



Research article

Corporate crisis management on social media: A morality violations perspective

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ABSTRACT

Communication via a social network function enabled by social media has greatly empowered consumers' secondary crisis communication, as compared to a firm's crisis communication, and has thus changed corporate crisis management. This study aims to uncover consumers' decision process of engaging in secondary crisis communication in a social media context. Drawing on the social control perspective and impression management theory, this study examines the role of perceived morality violations and consumers' susceptibility to social influence in shaping consumers' secondary crisis communication in corporate crises. Moreover, leveraging cognitive dissonance theory, this study further examines the effects of corporate responses on the process of consumers' secondary crisis communication. A survey design with four scenarios was conducted to test a series of hypotheses relating to the decision process of secondary crisis communication. Our empirical results demonstrate that consumers' approach to secondary crisis communication on social media depends largely to the degree to which they perceive moral violations in the firms' crisis response. The findings also show that consumers tend to want to believe they are doing the "right thing" when considering secondary crisis communication and thus are afraid of being disliked by others for their purchasing decisions related to a firm in crisis. Such social conformance can result in a snowballing of negative word of mouth in product-harm crises cases. Findings contribute to the literature on social media crisis management and consumers' communication behavior on social media during product-harm crises.

1. Introduction

Dealing with a product-harm crisis is never a straightforward process. Firms under these circumstances are often trapped in a cycle of highly negative consequences such as significant drops in share price, business suspension, and market share loss (Zheng et al., 2018). Recently, managing crisis communications has become even more challenging as a result of widespread use of social media (Chang et al., 2015; Ramadan, 2017). This is because social media has greatly empowered consumers' role in disseminating information, which facilitated crisis news to spread rapidly and broadly (Deborah et al., 2019; Lowry et al., 2016). For example, in 2014, the McDonald's expired-food scandal was discussed more than 82 million times on Sina Weibo, one of the most popular Chinese social media platforms (Rivas, 2014), greatly damaging sales and corporate image.

Given the intense and negative impact of consumers' dominant crisis communication on social media, crisis managers are grappling with the challenge of managing the situation more effectively. Traditional crisis communication research focused on firms' dominant crisis communication (Seeger, 2006; Benoit, 1997), in which consumers were considered as passive receivers, and thus their crisis information disseminating was defined as a form of *secondary crisis communication* (SCC) (Coombs and Holladay, 2014; Zheng et al., 2018). However, now social media technology has greatly facilitated information sharing among consumers, negative secondary crisis communication on social media propagated via thousands or even millions of consumers within hours, a phenomenon Pfeffer et al. (2014) referred to as "online firestorms."

Social media technology has empowered secondary crisis communication with new characteristics that differ from traditional mass media, such as TV and newspaper, because social media has a decentralized

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structure and social nature (Shi et al., 2014). First, social media enables individual consumers to engage in the broadcasting process that used to be dominated by firms (Westerman et al., 2014). By empowering decentralized crisis communication, social media makes consumers become influential senders so that they can actively engage in forwarding and posting crisis information and comments (Kietzmann et al., 2011). Second, social media allows individual consumers to have “followers” as their audience (Shi et al., 2014). A consumer's followers are those who subscribe to receive his or her posts (Wu et al., 2011). The result of having followers is that consumers consciously or subconsciously attempt to make a favorable impression and conform to the expectations of others by regulating the information they post (Grace et al., 2015; Koo, 2015).

Given the new characteristics empowered by social media technology, recently researchers have shown a keen interest in consumers' crisis communication on social media (Zheng et al., 2018; Cheng, 2020). Studies have well documented the impact of consumers' negative crisis communication (Utz et al., 2013; Schultz et al., 2011), but less is known about how and why consumers decide to engage in secondary crisis communication. To address this research gap, this study considers consumers as senders and explores their decision process of secondary crisis communication. By investigating the effect of social media technology characteristics on consumers' crisis communication process, we hope to shed light on crisis management on social media.

The key contribution of this study is to deepen extant research understanding of consumers' decision process of secondary crisis communication in a social media context. First, considering the broadcasting function of social media and drawing on the social control perspective, this study reveals that a key motivator of secondary crisis communication is perceived violation. Second, leveraging impression management theory, this study reveals the role of consumers' susceptibility to social influence in shaping secondary crisis communication. Last, using cognitive dissonance theory, this study reveals the effects of corporate responses on consumers' perceived violations, which has important practical implication for crisis management on social media.

