutions.

Sadness. Having experienced an irrevocable loss is the core relational theme of the emotion of sadness (Lazarus, 1991). In those cases, the public suffers from tangible or intangible loss or both. Their goal of survival is threatened.

Another key concept in appraisal model of emotion is the different levels of emotions felt at a given time toward a given stimulus. The primary level emotion is the one the public experiences at the first, or immediate instance. The secondary level emotion is one the public experiences in subsequent instances, as time goes by, and contingent upon the organization's responses to the crisis. The secondary-level emotion may be transferred from the dominant emotion or coexisting with the primary level. In this study, we focus on Quadrant 2 (*sadnes*s as the primary emotion and fright as the secondary emotion) and Quadrant 3 (*fright* as the primary emotion and sadness as the secondary emotion) as conjured by crises in CEO retirement; accidents, rumors, psychopathic acts, natural disasters, and economic/hostile takeovers.

The Integrated Crisis Mapping Model

Results from multiple testing of the ICM model revealed that anxiety is the underlying emotion felt by publics in crises (Jin et al., 2012) and there is a high likelihood that one
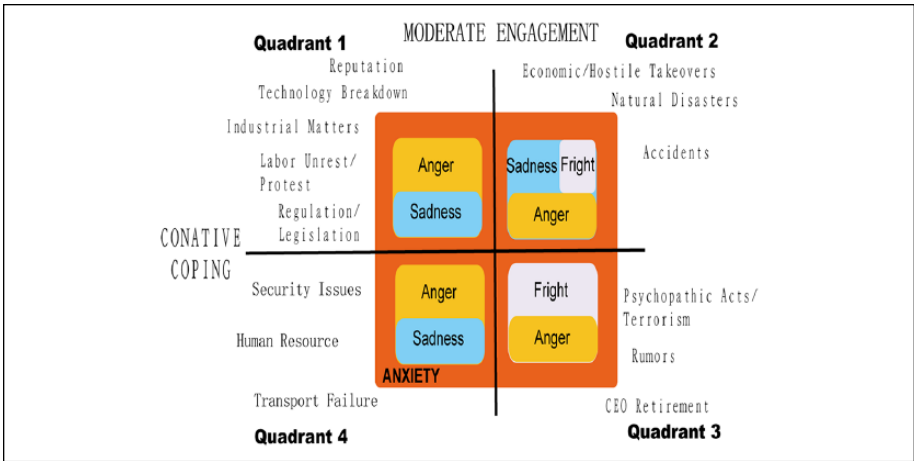
Figure 2. Revised ICM model (Jin et al., 2012).
Note. ICM = integrated crisis mapping.

emotion would coexist with another. Besides anxiety, which may or may not be the primary emotion, the other prevalent emotions observed were anger and sadness (Jin et al., 2012). The tests found publics to be engaged in more conative coping than cognitive coping. In conative coping, the public attempts to manage the situation so as to alter a troubled relationship or to sustain a desirable one by taking actions or at least show their tendency of action. In cognitive coping, the public attempts to identify a way of thinking or interpreting the meaning of the crisis with regard to their well-being (Jin et al., 2009). The authors also found a strong basis that conative coping is the external expression of the internal cognitive *processing* that has already taken place—cognitive coping is thus the precursor of conative coping. Tests also revealed that although both the publics and the organizations established that the crises were relevant to the organizations' goals, a moderately high level of organizational engagement was found to have sufficed (see Figure 2).

Since this study seeks to examine the emotions of stakeholders in the MH370 crisis, which is classified as a reputational damage (i.e., Quadrant 1), we posit the following research questions:

