A PRELIMINARY INVESTIGATION INTO THE INFORMATION SHARING BEHAVIOR OF SOCIAL MEDIA USERS AFTER A NATURAL DISASTER

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ABSTRACT

The paper provides the results of a preliminary investigation into the information sharing behavior of social media users after a natural disaster. The results indicate that users shared information that they thought victims would find useful. On the other hand, they reported that they usually do not or never share information considered useful to others. The results suggest that users' behavior in emergency situations differs from that in everyday situations. It is necessary to investigate this behavior in detail.

KEYWORDS

Social Media Site, Information Sharing, Users' Behavior, Emergency Situation

1. INTRODUCTION

The diffusion of social media, including social networking sites (SNSs), Twitter, and blogs has been remarkable. Clearly, these sites have permeated our daily lives. As social media usage with mobile devices such as smartphones and tablet devices increases, it has gained attention as a way to communicate in emergency situations such as natural disasters. Moreover, many researchers consider social media as promising tools for gathering information to learn about the state of the disaster site and victims' requirements. This is attributed to social media characteristics such as the immediate and extensive dissemination of information. Therefore, various studies continue, for example, those that analyze posts on microblogging sites after major disasters (Vieweg et al. 2010, Qu et al. 2011) or that develop applications for utilizing Twitter (Uchida et al. 2015).

Another characteristic of social media is to share information via social feedback such as through retweeting and pressing the like button (liking) easily. When users who view original posts share this information with others not connected to the original user, the posts are immediately and widely disseminated. However, sharing information is not always useful in emergency situations. Sharing incorrect or inappropriate information interferes with the distribution of useful information regarding responses to emergency situations. To utilize social media, it is important to explore the information sharing behavior of users in detail.

This study aims to reveal user behavior and intention to share information on social media. This presentation provides the results of a preliminary investigation conducted after a major earthquake in Japan.

2. INVESTIGATION

The survey for this study was conducted to reveal users' behavior and intention to share information related to a natural disaster. Specifically, information sharing behavior related to the 2016 Kumamoto Earthquake, which occurred in April 2016 in the Kyushu region in Japan, was targeted in this survey. The survey was conducted in July 2016, about three months after the earthquake.

University students in Japan were invited to participate after being provided with information about the goal of the study and informed of the voluntary and confidential nature of participation. Participants were not victims of the earthquake. A total of 135 university students enrolled in computer classes completed the questionnaire. Of these, 106 respondents reported that they were SNS users (including Twitter users), and these individuals became the main subjects of this analysis.

The online questionnaire included four parts: 1) questions about demographics and SNS usage, 2) questions about behavior regarding sharing information related to the earthquake, 3) questions about behavior regarding sharing information in everyday situations, and 4) questions about the intentions of SNS usage. Part two comprised five sections. In the first and second sections, 16 types of information related to the earthquake (Table 1) were listed. Participants were asked to respond if they viewed and shared each type of information. The third section contained 25 items asking about the reasons to share information related to the earthquake. The fourth section contained 22 items asking about reasons information was not shared. The fifth section asked about what type of information they shared in everyday situation. In the third and fourth sections, participants were asked to report the degree of their intention to share or not to share information corresponding with the reasons mentioned in each item. Responses were provided on a four-point Likert scale (from "1: corresponds" to "4: does not correspond").

3. RESULTS AND DISCUSSION

A large number of participants responded that they viewed news or information related to the earthquake on social media, for example, information related to seismic intensity, the epicenter, and damage caused by the earthquake. More than 80% of participants responded that they viewed each type of information. A relatively small number of participants responded that they viewed information pertaining to "post requesting rescue by victims themselves" (38.7%) and "posts confirming someone's safety" (49.1%). For other types of information, approximately 50% to 70% of participants reported that they viewed each types of information. It is feasible that many users were interested in the earthquake and viewed information pertaining to it. For 16 types of information, the percentages of those sharing information (e.g., by retweeting or liking) for those viewing them were calculated. The average of percentages of sharing information is 18.0%. A relatively small number of participants reported sharing each type of information. The percentage is 24.4% for "post requesting rescue by victims themselves." The second highest is 24.1% for "post requesting assistance by victims themselves." The ratio of sharing "information relating the earthquake itself (seismic intensity, epicenter, etc)" is 23.3%. It seems that information with the potential to help victims was widely shared. Regarding the reasons to share information, a relatively large number of participants responded that their intentions to share information corresponded with the statement that "I thought the information would be useful to others."

For questions related to everyday sharing behavior, more than half the participants reported often sharing or sharing information such as "information that interests you," "information with content you can sympathize with," "information that makes an impression," and "information you felt was interesting." On the other hand, more than half the participants reported that they do not or never share "information others may find beneficial." However, the questionnaire results indicate that participants tended to share information useful to others in emergency situations. This suggests that information sharing behavior in an emergency situation differs from that in everyday situations. It is necessary to investigate this behavior in detail.

4. CONCLUSION

A survey was conducted to reveal social media users' behavior and intention to share information related to a natural disaster in an emergency situation. The results indicate that users shared information they thought would be useful to victims. On the other hand, they reported that they usually do not or never share information considered useful to others. These results suggest that users' behavior in emergency situations differs from that in everyday situations. It is necessary to investigate this behavior in detail.

Table 1. The number of participants who responded they viewed or shared news or information related to the earthquake

	Viewed	Shared	Percentages*
(1) Information relating to the earthquake itself (seismic intensity, epicenter, etc.)	90	21	23.3
(2) Information relating to earthquake damage	90	18	20.0
(3) Posts requesting rescue by victims themselves	41	10	24.4
(4) Posts requesting assistance by victims themselves	58	14	24.1
(5) Posts requesting rescue by people other than victims	66	13	19.7
(6) Posts requesting assistance by people other than victims	73	15	20.5
(7) Post confirming someone's safety	52	8	15.4
(8) Posts reporting about someone's safety	54	11	20.4
(9) News relating to earthquake damage	89	17	19.1
(10) News relating to the earthquakes	91	17	18.7
(11) Assistance information directed at victims	78	11	14.1
(12) Requests for volunteers	54	8	14.8
(13) Posts relating to the volunteer situation	59	8	13.6
(14) Posts sharing personal experiences and impressions relating to the earthquake by victims themselves	58	9	15.5
(15) Rumors relating to damage from the earthquake	68	8	11.8
(16) Posts sharing impressions about the earthquake by people other than victims	67	8	11.9

* the percentages of those sharing information (e.g., by retweeting or liking) for those viewing them

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