2. Theoretical background and literature review

2.1. Corporate response on social media

A product-harm crisis is often unexpected and negative. Consumers are often unsatisfied and even angry with the firm in crisis. A product-harm crisis conflicts with consumers' expectations because consumers fundamental expect firms to have made good-quality products (Lin et al., 2011). People confronting with contradictory beliefs, ideas or values will experience a mental discomfort called *cognitive dissonance* (Festinger, 1962). Formally, *cognitive dissonance theory* was proposed to explain how the psychological discomfort arouses when someone faces contradictory beliefs, and the theory explains technique people use to reduce it (Waters, 2009).

For example, a person holding the belief “I like to smoke” would likely experience cognitive dissonance when he or she is told “smoking poses serious personal health risks.” Because cognitive dissonance is uncomfortable, and sometimes distressing, people are motivated to reduce it, where a common method of dissonance reduction is to add a new cognition, or counter explanation, to achieve a mental balance (Festinger, 1962). For example, in the smoking case, the smoker his cognitive dissonance by reminding himself that “some smokers also live a long life.” This new cognition, or counter explanation, helps reduce the dissonance the smoker experience, so he feels better about continuing to smoke.

Turning from the smoking example, according to cognitive dissonance theory, consumers would likely experience dissonance when they experience the cognition, “the firm should have provided quality products,” and it conflicts with the cognition, “instead, the firm produced harmful products.” This study proposes a positive corporate response would work as a new cognition which could potentially help consumers

return to cognition equilibrium when the crisis conflicts with their expectations of the firms. An effective corporate response has long been considered as a critical strategy to protect firms in crisis from consumers' negative communications (Coombs, 2012). Given huge investment in crisis management by firms, it is important to understand how corporate response affects secondary crisis communication. Drawing on cognitive dissonance theory, this study expects responding effectively to crises would help consumers reduce cognitive dissonance thus help reduce secondary crisis communication.

According to Siomkos and Malliaris (2011), consumers generally consider corporate crisis response as the firm's sense of responsibility and commitment to address the crisis. Previous studies have identified several corporate crisis response strategies. For example, Coombs (1998) defined seven crisis responses: attack the accuser, denial, excuse, justification, ingratiation, corrective action, and full apology. Coombs and Holladay (2009) tested two responses—sympathy and compassion—in their experiments. Our study adopted Siomkos (1994)'s “corporate response continuum” consisting of four corporate responses ranging from negative to positive: “denial,” “involuntary product recall,” “voluntary product recall,” and “super effort,” which reflects increasing levels of responsibility for handling a crisis. We adopt the “corporate response continuum,” rather than trying to predict which response is the best one, because our aim is to better understand how consumers' perceived violations will be affected as responsibility in corporate response increases gradually—anywhere from “denial” to “super effort.” Previous research suggested that the greater the crisis responsibility generated by the response, the more positive the consumer evaluation will be (Coombs and Schmidt, 2000). Therefore, we considered the position of corporate response in the “corporate response continuum” as a reflection of responsibility, which helps to investigate the role of corporate response in reducing consumers' cognitive dissonance during crises. By extending corporate response into a social media context, our study provides insights for future crisis management on social media.

2.2. Secondary crisis communication on social media

Consumers' secondary crisis communication (SCC) includes sharing and forwarding crisis messages, and leaving negative comments on their social media homepage (Utz et al., 2013; Siomkos and Malliaris, 2011). SCC is somewhat similar to the concept of “word of mouth” (WOM) in consumer behavior literature. Generally, WOM communication includes any information about a target object (e.g., company, brand) transferred from one individual to another, either in person or via some communication medium (Brown et al., 2005). Therefore, SCC may be conceptualized as a form of negative WOM that occurs in a crisis context. However, SCC and WOM are not identical, interchangeable concepts. Because product-harm crises are often unexpected and have a broad negative impact on different stakeholders, SCC is much more intense—it can spread in a shorter time and generate more negative attention than randomly and discretely negative WOM (Noguti et al., 2016). Although social media allows consumers to express opinions both on their own homepage and corporate account homepage, considering the impact of broadcasting effect (Shi et al., 2014), our study specifically defines SCC as consumers' negative opinion broadcasting on their own homepage that could be received by their followers.

With the popularity of social media, consumers have become increasingly willing and empowered to voice their opinions online (Huang et al., 2014). Crisis managers cannot afford to ignore the fact that social media has profoundly strengthened consumers' voices in a way SCC consequently magnifies the negative effects of product-harm crises (Lyon and Montgomery, 2013). Moreover, SCC results in written records on the home pages of consumers, which have a formality and permanence that face-to-face oral communication lacks (Berger and Iyengar, 2013). Such negative social media communication may create lasting negative outcomes for firms.

