

Trust Towards Social Media in Emergencies: A Perspective of Professional Emergency Personnel in Europe

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Abstract. Research shows that people increasingly rely on social media in emergencies and disaster situations. This is not surprising, considering how social media and mobile social computing have become an integral part of daily life for many people. As a consequence, authorities responding to emergencies are often expected to make use of social media as well, e.g. to monitor information related to specific incidents on social networks such as Twitter, or respond to requests made on such platforms. To gain a better understanding of this subject, we investigated the perspective of professional emergency personnel. Specifically, we asked members of various PSOs (Public Safety Organizations) from eight different countries in Europe ($n = 1.223$) about their view on using social media in the context of emergencies. The present study was conducted as part of the SOTERIA project (Online and Mobile Communications for Emergencies), a multinational project funded by the European Commission. Our data shows that members of PSOs themselves would trust information provided on social media significantly less than they expect the public to trust information on social media during emergencies. With the exception of Poland, this difference occurred across countries and might indicate an inclination of PSOs to consider social media as a tool to broadcast information rather than to collect information. As a practical consequence, a possible bidirectional exchange of information between the public and PSOs might be hampered by this attitude and valuable information not taken into consideration.

Keywords: Crisis communication · Europe · Disaster · Emergency · Social media · Trust

1 Introduction

Social media and mobile online communication have long become an integral part of our lives. In many countries, a permanent availability of mobile internet enables more and more people to stay connected around the clock.

Understandably, social media have also become a topic in emergency management, as people increasingly rely on social media in the context of emergencies, e.g. to gather

information, to request help from officials, to exchange information with others, and to coordinate people and resources (Lindsay, 2010). Social media are also used for mutual social support by affected citizen (Neubaum, Rösner, Rosenthal-von der Pütten, & Krämer, 2014).

Whereas civilians are using social media willingly as a(n) (additional) tool for handling emergency situations, Public Safety Organizations (PSOs) are often “reluctant to use these media, or even have regulations prohibiting their use, because they do not feel that they are secure and trustworthy” (Hiltz, Gonzalez, & Van de Walle, 2012, p.1). One of the main reasons for this reluctance lies in the inherent participative nature of these media, as everyone can possibly post anything. This opportunity for participation also enables the propagation of false information (e.g. Mendoza, Poblete, & Castillo, 2010; Rains, Brunner, Oman 2015).

However, despite the risk of false information, one problem arising from the discrepancy of social media use by citizens and PSOs is the possibility that crucial information might be missed or ignored. Therefore, it is important to investigate the hesitation PSOs display towards the incorporation of social media into their official emergency response.

2 Research Question

We hypothesized, that this reluctance may in part be caused by a lack of trust towards these media as a source of information by emergency personnel.

There is a difference between *using information* and *disseminating information* through social media. Members of PSOs should be less trusting towards information provided by the general public for two reasons. First, they face more responsibility and should, therefore, handle information more scrutinizing. Second, receiving information is associated with a lack of control, as almost everyone could post everything via social media such as Facebook or Twitter (Rains, Brunner, and Oman, 2015). Furthermore, the amount of information generated through social media use during emergencies is often overwhelming (Hiltz & Plotnick, 2013), making it difficult for emergency personnel to act on any information without being able to obtain a thorough overview over all the information.

On the other hand, PSOs should assume civilians to be more trusting towards emergency relevant information provided on social media as they do not have this professional responsibility and can engage in more informal emergency communication in a peer-to-peer fashion (see e.g. Sutton, Palen, & Shklovski, 2008). Therefore, one might assume PSOs attribute a more trusting stance to the public.

Hypotheses. PSOs show less trust towards social media in emergency situations than they expect the public to show towards these channels as an information source.

3 Methods

3.1 Participants

Age and Nationality. Active PSO personnel from eight different European countries (Finland, France, Germany, Republic of Ireland, Norway, Poland, Portugal, U.K.) were recruited for this study ($n = 1223$). The sample was predominantly male (84.5 %) with a mean age of $M = 37$ years ($SD = 11.2$ years).

Organizational Membership. Participants were members of different PSOs, including firefighters (39.2 %), the Red Cross (30.1 %), emergency medical services/paramedics (22.5 %), civil defence organizations (9.7 %), and police (6.7 %). Multiple answers were possible.

Paid or Voluntarily Members. Respondents were either paid members of a PSO (40.6 %) or members on a voluntary base (49.0 %) or both (9.1 %), 1.4 % of answers were missing.

