

# The Dynamics of Public Attention to Online Disaster Information

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## Abstract

This study explored the dynamics of public attention to online news on disappearance of Malaysia Airlines Flight 370 (MH370). Results revealed that increase of public attention to news has a leading effect on media attention. Moreover, public attention is influenced by daily news pressure, square of timelines, news topic, nationality of media organizations. In addition, public' interest in news content is different in various phases of the disappearance. In the early aftermath, public pursue news on stakeholder responses, and then public attention focus shift to disaster survey. Finally, news on stakeholder responses and disaster relief attracts more public attention.

**Keywords:** public attention, media coverage, risk communication

## 1. Introduction

On March 8, 2014 at 01:20 MYT (17:20 UTC, 7 March), Flight MH370 lost contact with air traffic control less than an hour after takeoff. Flight MH370 is an international passenger flight that was planned to fly from Kuala Lumpur to Beijing and arrive in Beijing on March 8, 2014 at 06:30 Beijing time. At 07:24, Malaysia Airlines confirmed the missing information of Flight MH370. The missing flight was carrying 227 passengers (including two infants) from 15 countries and 12 Malaysian crew members. A total of 154 passengers were from China. The search for the missing aircraft resulted in worldwide attention and a multinational search effort started in the Gulf of Thailand and the South China Sea. A total of 26 countries participated in efforts to locate Flight MH370. This search effort for the missing flight is considered the largest and most expensive in history. After a great deal of search work continuing more than five hundred days, the wreckage of Flight MH370 was discovered in the French reunion island located in the Indian Ocean.

The disappearance of Flight MH370 is different from previous aviation disasters. First, the disappearance of this airline remains unexplained and is still under investigation, although many countries have exerted effort to contribute in the search for the flight for an extended period. For the general public, the disappearance of Flight MH370 is puzzling and unbelievable. Vast unofficial information has been constantly proposed to explain the cause of the disappearance of Flight MH370. For example, the possibility of a simple hijacking has been brought up by various news outlets, including ABC News and the Los Angeles Times. These unofficial guesses have turned the disappearance to a more complex and confusing event. Initially, individuals view the disappearance as a common aviation disaster. Subsequently, the issue of extensive unofficial information about the cause of the disaster such as terrorist attack, hijacking, and conspiracy theories, has convinced individuals to regard the disappearance as an uncommon aviation disaster. This mindset has transferred their focus on the aspects of news stories about the disappearance.

The public always show immense interest on some disasters because of the rich newsworthiness of these events (Wei et al., 2012). The disappearance of Flight MH370 has received public attention worldwide. To date, this event is still shrouded in mystery because the wreckage of the plane has yet to be located. In disaster situations, public attention to disaster information may change quickly in accordance with the development of the disaster (Hall, 2002). Accordingly, exploring the rules related to public attention and information needs in times of disasters is vital, which may contribute in offering timely social support to the public (Keselman et al., 2005; Veil, 2012). However, the logic of public attention to disaster information is not well understood. What aspects of disaster information does the public prefer to focus on? What factors determine public attention to disaster information? This study will address these research gaps by analyzing online news videos on the disappearance of Flight MH370 in 2014.

The rest of the article is organized as follows. In the following sections, we first conceptually discuss the factors influencing public attention and propose the specific hypotheses. Subsequent section describes the methodology and data collection. Then, the results and discussions of the findings are presented. Finally, the implications of these results for theory and future research, limitations are provided.

## 2. Literature Review

### 2.1 Public Attention and Media Attention to Disasters

Public attention is a term that is continuously being used and studied in the academe. However, it remains in the realm of theories without any consistent explanation for it. Public attention remains in the realm of theories without any consistent explanation for it. Any definition of public attention must consider the research area involved because such attention may be seen differently in different areas. The recent and comprehensive discussions on public attention were undertaken by Webster (2011) who defined public attention as “the extent to which multiple individuals (i.e., agents) are exposed to cultural products across space and/or time.” In media context, these cultural products are television programs, Web sites, print and network news stories, video clips, audio files, and so on.