In view of the potentially destructive influence of SCC, it is of great importance to emphasize such consumer-centered communication over company-centered crisis communication (Ki and Nekmat, 2014). As Table 1 shows, researchers have demonstrated a keen interest in consumer crisis communication on social media. For example, Kaye (2005) identified six primary motivators of social media use: information seeking and media checking, convenience, personal fulfillment, political surveillance, social surveillance, and expression and affiliation. Taking a narrower focus, Liu et al. (2013a) demonstrated that consumers use social media during crises because it provides unfiltered, timely, and in-depth communication.

However, most studies have not gone further than explaining the functions of social media and consumers' motivation to use social media during crises. Therefore, a fuller understanding of SCC will help to explain how social media has empowered consumers' voices during product-harm crises.

2.3. The presence of followers and social impression management

Psychology research has shown that a presence of an audience will motivate people to become self-aware and consider whether their behavior was appropriate or not (Duval et al., 1979; Gonzales and Hancock, 2011). By behaving appropriately, people manage to control the impressions others form of them, which is defined as *impression management* (Leary and Kowalski, 1990). Goffman (1959), the founder of *impression management theory*, argued that individuals tailor their behavior for certain audiences within specific contexts. In a social media context in which users' posts will be broadcasted to all of their followers, impression management has become a major motive for active

participation (Ku et al., 2013). Empirical evidence has supported social media users engage in various impression management strategies and behaviors in an effort to convince others to view them in a positive light (Kristof-Brown et al., 2002). By contrast to offline crisis communication, the sense of intimacy in the social media context is not one-to-one (i.e., narrowcasting) but one-to-many (i.e., broadcasting) (Moore, 2012). Such online self-presentation to a certain number of audiences makes people consciously or subconsciously try to make a favorable impression on others (Grace et al., 2015). Existing researcher have suggested that social media provides an ideal setting for impression management in which users have more control over their impression management than in face-to-face communication (Krämer and Winter, 2008; Pang, 2018). For example, users can decide which aspects of their lives and personalities they want to present and which photos convey the best images of them (Ellison et al., 2006). Therefore, to foster effective impression management, social media users regulate the information they post by selective broadcasting and conforming to the expectations of their audiences.

On this foundation, we propose that the context of broadcasting and the presence of audience strongly introduce impression management into consumers' decision making of information sharing on social media. Existing research suggested that consumers' susceptibility to social influence reflects their conforming to others' expectation (Kuan et al., 2014). Therefore, our study considers the role of susceptibility to social influence in shaping consumers' opinion expressing on social media. Previous studies suggested that susceptibility to social influence reflects consumers' psychological needs to be right (i.e., susceptibility to informational social influence) and to be liked (i.e., susceptibility to normative social influence) (Bearden et al., 1989; Kuan et al., 2014). Susceptibility to *normative social influence* stems from the fact that

Table 1. Prior research about secondary crisis communication.

Studies	Key finding(s)	Method	Theory	Antecedent	Outcome
Dinardo (2002)	The Internet has the potential to aggravate efforts in communicating crisis management plans.	Case study	—	—	—
Chevalier and Mayzlin (2006)	The impact of negative online reviews is greater than positive reviews.	Analytical	—	—	—
Sweetser and Metzgar (2007)	Blogs impact the perception of the level of crisis, and relationships created through blogs impact the perception of crisis.	Experiment	—	—	—
Alfonso and Suzanne (2008)	Internet-based technologies accelerate crisis communication and can also provide solutions to resolving them.	Conceptual	—	—	—
Schultz et al. (2011)	The medium matters more than the message: crisis communication on Twitter led to fewer negative crisis reactions than blogs and newspaper articles.	Empirical	—	Apology and sympathy, medium	—
Bambauer-Sachse and Mangold (2011)	Negative online product reviews have a detrimental effect on consumer-based brand equity.	Empirical	A	—	Brand equity
Liu et al. (2011)	Crisis communication form and source affect how successful organizational crisis response strategies will be.	Experiment	B	Crisis communication form and source	—
Utz et al. (2013)	Participants in the newspaper condition were more willing to share the message than participants in the Facebook condition because people consider traditional media to be more credible.	Empirical and experiment	—	Medium, crisis type	—
Coombs and Holladay (2014)	Monitoring reactions of stakeholders reveals how individuals act as crisis communicators on social media and how messages serve as barometers of the effectiveness of an organization's crisis response.	Case study	C and B	—	—

Note: A = attribution theory; B = situational crisis communication theory; C = Contingency theory.