Research Question 1: What types of emotions were found in social media posts after MH370 announced the suspension of search?
Research Question 2: What coping strategies were adopted by the primary publics, as evident from the social media posts?
Research Question 3: What was the level of organizational engagement, as evident from the social media posts?
Research Question 4: How were the identified emotions, publics' coping and organizational engagement congruent or divergent from the ICM model?
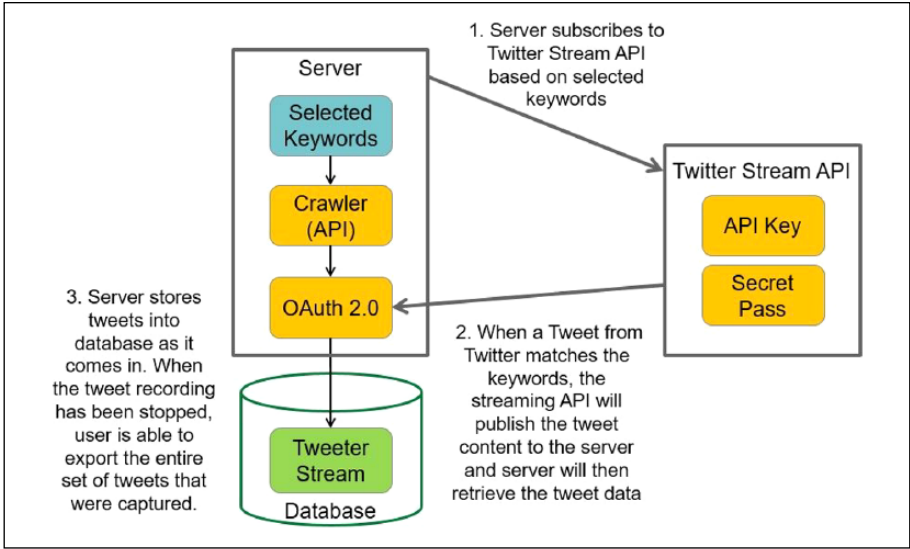
Figure 3. Tweets crawling process.

Method

The study employed content analysis to examine tweet disseminated by online publics upon receiving the news that the search for MH370 would be suspended. Twitter was selected because, among the various social media tools, it is a popular and fast growing social medium that offers real-time information (Brummette & Sisco, 2015). In times of crises, this social media platform has also been recognized as a key communication channel used to reach audiences in need of help during emergencies (Freberg, Saling, Vidoloff, & Eosco, 2013). Furthermore, since each tweet has a maximum length of 140 characters, they tend to consist of a single idea, thus boosting text mining efficiency as message ambiguity is reduced when expressions are short (Go, Bhayani, & Huang, 2009).

Data Collection

Tweets Crawling. The basic sampling unit for this study was the individual tweets collected in real time immediately after the search suspension announcement was made. The tweet crawling tool used was written in JavaScript and runs as a Node.JS application, which is run from a cloud server with a database setup. It is a software developed by one of the authors of this article who works on information technology. As depicted in the diagram detailing the processes shown in Figure 3, this application allows users to first enter the keywords of interest (e.g., #MH370) after which, the server subscribes to the Twitter Stream application programing interface (API) based on the selected keywords. Twitter Stream API subsequently provides the API Key and Secret Pass for authentication. When a tweet is posted from a Twitter user that matches the keywords, the Twitter Stream API publishes the tweet content to the server, and the

server retrieves the tweet data. The retrieved tweet data are then stored into the cloud database awaiting to be exported and retrieved by the researchers (see Figure 3).

As the publics started expressing their views and reactions to the announcement that the search for MH370 would be suspended via Twitter on July 22, 2016, the crawling process started from July 21 to capture tweets contributed from all over the world due to time zone differences, using the hashtag #MH370. The crawling stopped after July 24 as there were hardly any tweets received thereafter. A total of 9,126 tweets were collected over the 4 days. As this first set of raw data contained many messages that were not expressed in English, nor were relevant to the search of MH370, a manual and labor-intensive data cleaning process was carried out by the researchers to remove the irrelevant tweets. This exercise resulted in a total of 5,062 remaining tweets, which were subsequently coded.

Analysis of Tweets. We expected the 5,062 tweets to consist of a mix of raw tweets (or original tweets) and proxy tweets (or retweets). As such, before proceeding to code, we ensured that raw tweets (or original tweets) are defined as messages that have been created or written entirely by the user before posting. These included tweets that were (a) first to disseminate news headlines that reported the search suspension announcement and (b) users adding their opinion, text, or other content to a prior tweet that they received before posting. Conversely, proxy tweets (or retweets) which were retweeted, shared, or spread by users without any additional comments or modifications are treated as proxy tweets. As past studies (e.g., Stieglitz & Dang-Xuan, 2013) have shown that "emotionally charged Twitter messages tend to be retweeted more often and more quickly compared to neutral ones" (p. 217), we were mindful that coding and analyzing proxy tweets are equally important as raw tweets in our examination of all emotions expressed in social media.

