



Exploring factors influencing Chinese user's perceived credibility of health and safety information on Weibo



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ABSTRACT

The spread of non-credible health and safety information on microblog sites may lead to serious consequences when people use such sites as the basis for critical decisions. This study investigated the factors influencing Chinese microblog users' perception of the credibility of health and safety information. Credibility cues related to the source (source credentials), the message (claim extremity and claim type), and the distribution in personal networks (type of comments, source of comments, and the number of reposts of a message) were examined. Three experiments were conducted on a mocked up Weibo system with 80 participants. The results show that objective claims with low extremity increased perceived information credibility when the participants were highly involved with the issue and had enough prior knowledge. When the participants had insufficient prior knowledge, the source credentials positively influenced the information's credibility. Negative comments from personal networks decreased perceived credibility significantly, and this effect was slightly more pronounced when the comments came from close friends. For credible information, a large number of reposts added to the credibility, whereas for less credible information, a large number of reposts may induce greater skepticism and decrease perceived credibility.

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1. Introduction

Over the last five years, microblog sites, such as Twitter, have become a major information source for their users all over the world. In China, microblog sites appear to act as an even more important information source. According to a report from the Chinese Academy of Sciences in 2012 (Yin, Wu, & Liu, 2012), 70% of microblog users in China considered microblog sites as their primary source of news. This percentage was considerably higher than what the Pew Center reported about US users in 2012, with only 9% of Americans getting their news from social networking sites, including Twitter (Pew Research Center's Journalism Project, 2012). A recent comparative study showed that Chinese microblog users consider microblogs as not only a more important and but also a more credible information source than US microblog users do (Yang, Counts, Morris, & Hoff, 2013). Among young students in China, microblog sites are considered the most credible information source (Shan, 2013). The real credibility of information circulated on microblog sites, however, is highly questionable. According to the 2013 report on the development of new media in China (Tang, Wu, Huang, & Liu, 2013), more than one-third of

the rumors spread online were generated from microblogs. This poor credibility of information on microblog sites can be attributed to the ease of spreading incorrect information and the lack of professional gatekeepers and other measures to ensure the quality of information (Castillo, Mendoza, & Poblete, 2011; Haas & Wearden, 2003; Metzger, 2007; Sundar, 2008).

Misleading information on microblog sites may lead to serious consequences when people use such information for making critical decisions, especially when the information is related to health and safety (Castillo et al., 2011; Mendoza, Poblete, & Castillo, 2010; Schwarz & Morris, 2011). It may lead to improper treatment of health problems and negative impact to personal wellbeing. In addition, due to the social amplification effect (Kasperson et al., 1988), erroneous information involving health and safety risks may produce a massive public reaction. A typical example was the salt panic in China in March 2011 after the Fukushima nuclear radiation crisis.¹ A rumor on Weibo, the most influential microblog site in China, saying that the iodine contained in salt would help shield people from radioactivity resulted in a nation-wide panic and spurred a rush on salt buying in many cities.² Furthermore, over

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¹ Related reports: <http://www.theguardian.com/world/2011/mar/17/chinese-panic-buy-salt-japan>; <http://edition.cnn.com/2011/WORLD/asiapcf/03/17/china.salt.scramble/index.html>.

² <http://weibo.com>.

time the negative consequences of the inaccurate information may undermine the public's trust in online health and safety information.

A challenge for assessing information credibility on microblog sites is that users have difficulty in judging who should be responsible for the credibility of a certain message and how credible the person or the source is (Schmierbach & Oeldorf-Hirsch, 2012; Jiang, Tong, & Tan, 2012; Jiang, Goonawardene, & Tan, 2014). A number of studies reported how users evaluate the credibility of the source with indirect credibility cues, such as the gender, the name style, and the use of avatar image (Morris, Counts, Roseway, Hoff, & Schwarz, 2012; Westerman, Spence, & Van Der Heide, 2012; Yang et al., 2013). However, none of these studies examined the impact of a direct credibility indicator provided by microblog sites—verification credentials for users whose authenticity and qualifications have been proved by the sites—on the perception of credibility of users. In addition, on microblog sites, all posts have a similar look and feel. Thus microblog users are more likely to look at what is written in the message instead of how professional the appearance and layout is for evaluating the credibility. So far there has been no research on how the composition of messages would influence the credibility perception of microblog users. Existing research on message compositions focuses on advertising information in print media. Moreover, being connected with peers, microblog users can rely on various social cues for judging credibility. Some recent studies have investigated social cues related to the source, such as the number of followers/follows of the source account (Metzger, Flanagin, & Medders, 2010; Westerman et al., 2012), but no research investigates the impact of social cues related to information distribution in microblog networks on credibility perception. Furthermore, the majority of the current literature on credibility, with a few exceptions, focuses on Western users with English content (AlMansour, Brankovic, & Iliopoulos, 2014). By its definition, credibility perception is subjective and influenced by one's cultural background. Significant differences exist between Western culture and China (Hofstede, Hofstede, & Minkov, 2010; Nisbett, Peng, Choi, & Norenzayan, 2001). Given that Chinese users are the largest user group of microblogging services, we believe that an investigation into microblog credibility issues for Chinese users is needed.