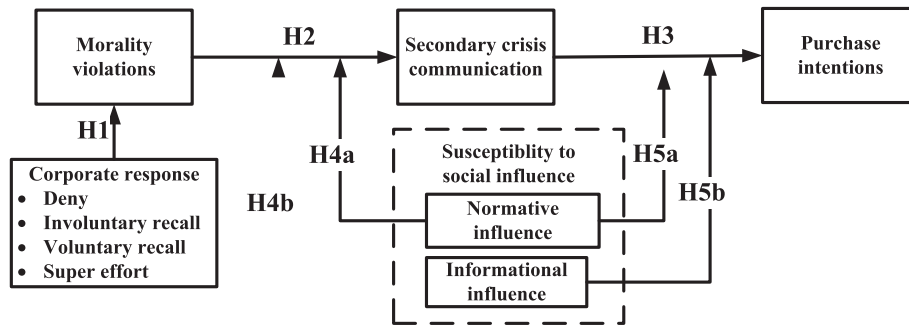


Figure 1. Conceptual model with hypotheses.

humans are social creatures who need companionship and association (Lord et al., 2001). Normative social influence leads people to conform to the expectations of others to receive a reward or avoid a punishment (Sridhar and Srinivasan, 2012). Conversely, susceptibility to *informational social influence* is the tendency to accept information from others to avoid appearing wrong (Lee et al., 2011). Suggested by Henningsen and Henningsen (2003), some consumers are consistently amenable to social influence, whereas others are not. Therefore, it is necessary to incorporate consumers' individual characteristics into consideration by examining the effect of consumers' susceptibility to social influence.

2.4. Overview of conceptual model

Figure 1 summarizes the theoretical perspective and presents the conceptual model. This study proposes that consumers' secondary crisis communication is motivated by morality violations that increase as corporate response is at the lower end of the corporate response continuum. Moreover, consumers' susceptibility to social influence strengthens the effects of morality violations on secondary crisis communication.

3. Hypothesis development

3.1. Corporate response and morality violations

When a product-harm crisis occurs, if the information related to the crisis conflicts with consumers' expectations about the firm, then cognitive dissonance will be generated. After the crisis, the firm needs to convey its response to consumers to alleviate their concerns (Coombs, 2006). As noted, a common dissonance-reduction strategy is the introduction of new cognitions (Verhagen et al., 2013). This study proposes that corporate response represents the introduction of a new cognition. Typically, firms undergoing a product-harm crisis are assumed to be morally responsible for the injuries they have inflicted, and consumers expect them to do so (Siomkos and Shrivastava, 1993; Siu et al., 2013). A corporate response at the higher end of the corporate response continuum is regarded by customers as the firm's way of taking responsibility for the crisis (Vassilikopoulou et al., 2009). If a company responds to a crisis with a high level of responsibility, the response will meet customer expectations (Knox and Van Oest, 2014) and hence be consistent with customers' prior cognitions, thus reducing their cognitive dissonance. The greater the crisis responsibility generated by the response, the more positive the reaction of the customers will be (Coombs and Schmidt, 2000; Bradford and Garrett, 1995). Schultz et al. (2011) also indicated that responses with higher responsibility result in fewer negative customer comments online. Accordingly, we propose that when the firm in crisis responds with an elevated level of responsibility, consumers will have less intentions to engage in secondary crisis communication.

However, if the firm in crisis responds with a low level of responsibility, such a response is likely to lead consumers to feel having been treated poorly and thus increases perceived morality violations (Pavlou and Gefen, 2005). Thus, we propose that:

H1. A corporate response at the higher end of the corporate response continuum leads to a lower degree of perceived morality violations among consumers.

Sociological research suggested that negative opinions disseminating is a kind of social control that helps to establish social norms and to punish those who violate them (Brauer and Chekroun, 2005). For example, spreading information in a group that a particular individual is unreliable significantly counteracts free riding during cooperation (Enquist and Leimar, 1993). According to the sociologist Davis (1949), "It is through them [social controls] that human society regulates the behavior of its members in such ways that they perform activities fulfilling societal needs" (p. 52). Based on that, this study takes a social control perspective to investigate the motivator of SCC. Social psychological research indicated that to what extent do consumers exert social control depends on whether they perceive morality violation (Brauer and Chekroun, 2005). According to Brauer and Chekroun (2005), morality violations motivate consumers to exert social control over the situation.