Coding Procedures and Intercoder Reliability. As our study tests the viability and theoretical assertions of the ICM Model in explaining emotions in social media, together with its other two tenets, that is, coping strategies and level of organizational engagement, the set of 5,062 tweets were coded thrice. Latent analysis was therefore adopted to establish (a) the types of emotions found in social media (Research Question 1); (b) the coping strategies adopted by the primary publics, that is, conative or cognitive (Research Question 2); and (c) the level of organizational engagement (Research Question 3).

To measure the impact of announcement on publics' emotions, Jin et al.'s (2012) ICM model approach was adapted for analysis. In the list of emotions to code, we included the four negative emotions proposed in the model. They are *anger, fright, anxiety*, and *sadness*. However, after a preliminary screening of the tweets by the researchers, revisions were made to include one additional emotion—joy. This is because we found messages expressing joy (in the form of relief) that the search is finally over. The final operationalized definitions for emotions thus consisted of five emotions—*anger, fright, anxiety, sadness, and joy*.

As for the criteria used to determine messages expressing the five emotions, the researchers examined the text, that is, terms and phrases (positive and negative), as well as punctuation, that are commonly used by English speakers to categorize the

tweets. For example, we looked out for keywords and further considered the context that expressed (a) *anxiety*: "oh no," "what do we do?" (b) *sadness*: "RIP," "sad," "tragic," "hearts go out," "prayers" (c) *fright*: "is it safe?" "is this true?" (d) *anger*: "horrible," "furious" as well as capitalized words, use of vulgarities; and (e) *Joy*: "finally, it is over," "this is such a relief." These keywords were subsequently included in the codebook to guide the coders hired to code all the tweet messages.

With regard to coping strategies, we were keen to determine if the strategies adopted as evident from the tweets implied that publics were trying to manage the situation by taking actions (conative coping) or trying to make sense of the meaning of the crisis in order to come to terms with the tragedy and their well-being (cognitive coping). Since the ICM model conceived conative and cognitive coping as categorical concepts, meaning, how evident cognitive versus conative coping was in the quadrants (Jin et al., 2007, 2012; Jin, Pang, & Cameron, 2010), the data in this study was analyzed following similar fashion, that is, coping mechanism that was more evident. Also, as for level of organizational engagement, the aim was to establish the perceived level of engagement (low or high) offered on the part of the airline.

Two trained graduate students were hired to quantitatively analyze the 5,062 tweets. During the trial briefing, they were informed of the definitions of raw tweets (original tweets) and proxy tweets (retweets). They were also told to identify raw tweets and to separate them from proxy tweets and to subsequently code proxy tweets as having the same emotion, coping strategy, and level of organizational engagement as the raw tweets. This approach and coding process was carried out to align with past studies (e.g., Brady, Wills, Jost, Tucker, & van Bavel, 2017) which showed that Twitter users who retweet highly emotional tweets are also likely to share similar sentiments as the original poster. Otherwise, they would have countered or commented on the original tweet in their retweet.

To facilitate the coding process and to achieve consistency between the two coders, a coding guide was developed to provide detailed instructions and description of the sampling units. The two coders worked independently and they each coded all 5,062 tweets three times according to the five operationalized emotions, two coping strategies and level of organizational engagement. The tweets were arranged chronologically according to the time and in the order that they were posted. After coding 100% of the full set of tweets, 1,012 random tweets were selected to be subjected to intercoder reliability checks according to the *pi* coefficient as proposed by Scott (1955). The 1,012 tweets were systematically selected based on every fifth tweet to get 20% of the total sample. The final intercoder reliability *pi* for emotions was 0.96, coping strategies was 0.96, and the level of organizational engagement was 0.90, which are considered acceptable in content analysis (Neuendorf, 2002).