3.2 Materials and Procedures

Procedure. The items analyzed for this study were part of a larger questionnaire distributed as part of SOTERIA, a project by the European Commission. The questionnaire was initially developed based on a literature review by the German SOTERIA partners from the University of Greifswald (in German language), and pre-tested with a cognitive debriefing task with seven German participants.

In a next step, the questionnaire was translated into English, Finnish, French, Polish, Norwegian and Portuguese by the respective SOTERIA partners. Finally, the questionnaire was distributed as online survey within all of the eight partner countries. Each country disseminated the survey to members of several PSOs.

The whole SOTERIA questionnaire consisted of about 50 questions covering a broad range of topics related to the use of social media in the context of emergencies. For this study, specific items concerning trust were analyzed, tapping on the attitude of PSO personnel towards the trustworthiness of social media channels in emergencies and their view of how they think the general public would trust social media in such cases.

Trust Ratings. Trust towards specific online media can be conceptualized and measured distinctively (Beldad, de Jong, & Steehouder, 2010; Schultz, Utz, & Göritz, 2011; Wang & Emurian, 2005). For this research, we investigated trust towards social media in emergency situations.

In order to get a measure of trust towards social media, participants were asked about three different social media channels, namely Facebook, Twitter, and YouTube. Our aim was to include a heterogeneous group of social media with a social networking site, a microblog and a video sharing platform (Kaplan & Haenlein, 2010).

Trust Towards Social Media (Trust Self). In order to obtain a reliable measure of trust towards social media, respondents were asked to answer the following question for each of the three channels mentioned above: “If the general public were to use the following channels to provide information during an event, how much would you trust this information?” Answers ranged between 1 (“not at all”) and 5 (“very much”). Therefore, respondents rated their trust towards information provided by the public via social media for the three different channels.

The three items were tested for unidimensionality/internal consistency (Cronbach’s $\alpha = .775$) and subsequently aggregated to obtain a single sum score for “trust towards social media” ($M = 6.65$, $SD = 2.66$).

Assumed Trust Towards Social Media (Assumed Trust Public). The second measure “assumed trust towards social media” was calculated in a similar fashion, using participants answers to the question “In your opinion, how much does the general public trust information from the following channels during an event?” on a 5-point Likert Scale for three items (Facebook, Twitter, YouTube).

A subsequent test for internal consistency revealed a sufficient high Cronbach’s α ($\alpha = .811$) to assume unidimensionality and compute a single sum score ($M = 8.68$, $SD = 2.91$).

4 Results

A repeated measures t-test was conducted. Results show that on average respondents trust social media in emergency situations ($M = 6.68$, $SD = 2.66$) significantly less than they expect the general public to trust them ($M = 8.68$, $SD = 2.91$), $t(1222) = -23.96$, $p < .001$. Calculating the effect size, a medium effect of Cohen’s $d = 0.68$ (Cohen, 1988) was found.

5 Discussion

Our data confirms the hypothesis of a “trust-gap” between the extent to which PSOs trust social media and the extent to which PSOs assume the public to trust social media. Above and beyond, this gap seem to be substantial, as the medium effect size indicates.

Although the sample consisted of PSOs from eight different European countries, Germany (37.7 %), France (21.1 %), and Norway (20.6 %) predominated. Therefore, one has to be cautious with generalizations.

Separate analyses for each country revealed significant effects for every country, with the exception of Poland, $t(16) = -.52$, $p = .61$. However, the Polish sample consisted of only $n = 17$ (1.4 % of total the sample) and the non-significant t-test might be due to this small sample size. A descriptive difference in the Polish sample of 0.35 between *trust towards social media* ($M = 6.94$, $SD = 2.86$) and *assumed trust of social media* ($M = 7.29$, $SD = 2.54$) indicates a trend in conformity with our hypothesis.

More research is needed to illuminate the actual trust of the general public towards social media in emergency situations. Our research only takes into account the PSOs

perspective. To get the full picture, the citizen perspective has to be analyzed as well. For instance, it is important to investigate how much citizens assume PSOs to trust social media.

6 Conclusion

Our findings indicate that members of PSOs encounter citizen-generated information on social media in emergency situations rather cautious. On the other hand, they assume civilians to trust these media more.

According to our data, using social media as a mean for distributing information to the public in a top-down fashion should be more acceptable for PSO members. Assuming that people really trust social media to a fair extent even in emergencies, organizations should use social media deliberately as an additional broadcasting tool.

The question is how social media could be incorporated into the official emergency response not only as a tool for information distribution, but also as a “backchannel” (R. S. Hiltz et al., 2012; Sutton et al., 2008) for PSOs to communicate with the public. Clear guidelines and rules are needed to utilize these communication tools as a source of information for PSOs.

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