Accordingly, we expect that consumers perceiving morality violations are more likely to engage in SCC. When consumers perceive morality violations from the firm in crisis, they are motivated to broadcast negative messages and comments about the firm as an informal social control (Chekroun and Brauer, 2002). Previous research also provides evidence for the positive relationship between morality violations and SCC. For example, Wetzer et al. (2007) suggested that one of the motivations of consumers' negative opinion spreading was to get revenge through warning others in response to a feeling of have been violated. Hennig et al. (2004) suggested that consumers are more likely to forward or react to crisis messages when they are indignant about a company's crisis response. Therefore, we propose:

H2. Morality violations are positively related to secondary crisis communication.

3.2. Secondary crisis communication and purchase intention

Through SCC, consumers convey their negative perceptions of the firm in crisis to other consumers. Meanwhile, after disclosing feelings and opinions publicly, consumers feel socially committed to adhere to their own positions (Szymanski and Henard, 2001; Carrington et al., 2015). This occurs because consumers seek consistency and a stable balance between their words and behaviors (Tsai et al., 2014). Therefore, we propose that SCC is likely to reduce consumers' purchase intentions.

H3. Secondary crisis communication is negatively related to purchase intentions.

3.3. The moderating effect of susceptibility to social influence

According to social influence theory, consumers' relationships and ties with others within a network is important with respect to decision making (Algesheimer et al., 2005). Therefore, engaging in secondary crisis communication is not only something consumers do for themselves but also for their followers (Cheung and Lee, 2012; Chang and Chuang, 2011). From a sender perspective, broadcasting information and opinions to a certain number of followers is a form of online self-presentation. Criticizing and posting negative comments concerning the firm in a product-harm crisis is generally considered a form of defending consumers' rights (Laufer and Coombs, 2006). Doing so makes consumers who want to be considered as morally just and upright feel encouraged to engage in secondary crisis communication. Moreover, by spreading SCC as informal social control, consumers can warn others and express their concerns which can help decrease interpersonal distance and hence strengthen social bonds (D'rozario and Choudhury, 2000). Research has also suggested that engaging in secondary crisis communication helps consumers manage their self-image and others' impressions of them (Wetzer et al., 2007; Szymanski and Henard, 2001). Therefore, consumers who have a strong need to be liked by others will more likely engage in secondary crisis communication. Accordingly, we propose:

H4. *An increase in consumers' susceptibility to normative social influence (a) and informational social influence (b) will increase the likelihood they will engage in secondary crisis communication when they perceive morality violations.*

Compared to face-to-face oral communication, SCC generates a written record on social media, which is formal and permanent (Berger and Iyengar, 2013). Consumers' engagement in SCC makes their negative perceptions of the firm in crisis evident to their followers on social media, who then expect the consumers to maintain consistency with their words and behaviors (Coombs and Holladay, 2014). Consequently, buying products from a firm in crisis would violate others' expectations. In this way, the purchase intentions of consumers with a strong need to be right and liked will be constrained (Kiecker and Cowles, 2002). Accordingly, we propose that under an elevated level of normative social influence, the relationship between SCC and purchase intentions will be negative. Similarly, consumers with a strong need to be right will also refrain from purchasing after engaging in SCC on social media. We thus propose:

H5. *An increase in consumers' susceptibility to normative social influence (a) and informational social influence (b) will decrease the likelihood they will purchase after they engage in secondary crisis communication.*

Table 2. Sample demographic (n = 169).

	N	Percentage
<i>Gender</i>		
Male	100	59%
Female	69	41%
<i>Age</i>		
<20	5	3%
20–30	158	94%
>30	6	4%
<i>Education</i>		
Junior school	2	1%
High school degree	11	7%
Bachelor's degree	84	50%
Graduate and above	72	41%
<i>Income (RMB Yuan/month)</i>		
<1000	12	7%
1000–2999	89	53%
3000–4999	44	26%
>5000	22	13%

4. Research method

4.1. Design and materials

To manipulate the independent variable-corporate response continuum and assess its impact on dependent variables, experimental research is appropriate for this study to achieve high internal validity. Moreover, experiments can help control other variables that may affect the dependent variables so that it is possible to infer causality (Shadish and Cook, 2009; Lowry et al., 2014). Therefore, to test the research hypotheses, we conducted a survey experiment on an online survey platform. Four versions of the online questionnaire and experiment, corresponding to four different corporate responses, were created. Participants were randomly directed to one of the four online experiment web pages. They were guided to first read a series of scenarios and then completed the survey. Each questionnaire started with a scenario involving a product-harm crisis. In a corporate crisis context, existing research has suggested that firms' characteristics such as corporate reputation was significantly related to consumers' perception of the crisis and the firm in crisis (Kiambi and Shafer, 2016; Zheng et al., 2018). To minimize endogeneity and subject bias, the firm in crisis was given a fictitious codename, "H" (Siomkos, 1999). The hypothetical crisis was that firm H recently received many complaints that consumers felt physical discomfort after drinking a fruit juice produced by firm H. At the same time, national quality control investigators discovered that the fruit juice had a blend of synthetic ingredients, some of which presented health risks. Participants were informed that the juice producer responded to the crisis through their official social media account. Four responses on the corporate response continuum, ranging from denial to super effort, were presented. Appendix A presents crisis response scenarios design.