Results

After ensuring that we achieved healthy coefficients for intercoder reliability, we proceeded to calculate the absolute numbers of all tweets (both raw and proxy). We aggregated the results of both sets of raw and proxy tweets coded by the two coders and divided the number by two to get the comparison averages and percentages in order to
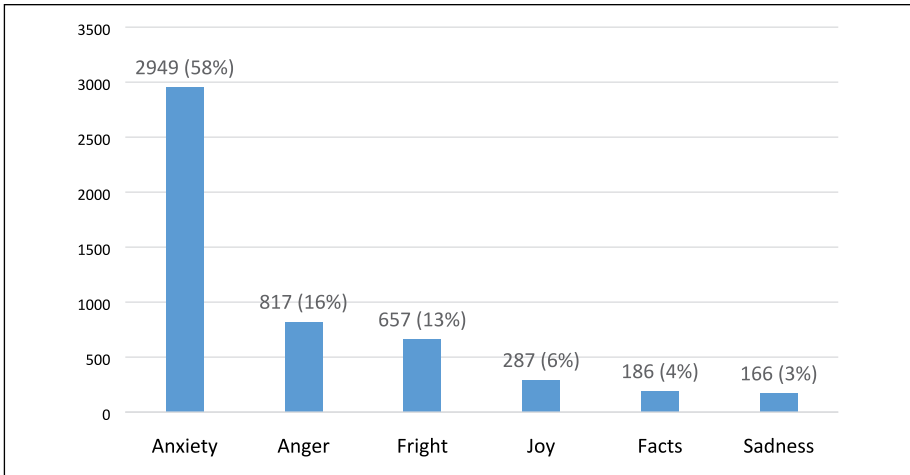
Figure 4. Breakdown of absolute numbers and percentages of the emotions expressed in all tweets.

answer our Research Questions. The same computation was also carried out for each of the three tenets of the model—emotions, coping strategies, and level of organizational engagement.

Of the 5,062 coded tweets, 712 (14%) were raw tweets and 4,350 (86%) were proxy tweets. As for the types of emotions, we ranked them in the order of frequency according to the five emotions. Frequency was similarly calculated for coping strategies and organizational involvement.

Research Question 1 asked the types of emotions found in social media posts after MH370 announced the suspension of search. Our results indicated that *anxiety* was the most frequently expressed, taking up 58% of the 5,062 tweets (see Figure 4). This was followed (in descending order) by *anger* (16%), *fright* (13%), *joy* (6%), and *sadness* (3%). We also found 4% of messages that contained mere facts.

Twitter users who expressed their *anxiety* (58%) posted messages such as the following:

- "RT @BBCNewsAsia: #MH370: Relatives say they do not want search to end until missing plane is found"
- "We've been looking in the wrong place, #MH370 search team says https://t.co/ATiNA050Wh"
- "We should crowd source the search. We can't afford this mystery #MH370 https://t.co/B5Hja9y8kh"

Anger messages, comprising 16% of all tweets, included the following:

- "https://t.co/yy44PIkKWh #MH370 There needs to be some closure to this! The families who have lost their loved ones are the ones suffering! "

- "Really feel for the relatives of those lost on board #MH370. SOMEBODY knows more than we're being told, and families deserve the TRUTH"
- "RT @warrenista: Breaking news on #MH370 to bury news on US DoJ investigation into #1MDB scandal . . . clearly, media manipulation!"
- "Why is #MH370 trending? Well it gives the newspaper in Malaysia something to talk about. Since they cant say anything about #1MDB"

Fright, with 13% of all tweets, had users posting messages as follows:

- "RT @Ahatimes: Shocking: Missing #MH370 was not searched in the right place"
- "RT @nnosengo: #MH370 will remain aviation's biggest mystery https://t.co/uRwMf7QWNF"
- "RT @dmitryzaksAFP: Again? #MH370 Pilot Flew Suicide Route on His Home Simulator Closely Matching Final Flight"

Joy, which was ranked fourth at 6%, included statements as follows:

- "For families, suspending the search if nothing is found in 120,000 sq km zone is better than a termination #MH370 https://t.co/GdyBOOCHl3"
- "#MH370 TWO YEARS! It is time to end the dream. We don't even know we are searching the right haystack"
- "Releasing all #MH370 flight, search and debris data should satisfy the families and those who were focused on this for the last 2.5 years"