Moreover, previous scholars have directed their efforts toward measure public attention. Some scholars measured public attention by conducting surveys among random samples which includes indicators of attention (Cheng and Liu, 2018) or interviews (Henry and Gordon, 2001). With the development of information technology, the Internet provides an expedient way to study public attention (Wei et al., 2009a). Scholars have contributed to develop new tools to measure public attention by using the vast amount of information that the public search, diffuse via channels based on information technology (Cha and Stow, 2015; Ripberger et al., 2014). These channels include Internet search engine (e.g. Google, Baidu), social media sites (e.g. Google+, Twitter, and Facebook). Ripberger et al. (2014) confirmed that the number of tweets related to tornado is an effective indicator of public attention to severe weather.

In disaster situations, people have the strong desire to pay attention to and seek disaster information (Wei et al., 2009a; Yang, 2014; Ranjit et al., 2020). News media is seen as the main channel through which people obtain information related to various disasters (Ben-Porath and Shaker, 2010; Wei et al., 2009b; Lester and Cottle, 2009). For decades many scholars have devoted to clarify whether the media agenda influence public attention to issues or vice versa (Soroka, 2002). Agenda-setting theory tells us that the quantity of media coverage influences public opinion about an issue's importance and relevance (Schröder and Phillips, 2007; Parida et al., 2021). However, public agenda has been confirmed to influence media agenda (Luo, 2014; Fenton, 2011). Thus, we strived to discuss the relationship between public attention and media attention and proposed the following research question:

*RQ: What is the relationship between public attention and media attention in the network context?*

### 2.2 Factors Influencing Public Attention to Disaster Information

Previous studies indicate that public attention to disaster information is affected by media coverage. Disasters with a wide range of media coverage can arouse more public attention (Wei et al., 2009a). Moreover, media agenda has significant influence on the issue significance and public opinion on the issue (Carroll and McCombs, 2003). Disaster media coverage influences the perception of citizens about the relevance of the disaster and the extent of such relevance (Kuttschreuter et al., 2011). Wei et al. (2009a) found that the intensity of media reports is an important factor that influences the social effects of a specific disaster. Wei et al. (2012) pointed that public risk perceptions are influenced by the number of newsworthy material. Thus, we hypothesize that:

H1: The number of disaster news stories exert a positive effect on public attention to disaster news stories.

The timeliness of disasters news stories plays a vital role in affecting the public information seeking behavior in disaster situations (Wei et al., 2009b; Thelwall and Hellsten, 2006). For example, Wei et al. (2009b) indicated that public attention to disaster news coverage increases initially and declines thereafter. Sundar et al. (2007) use three cues, namely, the name of the primary source, the time elapsed since the story broke out, and the number of related articles, to explore the volume of disaster news stories presented to the public. Using the London Attacks of July 2005 as a case study, Thelwall and Hellsten (2006) assess the extent to which published media timelines reflect contemporary electronic discussions of major media events. Therefore, the following hypothesis is developed:

H2: Public attention to disaster news stories is significantly influenced by timelines of disaster news stories.

Moreover, public attention is also affected by how disaster media coverage was communicated. News media organizations can release disaster news reports in multiple forms, such as news text, picture, and video, among others. Moreover, each news stories are always different in news content, length of news and release time which are determined by news media organizations. For example, Yao et al. (2006) found that a news story that occupies a visually significant section on a website homepage can easily draw significantly more public attention. Text news connected with images or

videos can be quickly displayed on websites (Szabo and Huberman, 2010). Therefore, the following hypothesis is developed:

H3: Disaster news presentation makes a significant impact on public attention to news stories.

The role of news topic in predicting public attention is confirmed by previous studies (Littlefield and Quenette, 2007). According to prior research, disaster news are classified into different topics, namely, disaster damage, disaster relief, disaster recovery (Littlefield and Quenette, 2007), government response, and level of preparedness or responsibility of individuals and communities (Barnes et al., 2008). The influential study of news reading by Graber (1988) determined that news story topics are important criteria used by participants in the study when choosing stories to read. Therefore, the following hypothesis is developed:

H4: Topic of disaster news stories significantly impacts public attention to disaster news stories.