The survey experiment was conducted in China using Sina Weibo because it is the most popular social media platform in China (Chozan, 2018; Bei, 2013), and Weibo is a typical example of a social broadcasting site in which a broadcasting service and a social network organically constitute the technological infrastructure. The message about the survey experiment was posted on popular social media platforms and online bulletin board systems. To encourage respondents to participate, every respondent was paid a reward to reinforce a high response rate. All procedures performed in the study involving human participants were approved by the Research Ethics Committee of the University of Science and Technology of China, and written informed consent was obtained from all participants.

4.2. Participants

In total, 212 consumers participated in the study. An equal number of respondents (53) was assigned to each treatment. According to Van Voorhis and Morgan (2001), having at least seven participants per scenario ensures robustness of results. Moreover, to be classified as "consumers" and "social media users" in this study, a participant must have purchased comparable products and have been using a social media platform at the same time. The study received 169 useful questionnaires and all respondents reported that they had purchased a product similar to the one mentioned in the scenarios within the previous three months and they had concerns about the product's quality. This finding supported the product used in our scenarios is appropriate. In the end, 27 incomplete questionnaires and 16 questionnaires from participants without social media accounts were discarded. As Table 2 shows, approximately 59% of the participants were men. Almost half (50%) were university/college graduates, and 41% had earned a graduate degree. Approximately 94% of the participants are from 20 to 30 years old. According to Emarketer (2016), most Weibo users are young, about eight in 10 are aged 17 to 33. Therefore, the age range of our sample is appropriate, and highly representative of young Chinese consumers and social media users.

4.3. Measures

Because most constructs used in this study (e.g., purchase intentions and social influence) are well established, and all the scales were proved to have high level of reliability and validity by previous studies, our study used or adapted previously validated measures as appropriate. In this study, the corporate response was portrayed in four different scenarios. For each scenario, four different corporate responses on the corporate response continuum were quantified and standardized using SPSS 16.0. Morality violations was measured based on the scales adopted from Lindenmeier et al. (2012). Secondary crisis communication was measured based on the scales adopted from Schultz et al. (2011). Purchase intentions was measured by three items adopted from Kim et al. (2011). Susceptibility to social influence was measured by nine items adopted from Bearden et al. (1989)—six items for normative social influence and three items for informational social influence. As the appendix shows, the entire questionnaire was based on the social media context. All questionnaire items used a five-point Likert-type scale ranging from “strongly disagree” to “strongly agree.” Appendix B lists the measurement items and their sources.

4.4. Control variables

The robustness of our theoretical model is tested by controlling for major demographic covariates (gender, age, education, and income), and the important contextual factor of perceived risk (Lin and Fang, 2006). Previous research suggested that perceived risk is an important determinant of purchase intention (Park et al., 2005; Hsin Chang and Wen Chen, 2008), especially in a crisis context. At the same time, according to Lin and Fang (2006), perceived risk is significantly positive related to word-of-mouth spreading behavior. Thus, participants' perceived risk of the product used in our scenario was measured as a control variable. Perceived risk was measured on a five-point scale (1 = “strongly disagree” and 5 = “strongly agree”) with three items from Stone and Grønhaug (1993): “Overall, the product will not meet my expectations within three month,” “I think I would be making a mistake if I brought the product within the next three months,” “I really feel that the purchase of the product within the next three months poses problems for me that I just don't need” ($M = 3.58$, $SD = 0.84$, $\alpha = 0.78$).