Finally, the least expressed emotion was *Sadness* which made up only 3% of all tweets. Posts that expressed this emotion included the following:

- "This maybe a farewell for #MH370. But surely, you will never be forgotten. https://t.co/C2Oszv3hTI"

Research Question 2 asked the types of coping strategies that were adopted by the primary publics. Our results indicated that most users adopted a *cognitive* strategy. Taking up 87% of the 5,062 tweets, users posted the following messages that implied their attempt to reconcile and come to terms with the loss for their well-being:

- "World #technology become #failure to find the #missing #people and #MH370 at our #planet. We have to admit it.@NASA"
- "RT @jfkjohan: Goodbye #MH370. You will never be forgotten. – #MH370 hopes 'fading', search suspension looms: ministers @AFP"

Posts that indicated a *conative* strategy took up 11% of the tweets, while 2% were neutral. Messages that implied that conative strategy was adopted included the following:
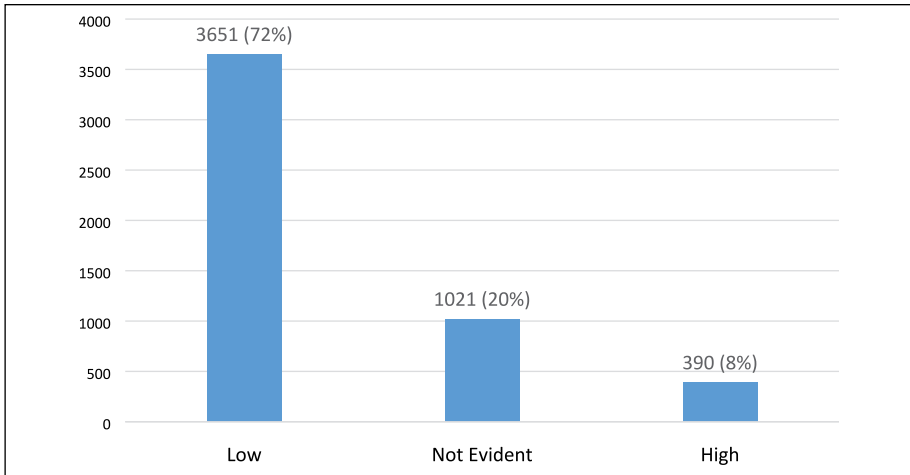
Figure 5. Breakdown of absolute numbers and percentages of perceived organizational engagement in all tweets.

- "Malaysian transport minister says all #MH370 flight, search and debris data will be publicly released but does not say when that will happen"
- "Maybe a failure but the worlds Navys have new map of the oceans floor |Search for Malaysian #MH370 to be suspended https://t.co/fKSuyF4jPQ"
- "I have a feeling it's one of dose similar Bring back our things, where the big guns know what's happening but tell the public missing"

Research Question 3 examined the level of organizational engagement. Our results showed that the majority of users felt that the engagement offered by MAS and the authorities was weak (low). This perception accounted for 72% of the 5,062 tweets (see Figure 5) which contained messages such as the following:

- "World #technology become #failure to find the #missing #people and #MH370 at our #planet. We have to admit it.@NASA"
- "@ManvBrain Any chance corporations might contribute to a new search?"
- "@BoeingAirplanes for example? When governments let us down. #MH370"
- "RT @sdavis60: This is a BIG story in many ways. Probably the biggest question∫Did the #Indonesia gvmnt lie to #MH370 families? https://t.co∫"

There were about 20% of the tweets which were not evident but tweets that were perceived as strong (high) engagement offered by the airline and the Malaysian government took up a mere 8% of all tweets. Some of these sentiments included the following:

- "RT @bernamadotcom: #MH370: China, Australia and Malaysia will not abandon efforts to search for the aircraft – China Transport Minister Yan∫We should
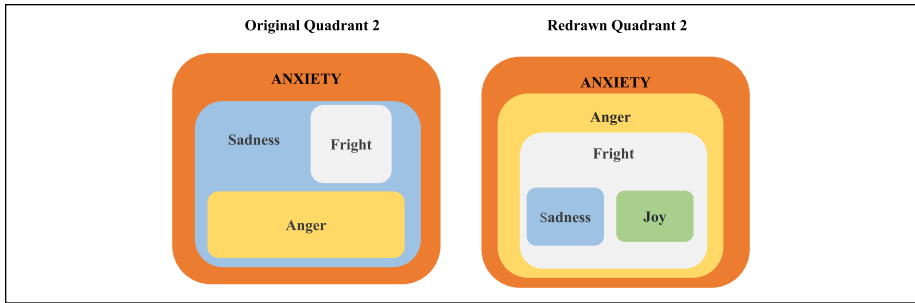
Figure 6. The original and redrawn quadrant.

crowd source the search. We can't afford this mystery #MH370 https://t.co/B5Hja9y8kh"

- "RT @bernamadotcom: #MH370: Decision to suspend the search is based on consensus among Malaysia, China and Australia – @liowtionglai https:/*f*"
- "RT @DarrenChesterMP: Constructive meeting in Malaysia re #MH370. Thanked Malaysia & China for ongoing efforts to search for aircraft https:*f*"

Research Question 4 examined if the findings were congruent or divergent with the ICM. We found that *Anxiety* was the most prevalent, followed by *anger, fright, joy*, and *sadness*. The two dominant emotions found in this study were similar to the revised ICM model. However, other emotions were present, which are not found in the original model. Figure 6 shows the original Quadrant 2 of the ICM and suggests a redrawn version to better encapsulate all the emotions present.

Discussion

Social Media Use during Crises

Pang (2013b) argued that in times of crises, social media hype is generated, enabled by user-to-user and platform-to-platform accessibility. Social media hype can be defined as a "netizen-generated hype that causes huge interest that is triggered by a key event and sustained by a self-reinforcing quality in its ability for users to engage in conversation" (p. 333). This involves,

a. *A key trigger event.* There is a significant event which captures public attention.
b. *Interest waves.* A sudden increase in interest levels occurs, rising within 24 hours, followed by ebbs and falls in user interest.
c. *Sustaining and spreading of interest across different mediums.* Even when there were no more updates surrounding the event, interest was sustained when previously not known information was shared online.

It is evident that interest waves and sustaining of interests was expressed in this study via retweeting. People retweet because they want to be engaged in the conversation, to share relevant information, and sometimes to seek validation (Boyd, Golder, & Lotan, 2010; Li & Sakamoto, 2015: Recuero, Araujo, & Zago, 2011). Information with visual cues have been found to have higher traction of retransmission (Chua, Tee, Pang, & Lim, 2017). This is consistent with our findings in that the proportion of anxiety retweets was double that of the raw tweets. Abdullah, Nishioka, Tanaka, and Murayama (2017) found that a tweet is more likely to get retweeted if the information in a tweet is seen as credible, important, interesting, or could garner a high amount of interest or further retweets. As a result, social media hype is generated.

Publics' Expressions of Emotions in Social Media: New Variations of Emotions

In their revised ICM model, Jin et al. (2012) found *anxiety* as the default dominant emotion. Since this was a reputational damage crisis (i.e., Quadrant 1 of the revised ICM model), the authors had also found *anger* and *sadness* coexisting with *anxiety*. In this study, the authors found the primary emotion to be *anxiety, followed by anger, fright, joy*, and *sadness*.

While we were not able to establish if *anxiety* was the default emotion, we argue that it was a prevalent emotion. The difference between our findings and the ICM model also lies in the presence of other emotions—*fright, joy*, and *sadness*—not found in the original model. Several observations could be made. First, the revised ICM model was conceived to examine crisis at its height, that is, the first month of the crisis. Even though the MH370 crisis had been ongoing, the announcement of the suspension of the search came two years after the disappearance (Chan & Park, 2016). Given the time lapse, *anxiety* could be further entrenched as little headway was made in the search. Second, *anger* could be a manifestation of *anxiety* as the stakeholders probably felt helpless in the situation and they could not do anything about it. Third, this study found an extremely small variant of *joy. Joy* was not an emotion captured in the revised ICM model. *Joy* could probably be explained by the fact that the announcement represented a closure to the search for some publics who were relieved that all the waiting was finally coming to an end from the official standpoint.