News source is also found to have effects on public attention to disaster media coverage. Information source characteristics should be incorporated in models of information communication and information seeking behaviors (Slater and Rasinski, 2005). Studies on the functions of various media in disasters indicate that public attention to print and broadcast media varies (Piotrowski and Armstrong, 1998). After Hurricane Katrina, local media disaster coverage emphasizes disaster response, while that of national media disaster coverage emphasizes disaster recovery (Barnes et al., 2008). In view of the functions of various media in disasters (Sood et al., 1987; Spencer, Seydlitz et al., 1992), individuals vary in their attention to print and broadcast media (Piotrowski and Armstrong, 1998). Thus, we hypothesize that:

H5: Public attention to disaster news stories is determined by the source of disaster news.

### **3. Methodology and Data Collection**

#### *3.1 Sample and Data Collection*

News media organizations can release disaster news reports in multiple forms, such as news text, picture, and video, among others. Video is an electronic medium used to record, copy, and broadcast moving visual images. This news format plays an increasing vital role in disseminating the news (Wei et al., 2009a). Each video clip with different characteristics, such as news content, length of news and release time, is determined by news media organizations, which indicates media attention to the disaster information.

The study analyzed news stories related to the disappearance of Flight MH370 from the website of SINA News (news.sina.com.cn). SINA News is an important group of SINA.com and is one of the largest online news providers in China. SINA.com is the news organization with the right to reprint news stories issued by authoritative traditional and online media, such as CCTV and People's Daily Online, respectively. SINA News can completely publish news stories retrieved from more than 2000 media partners soon after the news stories were available online; thus, it covers a large proportion of news stories in China. SINA News not only has a wide range of news stories from all news media organization levels but also develops web pages for special coverage of major events, such as the 2008 Beijing Olympic Games and the 2008 Wenchuan earthquake. Special coverage provides extensive information in a variety of formats, including news text, news video, news photos, and microblog information. Each web page of a special coverage contains links that can redirect to news stories issued by SINA News but adapted from its media partners. Organizing news into topical categories is convenient for netizens to browse and obtain information easily and rapidly, as well as to draw their browsers immediately to stories that will most likely fit their information preferences.

The study limited the time span of news stories to within two months when the disappearance occurred because it is most newsworthy at the initiation of the disaster. A total of 522 sets of news videos related to the disappearance of Flight MH370 were found. Eventually, the sample analyzed in the current study was reduced to 505 sets of news videos after excluding 17 sets of repetitive ones. The unit of analysis was one news video. The coding instrument included the number of views, number of comments, news topic, news length, news media source, and release time. For news topic, according to previous studies news topic is coded into four categories, namely, disaster description, disaster survey (Littlefield and Quenette, 2007), disaster relief, stakeholders response (Barnes et al., 2008). Two well trained coders analyzed all news videos. The inter-coder reliability of news topic was 0.96.

The dependent variable in the current study is public attention to news stories on the disappearance of Flight MH370. As previously mentioned, the number of views and comments is a practical indicator used to measure public attention to news videos. However, certain phenomena must be considered. Certain news videos have many views but only have a few comments or none at all. Furthermore, public always comment on news videos after they view these videos. Thus, measuring public attention is more reasonable through a comprehensive indicator. We use a weighted number of views in terms of the number of comments to measure public attention on news videos based on the method adopted by Lahiri and Narayanan (2013). The weighted values are computed using the number of comments on a particular news video

divided by the total number of comments on all news videos. Hence, public attention to a news video is the number of views weighted by the number of comments. The independent variables in the current study are media coverage, the characteristics of news videos and news source. Characteristics of news stories are measured by news presentation, and release time. Characteristics of news source were measured by the nationality of and type of news media. Table 1 shows the summary of the variables and their respective explanations.