5. Analysis and results

5.1. Manipulation checks

To check whether the crisis response manipulation worked, after reading the responses, participants were asked to note the corporate response type by responding to the prompt, “I think the firm denied/voluntarily recalled/involuntarily recalled/made a super effort in response to the product-harm crisis.” Fortunately, all participants accurately recognized the response type manipulated in each scenario; thus, the manipulations were received as intended. Furthermore, before the participants responded to the items related to secondary crisis communication, the prompt “I am an active user of at least one social media website” was given to ensure the validity of the survey. To further ensure the robustness of the results, we performed all the analyses after dropping all the participants who did not use or have a social media account

mentioned in the experiment. As a result, 16 participants who answered no to that question were deleted. Furthermore, we tested whether these differences were statistically significant and found that they were insignificant. We thus conclude that the nonuse of social media did not alter our results. A pretest ($n = 57$) was conducted to provide robustness check on the design of the experiment. The pretest showed that all the manipulations in the scenarios were valid. The participants in the pretest were undergraduates at a Chinese university, and they did not participate in the actual study. The items included in the survey were based on the results of the pretest.

5.2. Measurement validation

To validate the research model, the study first evaluated construct reliability and the validity of the measurement scales. The study assessed the reliability of each construct using Cronbach's alpha and composite reliability, as suggested by Liu et al. (2013b). As Table 3 shows, the Cronbach's alpha values ranged from 0.72 to 0.95, all above the benchmark value of 0.70. The values of composite reliability ranged from 0.85 to 0.97, well above the benchmark value of 0.70. The individual item loadings and average variance extracted (AVE) scores were used to test the convergent validity. As shown in Table 3, the loadings varied from 0.68 to 0.96, at a significance level of 0.001. The AVE scores for constructs ranged from 0.55 to 0.90, all above the recommended benchmark of 0.500 (Fornell and Larcker, 1981). The results indicated that all measurement items had sufficiently high convergent validity.

Furthermore, Table 4 presents the correlation matrix and descriptive statistics for each of the variables in our study. As Table 4 shows, the square root of the AVE for each construct, presented on the diagonal, was greater than the correlations between the constructs. This result indicates that none of the constructs shared more variance with another construct than with its own measures, which is an indication of discriminant validity (Helm and Tolsdorf, 2013; Lee et al., 2017). Hence, this study concluded that the measurement model possessed adequate convergent validity, discriminant validity, and reliability.

5.3. Hypothesis testing

5.3.1. Main effect results

Following previous research (Lee et al., 2017; Min et al., 2017), a hierarchical regression analysis was adopted to test the hypotheses, as summarized in Table 5. Model 1 in Table 5 shows that morality violation had a significant and positive impacts on secondary crisis communication ($\beta = 0.242$, $t = 3.38$, $p < 0.001$). This finding supports H2. Also, as seen in Model 4 of Table 5, secondary crisis communication has a significantly negative effect on purchase intentions ($\beta = -0.345$, $t = -0.453$, $p < 0.001$). Hypothesis 3 is therefore validated.

One-way analysis of variance (ANOVA), using a single-factor, fixed-effects model to compare the effects of one treatment or factor, is recommended to compare differences between three or more groups (Schindler, 2011). Therefore, ANOVA was performed with morality violation as the dependent variable and corporate response as a factor. As Figure 2 shows, a corporate response at the higher end of the corporate response continuum leads to less secondary crisis communication online ($p < 0.001$).

Table 3. Results of confirmatory factor analysis.

Construct	Loading	Composite reliability	Cronbach's alpha	AVE
Morality violations	0.94–0.96	0.97	0.95	0.90
Secondary crisis communication	0.80–0.87	0.89	0.81	0.72
Purchase intentions	0.81–0.91	0.90	0.84	0.76
Normative social influence	0.68–0.82	0.88	0.84	0.55
Informational social influence	0.72–0.86	0.85	0.72	0.65

Table 4. Means, standard deviation, and correlations.

Latent construct	Mean	SD	1	2	3	4	5
1. Morality violations	3.17	1.15	0.95				
2. Secondary crisis communication	3.46	0.68	0.42	0.85			
3. Purchase intentions	2.53	0.80	-0.31	-0.53	0.87		
4. Normative social influence	3.24	0.70	0.08	-0.08	0.14	0.74	
5. Informational social influence	3.61	0.71	0.06	0.19	-0.05	0.48	0.87

Table 5. Results for hierarchical regression analysis.

Variables	DV = SCC			DV = PI		
	Model1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender	0.081	0.089	0.083	-0.047	-0.061	-0.043
Age	0.042	0.043	0.048	-0.111	-0.111	-0.106
Education	0.090	0.067	0.079	0.021	0.019	0.009
Income	0.128	0.125	0.124	0.065	0.078	0.073
Perceived risk	0.383***	0.370***	0.369***	-0.277***	-0.290***	-0.277***
Morality violation	0.242***	0.226***	0.247***			
Normative influence			-0.034			0.210***
Informational influence		0.087			0.075	
Secondary crisis communication				-0.345***	-0.320***	-0.334*
MV*NI			0.066			
MV*II		0.160*				
SCC*NI						-0.168**
SCC*II					-0.104	
R ²	0.327	0.352	0.354	0.325	0.341	0.386
Adjusted R ²	0.303	0.320	0.313	0.299	0.308	0.348
F change	11.418	3.042	0.215	20.557	2.020	9.881

Notes: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$; standardized regression coefficients are reported.