This study aims to deepen our understanding of how Chinese users judge the credibility of health and safety information on microblog sites by addressing the gaps discussed above. We examined cues related to information sources (source credentials), message composition (claim extremity, claim type), and information distribution in networks (being reposted by friends vs. celebrities, negative vs. positive comments, the number of posts). We proposed research questions by reviewing previous literature and analyzing the characteristics of microblog sites. Then we conducted three experiments in which participants viewed posts related to health and safety from a mocked up Weibo site and rated how credible the information was. Implications of the findings were discussed later.

2. Literature review and development of research questions

2.1. Source credentials

Source credentials refer to certificates proving the authenticity and qualifications of information sources. On microblog sites such credentials are often in the form of verification badges. For examples, on Weibo, individual users who have more than 100 followers, use their real name and photo for the Weibo profile, and are willing to provide their real personal information to the website's administrator (e.g., a scanned copy of an identity card) can apply for a verification credential. After the application being approved,

a verification badge will appear beside the username on the user's profile page and along with every post and comment of the user. The user can also describe his/her qualifications in the username or in the short bio on the user's profile page.

Source credentials have long been considered an important cue for the audience to judge information quality in traditional settings (Austin & Dong, 1994; Rieh & Belkin, 1998; Wathen & Burkell, 2002). In a survey of Twitter users, whether a user had an official Twitter account verification seal was ranked as one of the most important credibility feature (Morris et al., 2012). It should not be taken for granted, however, that source credentials would improve microblog information credibility simply because the users say so. In a study of online information credibility assessment involving both focus group discussions and behavior observations, Eysenbach and Köhler (2002) found that no participants looked at information about the source, despite their emphasis on the identity of the source in the focus group discussions. This raises a similar question for sources on microblog sites. Do the users really attend to source credentials on microblog sites and base their judgment of information credibility on that? Compared with traditional websites where the credential information is often displayed on a separate page (such as "about us") other than the content page, microblog sites make the credential more noticeable by displaying them besides authors' names nearly everywhere. Will this improved visibility enhance the effect of source credentials on perceived credibility? This was our first research question.

QR1: What is the effect of source credentials on the user's perceived credibility of health and safety information on Weibo?

2.2. Claim type and extremity

According to a survey of 2684 Internet users, Fogg et al. (2003) found that nearly 50% of comments on credibility from users were about the look and feel of the design. On microblog sites the difference in the appearance of messages is minimized and this website-level credibility cue is not available. We expected that microblog users would pay more attention to the composition of messages to figure out how credible the information is. Furthermore, people are more likely to be involved with such topics, because health and safety are pertinent to individuals' wellbeing. According to the elaboration likelihood model (Petty, Cacioppo, & Schumann, 1983), issue involvement influences the use of strategies for credibility assessment. When the involvement level is high, people pay more attention to message content and rely on the *central* processing route to judge its credibility. However, when the involvement level is low, they rely more on the *peripheral* cues, such as the layout, to assess credibility (Metzger, 2007; Rieh, 2002; Toncar & Munch, 2001). People are likely to perform more rigorous evaluations of health and safety information to avoid risk-related uncertainties. Thus they are more likely to look at what is written instead of how professional the user interface is.

Persuasion and marketing studies have found that whether the message presents objective or subjective claims is likely to influence the credibility judgment of the users. Whereas objective claims refer to factual descriptions of tangible features that can be verified, subjective claims refer to impressionistic descriptions of intangible aspects that are subject to individual interpretations (Cohen, 1972). Marketing research found that objective claims are generally more credible than subjective claims because the former are more precise and easily verified (Darley & Smith, 1993; Ford, Smith, & Swasy, 1990). This effect of claim type, however, is moderated by how extreme the claim is. The extremity of claims is defined as a deviation from the central tendency (Guido, 2001). Advertising research found that, whereas claim extremity may

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