Table 1. Variables and explanations

Dimensions	Indicators	Variables	Explanations
Public attention	Public attention	Weighted number of views	Number of views weighted by number of comments
News source	News media nationality	News media nationality	Domestic 1 or foreign 0 news media organization
	News media type	News media type	Traditional 1 or online 0 news media organization
	Media attention	Daily news pressure	Number of news stories in the day
News coverage	Release time	Timelines	Number of days of a news story was issued after the first news
		Weekend	Weekday 0 or weekend 1
	News presentation	News title length	Number of words in the news title
		News length	Number of minutes news continues
		News topic	Stakeholders response, disaster relief, disaster description, and disaster survey

Media coverage was measure by daily news pressure which indicates the number of news stories on the disappearance of MH370 in each day. The timeline of each news story was measured by the number of days that it was posted after the first news story about the disaster was posted. To explore how public attention varies with timelines, we included the square of decentralized timelines in the regression equation. Moreover, we also measured the release time by whether a news story was issued on a weekend. In the current study, the release time is coded 1 if the news was issued on a weekend, otherwise 0.

News presentation was measured by news length and news title length (Pao et al., 2008). The news title is a brief sentence summarizing the news content and directly attracts the browser. News title length was measured by the number of words in a news title. In a similar manner, the longer a particular news video continues, the more disaster information it contains. News length was measured by the number of minutes the news continues. In the current study, we coded news content into four categories: disaster description, disaster survey, disaster relief, and stakeholder responses. Disaster description refers to news stories that describe disaster information about casualties, damage, social impacts etc. Disaster survey is the news stories that report the information about the investigation process of disaster. Disaster relief refers to news stories that report the relief process of disaster. Stakeholder responses refer to news stories about the stakeholders' (e.g. government, international community, families of the victims) responses to disaster. News topic is defined as three dummy variables. Disaster survey is set as the reference category.

Characteristics of news source were measured by nationality of and type of new media (Rosen, 2014; Lee, 2012). The disappearance of Flight MH370 attracted attention from many countries. Furthermore, journalists and news media organizations around the world followed up on the events associated with the disaster. News media environments among different countries are different from one another. For example, news media organizations in China are viewed as the mouthpiece of the ruling party; their news coverage is practically restricted (Yang, 2012). However, foreign news media organizations are more flexible and have more freedom to cover events (Benson et al., 2012). Thus, the public can obtain new information that is not released by Chinese news media outlets. In the current study, news media nationality is coded 1 if the news media organization is domestic (in China), and 0 if foreign (not in China).

News media type is another vital distinction among news source (Lee, 2012). Traditional media, such as TV stations, have a wide audience and tend to be more authoritative. However, online media can organize more information and release multiple news formats with relatively unlimited time and space (Vargo et al., 2018). In the current study, news media format is coded 1 if the news media organization is traditional, and 0 if online.

### 3.2 Data Analysis

Table 2 shows descriptive statistics of one dependent variable and nine independent variables. The number of observed sample in the article is 505. The dependent variable (public attention) is a count variable. When modeling variables like

this, Poisson regression is generally used if the mean and variance are roughly equivalent and negative binomial regression is suggested when the variable exhibits a large degree of overdispersion (the variance is significantly larger than the mean) (Greene 2011; Koopmans and Vliegthart, 2011). In this case, the variable in the study presents signs of overdispersion thus the negative binomial regression is more suitable for the sample.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Public attention	505	0	1535728	8327.18	76637.61
Daily news pressure	505	1	63	25.60	17.15
Timelines	505	1	55	11.50	9.96
Weekend	505	0	1	0.34	0.48
News title length	505	14	26	20.61	1.92
Disaster description	505	0	1	0.05	0.21
Disaster relief	505	0	1	0.58	0.49
Stakeholder responses	505	0	1	0.20	0.40
News length	505	1	49	3.03	4.66
Traditional media	505	0	1	0.79	0.41
Domestic media	505	0	1	0.87	0.33

Moreover, the study is intended to explore the relationship between public attention and media attention. As stated above, we collected the two variables within two months when the disappearance of Flight MH370 occurred. Thus, public attention and media attention are two time series data in the study. Cross correlation function (CCF) is a function that can be used to evaluate the statistical correlation between two sets of time series data as a function of the time shift (Phillips, Oren, Zimmermann, & Wright, 1999). In conclusion, CCF can be used to explore the relationship between public attention and media attention. We use CCF to determine the importance of public attention to media attention in a given number of days when Flight MH370 has disappeared. The analyses were conducted using the cross correlation procedures included in SPSS (version 16.0).