Publics' Coping: Emergence of Cognitive Coping

The revised ICM model posits evidence of conative rather than cognitive coping (see Figure 2). One argument made was that the conative coping captured could have been the culmination of the internal processing that had taken place (cognitive), leading the publics to take action to deal with the crises (conative). Jin et al. (2012) argued that conative coping is the external manifestation of the internal cognitive processing that has already taken place, and that cognitive coping was the *antecedent* of conative coping. In this study, interestingly, cognitive coping emerged as the dominant coping strategy engaged by publics.

In cognitive coping, the public seeks to interpret the impact of the crisis with regard to their well-being (Jin et al., 2009), in other words, engage in internal processing. This

coping is set against the context that organizational engagement is weak, as this study has found. How does one reconcile the dual phenomena? One explanation could be that conative coping could have been manifested in the earlier days of the crisis. However, after prolonged hope turned into prolapsed helplessness, there appeared little else the publics could do particularly given the organization in question had announced the suspension of the search. Faced with this lost prospect, and exhausted by the long-drawn crisis, whatever actions they could take (conative) subsidized into the recesses of their cognition. If this argument holds, while cognitive coping could have been the *antecedent* of conative coping, as ICM posited, cognitive coping could be the *aftereffect* of conative coping when the crisis is prolonged. This resonates with grief literature (see, e.g., "The Five Stages of Grief," 2018), which suggests that even after grief had been accepted by the griever, the pain does not go away. This finding fills the gap in the model as the evolution of coping mechanisms by the publics over time was not an issue which the revised ICM model had addressed (Jin et al., 2012).

Evidence of an Asian—or Social Media—Expression of Emotions?

In recent years, Asian researchers are questioning the basis for applying Western-centric communication theories for research studies in Asia (Kuo & Chew, 2009; Wang, 2011). Wang and Kuo (2010) argued that Western-centric biases and problems must first be indigenized to take into account cultural specific influences. The ICM model was conceived in the West. The question remains: Did this study, which was contextualized in Asia, unearth any new expression of emotion? Except for an extremely small variant of joy, which was explained in the earlier section, it does not appear to be so. Interestingly, in an earlier study unearthing expressions of emotions in the Asian context, Cheng, Loh, and Pang (2011) did not find differences of emotions expressed in Asia versus the West, just variations of emotions. Perhaps in times of crises, every one experiences and expresses the same negative emotions regardless of where we come from.

Our findings demonstrate that irrespective of the crisis stage—be it at the start of crises, at the height of crises or ongoing crises—negative emotions are highly influential and capable of inflicting long-term reputational damages if stakeholders' social emotions are not well-understood and managed. It also shows that social emotions can be irrational. From the standpoint of the organization, this decision to suspend the search appeared inevitable. However, instead of finding more *joy* (or relief) that this prolonged saga can finally come to an end, this study uncovered instead continued negative emotions of *anxiety, anger*, and *fright*. In view of the speed of technology with increasing social media use today, crisis response strategies and messages in times of crises must be appropriately executed and targeted to address stakeholder's social emotions (Coombs & Holladay, 2007).

Conclusion

This study has investigated emotions expressed on social media on an ongoing crisis, MH370, using the revised ICM Model as its theoretical lens. This research, however, is not without limitations. In this study, only tweet messages were examined. In order

to fully comprehend the sheer volume of voices and images that are exchanged and circulated online every day, future research may wish to further examine emotions in times of crises afforded by other social media platforms such as Facebook, Instagram, Snapchat, Blogs, and so on. Nevertheless, this study is a good starting point on how one of the most frequently used online platform, Twitter, is used.

Another limitation of this study is that we are unable to differentiate between Western and Asian users who tweeted about #MH370. As Twitter keeps users' demographic data private, information such as their age, ethnicity, or nationality are not publicly available.

Organizations that seek to respond using the ICM model could consider constructing a social media engagement strategy aimed at developing trust and interacting in the information vacuum (Pang, 2013a). Social media and emotions have become the new frontiers in crisis communication. The sooner organizations get into the space, the greater control they can exert over their organizational narratives which are absolutely key in building, maintaining, and protecting corporate reputations in today's highly digitized and polarized business environments.

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