#### 4. Results and Discussion

##### 4.1 Profile of Media Attention and Public Attention to Flight MH370 Disaster

After the disappearance of Flight MH370, journalists from all news media organizations around the world continuously reported the disaster. In the same manner, the attention of the general public was attracted by the missing plane. They also obtained information related to the event through formal channels (e.g., official news media) and informal channels (e.g., interpersonal communication). Thus, we initially explore the profile of media attention and public attention to the disappearance of Flight MH370 as shown in Figure 1. Figure 1 shows the standardized data because media attention and public attention have different order of magnitudes in the current study. The solid and imaginary lines in Figure 1 represent media attention and public attention, respectively. As illustrated in Figure 1, the standardized media attention and public attention to the disappearance are both inconstant and extremely fluctuant. As previously stated, media attention is measured by the number of news videos and public attention is gauged by the weighted number of views in terms of the number of comments.

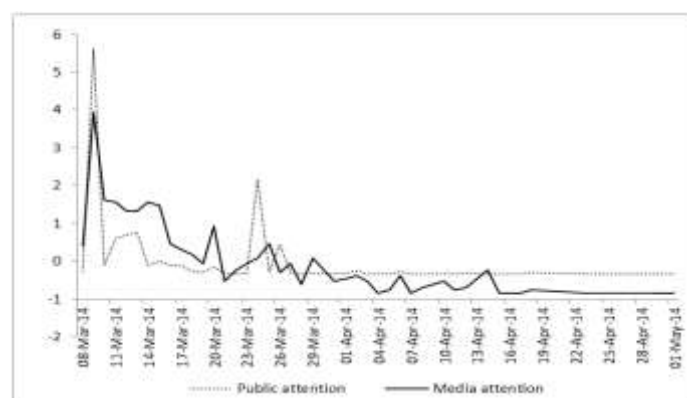


Figure 1. Media attention and public attention to the disappearance of Flight MH370

Note: The data of media attention and public attention were standardized.

We analyze media attention and public attention in a comparative perspective. First, both lines have the highest points on the same day. On March 9, 2014, the second day that Flight MH370 has disappeared, media attention and public attention reached the highest levels of attention. Public attention then declines by a larger margin than media attention; the line of public attention keeps under the line of media attention in the interval from March 9 to March 20. During this time, public attention remains almost equal to that on the first day, whereas media attention is relatively higher than that on the first day.

From March 21 to March 29, the lines of media attention and public attention are fluctuant and crossed. In the interval, the line of public attention is below the line of media attention except for March 21, 24, and 26. We study the news in those three days to explain the phenomenon. Three news videos titled “Malaysia say MH370 made a turn in the airspace of Malaysia in the family meeting,” “The South China Sea 101 divers test equipment and ready for the launch,” and “The Malaysia military say radars display the missing plane made a possible turn back” were issued on March 21, 24, and 26, respectively. The three pieces of news give the general public hope that the missing plane can be located, which aroused extensive public attention. Thus, public attention increases by a larger margin in these days. From March 31 to May 1, public attention is at relatively low and constant values, whereas media attention fluctuates until April 15. The line of media attention almost keeps under the line of public attention. During this time, public attention is not affected by media attention and the latter declines more sharply than the former.

#### 4.2 Cross Correlation Analysis between Media Attention and Public Attention

Figure 1 indicates the potential relationship between media attention and public attention. To investigate the relationship extensively, a cross correlation function (CCF) was used to investigate the relationship between media attention and public attention.

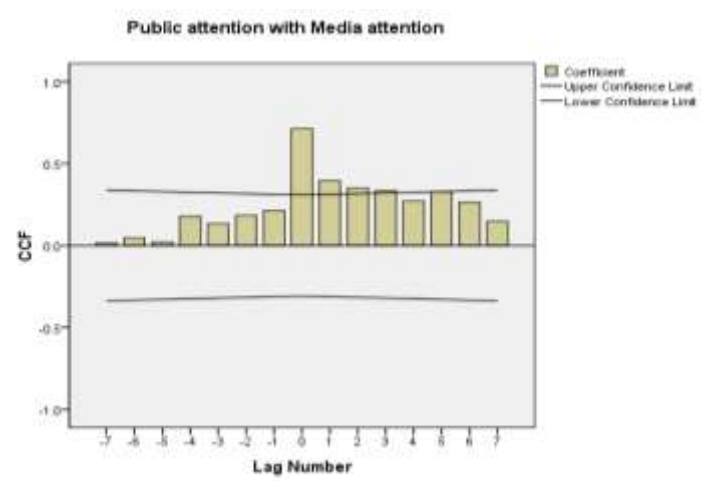


Figure 2. Cross-correlations of public attention with media attention

The results are shown in Figure 2. The two transverse lines indicate p-values, which are all two-sided. Cross correlations of public attention with media attention will show flexor/extensor alternation. The analysis of CCF result is described as follows. The insignificant cross correlations at negative lags indicate that the past values of media attention do not influence the future values of public attention. By contrast, the significant cross correlations at positive lags indicate that the past values of public attention influence future values of media attention. Moreover, the positive large spike at lag 0 means that the increase in public attention increases media attention in an immediate manner (on the same day). In conclusion, the results indicate that public attention is the leading indicator of and has immediate and significantly positive effects on media attention. Thus, the increase of public attention will lead to the immediate increase of media attention.

#### 4.3 Determinants of Public Attention to News Coverage

To test the determinants of public attention, we use negative binomial regression by the popular statistical software Stata 12. We need to check the multicollinearity between variables before studying the determinants. Table 3 shows the multicollinearity analysis result.

Table 3. Collinearity Statistics

Variables	Collinearity Tolerance	Statistics VIF
Daily news pressure	0.40	2.52
Timelines	0.43	2.31
Weekend	0.84	1.20
News title length	0.96	1.04
Disaster description	0.81	1.24
Disaster relief	0.52	1.91
Stakeholder responses	0.54	1.86
News length	0.95	1.05
Traditional media	0.89	1.13
Domestic media	0.95	1.06

The values of variance inflation factor (VIF) in Table 3 are less than 3, which mean that multicollinearity does not exist among the independent variables. Thus, we can undertake negative binomial regression. We now turn to the analysis of the factors that influence public attention. Table 4 shows the results of negative binomial regression. Public attention to news coverage on the disappearance of Flight MH370 is affected by daily news pressure, square of timelines, disaster relief, stakeholder responses, traditional media, and domestic media. Release time is crucial to disaster news stories, especially when a disaster first occurs. Table 4 shows that timelines do not have significant effects on public attention to news coverage on the disappearance of Flight MH370, while square of timelines has significantly negative effects on public attention. Hence, the regression coefficient for square of timelines indicates that the profile of timelines and public attention is a section of convex curve. Public attention to news coverage on the disappearance of Flight MH370 indicates a declining trend after the first day. Figure 1 also describes the relationship of timelines with public attention. Although Figure 1 also indicates a declining trend, a few fluctuations are noted during the declining process. When considering other previously defined factors, the relationship of timelines with public attention changes under the common actions of these factors. Thus, exploring how public attention is affected by other factors defined in the current study, except timelines, is necessary.

Table 4. Negative binomial regression predicting public attention

	Coefficient	Std.Error	z
Daily news pressure	0.027*	0.015	1.73
Timelines	0.073	0.047	1.55
Square of timelines	-0.003***	0.001	-3.48
Weekend	-0.032	0.307	-0.11
News title length	0.033	0.075	0.44
Disaster description	-0.466	0.639	-0.73
Disaster relief	-0.907***	0.315	-2.88
Stakeholder responses	1.756***	0.404	4.34
News length	0.028	0.023	1.20
Traditional media	-1.738***	0.326	-5.34
Domestic media	-1.977***	0.355	-5.58

Note: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Daily news pressure shows significant and positive effects on public attention, thus supporting H1. It indicates that people prefer to pay more attention on news stories with larger daily news pressure on the day the news was issued. Daily news pressure is a good indicator of how much newsworthy material is available to the public on a given day. Large daily news pressure indicates that new media outlets repeatedly issue different news videos at different times in a day, which increases the chances that the public is exposed to news about the disappearance of Flight MH370. Moreover, people can obtain more information about the disappearance on a day with larger daily news pressure. Weekend does not significantly influence public attention to news videos. Moreover, timelines has significant effects on public attention, thus partly supporting H2. We also found that news title length and news length have non-significant effects on public attention, thus not supporting H3.

News topic also affects public attention significantly and positively, thus supporting H4. The variable was defined as three dummy variables; thus, the explanation of the significant effects is different from that of the other independent variables. The news topic disaster survey is set as the reference category. Therefore, the significant and negative value of disaster relief means that disaster relief compared with disaster survey negatively affected public attention. In the same manner,

the significant and positive value of stakeholder responses means that stakeholder responses positively affected public attention compared with disaster survey. Finally, the nonsignificant value of disaster description means that disaster description does not negatively affect public attention compared with disaster survey. These results demonstrate that compared with information about disaster survey, the public pay less attention to disaster relief and more attention to stakeholder responses.

We hold the opinion that the following reasons contribute to the results. On the one hand, in a society with high development in science and technology, the disappearance of Flight MH370 is puzzling and unbelievable to public. Confusing reports, including a terrorist attack, abound regarding the disappearance of Flight MH370, which has attracted multinational endeavors to arrive at the truth. The public has a strong desire to know the truth and to be presented with information they can believe in. Thus, they would continuously show concern regarding information about the disaster survey. On the other hand, how the stakeholder responses to the disappearance is important to disaster survey and disaster relief etc. Thus, compared with the survey news, information about how the stakeholder responses to the disappearance attracted more public attention.

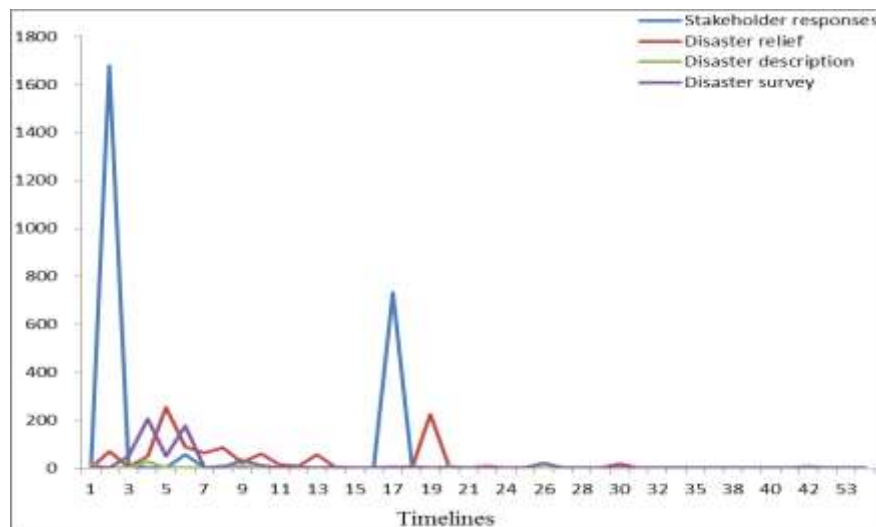


Figure 3. Relationship of public attention with news topic and timelines

Note: The data were divided by 1000.

Moreover, we studied how public attention to the four news topics varies with timelines. Figure 3 shows that public attentions distributed to the four news topics is almost equivalent on the first day of the disappearance. Then, on the second day, public attention to news on stakeholder responses increases rapidly to a significantly high vertex and news on disaster relief also attracts more public attention. The changes of public attention may be attributed to the following reasons. The public initially views the disappearance of Flight MH370 as a usual aviation disaster. However, the release of information about suspicious passengers and pilots involved in terrorism confused the public. Thus, people are more interested in information about stakeholder responses to clarify the reason and the truth behind the disappearance. Moreover, the public has a strong desire to locate the plane and rescue the passengers; thus, they pay attention to relief information.

Subsequently, from the third day to the ninth day, the people shift their attention to news stories on disaster relief, disaster survey, and stakeholder responses. Public attention to news about disaster relief fluctuates and reaches more than one vertex. One possible reason is that public attention is aroused when hope is raised that Flight MH370 can be located. However, public attention declines to the previous level when hope is extinguished. After the twentieth day of disappearance, public attention to the four news topics remains on relatively constant and balanced low levels. In conclusion, news on stakeholder responses and disaster relief draws significantly more public attention on the first two days, and public attention then shifts to disaster relief, disaster survey, and stakeholder responses from the third day to the ninth day. After the twentieth day, public attention to the four news topics is relatively low and balanced.

Domestic media and traditional media have significant effects on public attention, thus supporting H5. This result indicates that news videos issued by foreign media (e.g., BBC) obtain more public attention than those issued by domestic media (e.g., CCTV). Media environments in China and abroad have significant distinctions. News media organizations in China are seen as the mouthpiece of the ruling party and their news coverage is practically restricted.



However, foreign news media organizations, especially in the US and the UK, are more flexible and have more freedom to cover events than those in China. Thus, the people obtain new information from foreign news media that are not released by the Chinese news media, as well as prefer to view news videos issued by foreign news media outlets. Moreover, disaster news from online news media attracted more public attention indicating that people present differentiated interest to news first issued by traditional media with news first issued by online media on the Internet.

## 5. Conclusions

This study is intended to investigate public attention to news stories on the disappearance of Flight MH370. We first portrayed the profile of media attention and public attention on Flight MH370 and analyze the internal relationship between them. In the study, we found that public attention has leading effects on media attention. Moreover, the increase in public attention leads to the increase in media attention in an immediate manner, which indicates that the public attention has an immediate influence on media agenda setting. Public interest and attention are important forces that compel news media organizations to pay attention to events, which indicates that public agenda could be seen as preceding and influencing media agenda (McCombs, 2004; Luo, 2014).

We then undertook the investigation of the determinants of public attention. The results indicate that public attention to news coverage on the disappearance of Flight MH370 is positively affected by daily news pressure, which is consistent with previous research conducted by Kuttschreuter et al. (2011) and Wei et al. (2012). With the booming development and popularity of the Internet, disaster information dissemination is accelerated, and the public have a more extensive access to disaster news. In disaster situations, when numerous disaster news stories are exposed to the public, obtaining information they need becomes more difficult. Especially, the release of imprecise, incomplete, and occasionally inaccurate information will easily cause rumor to spread and even panic to arise among the public. As a result, new media organizations should monitor public responses on the Internet and release more appropriate news stories related to disasters.

Moreover, we found that timelines has complex effects on public attention. The results indicate that public attention to disaster news coverage increases initially and declines thereafter which is consistent with the findings of Wei et al. (2009b). Furthermore, news topic also has significant effects on public attention. The results points that compared with information about disaster survey, people pay less attention to disaster relief and more attention to stakeholder responses. The public pursue news on stakeholder responses and disaster relief in the early aftermath of the disaster. Public attention then shifts to news on disaster survey and disaster relief. Then news on stakeholder responses and disaster relief attracts more public attention. The finding of the study is consistent with previous research of Littlefield and Quenette (2007), and Graber (1988) indicating that news topic is a vital attraction of public attention to news. Meeting the information needs of the public and offering timely support are necessary in disaster situations (Keselman et al., 2005; Veil, 2012). News media organizations should not only release disaster information but should also issue information that are interesting to and needed by the public.

In addition to the previously mentioned variables, traditional media and domestic media have significant influences on public attention. The regression coefficients indicate that people prefer to view news issued by online news media and foreign news media outlets. The findings suggest that media organizations can release disaster news issued by online news media and stemming from foreign news media outlets that are good for arousing more public attention.

This study also has its limitations. Although the current study provides key insights in explaining the determinants of news stories on the disappearance of Flight MH370, such insights should only be considered starting points in examining the topic. More scholarly attention should be given to public attention in disaster situations. The current study only tests factors of public attention in terms of news coverage and news media sources. Other factors, such as characteristics of news browsers, can also be considered in the future research. Furthermore, the current study only analyzed public attention to one disaster; thus, comparative studies on multiple-disaster situations can also be conducted.

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