Figure 2. ANOVA results: Effect of corporate response on morality violations.

5.3.2. Moderation results

Moreover, as Model 2 in Table 5 shows, H4b, which states that susceptibility to informational social influence strengthens the positive relationship between morality violation and secondary crisis communication, is supported ($\beta = 0.160$, $t = 2.44$, $p < 0.05$). Figure 3 provides a plot of this moderating effect. As predicted, at high levels of susceptibility to informational social influence (mean +standard deviation), secondary crisis communication increases significantly as morality violation

increases. While at low levels of susceptibility to informational social influence (mean – standard deviation), secondary crisis communication increases marginally as morality violation increases.

Similarly, H5a is also supported: as seen in Model 6 of Table 5, the interaction between secondary crisis communication and normative social influence is negatively related to purchase intention ($\beta = -0.168$, $t = -2.61$, $p < 0.01$), providing support for the positive moderating effect of normative social influence on the negative relationship between

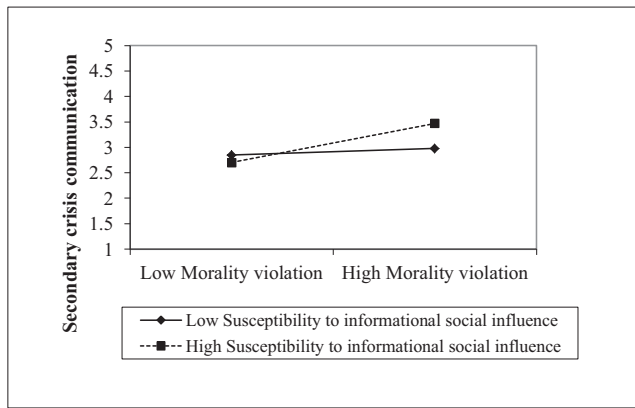


Figure 3. Moderating effect of susceptibility to informational influence on the relationship between morality violations and secondary crisis communication.

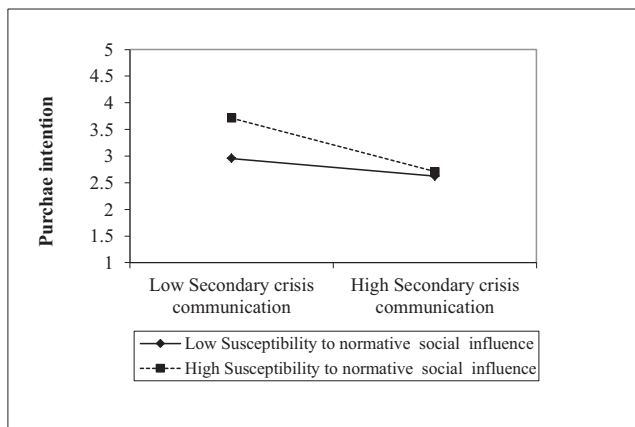


Figure 4. Moderating effect of normative social influence on the relationship between secondary crisis communication and purchase intentions.

secondary crisis communication and purchase intentions. Figure 4 depicts this moderating effect. As expected, at high levels of susceptibility to normative social influence, the relationship between secondary crisis communication and purchase intention is significant but not when at low levels susceptibility of normative social influence.

It should also be noted that H4a, which proposes that normative social influence strengthens the negative relationship between morality violation and secondary crisis communication, is not supported ($\beta = 0.066$). Moreover, the moderating effect of informational social influence on the relationship between secondary crisis communication and purchase intentions is not significant; thus, H5b is not supported ($\beta = -0.104$). The results also show that the control variables, namely education and gender, do not have a significant effect on consumer purchase intention.

5.3.3. Mediation results

As recommended by Mackinnon et al. (2004), this study used the bootstrap sampling method (bootstrap sample size = 5,000) to generate asymmetric confidence intervals (CIs) for the indirect relationship. Bootstrapping CIs generates a more accurate estimation of indirect relationships than do traditional methods such as the Sobel test, because it produces asymmetric CIs for the indirect relationship using the respective distribution of the two regression coefficients that make up the product term (Mackinnon et al., 2004). The bootstrapping test used in this study, based on the procedure developed by Mackinnon et al. (2004), indicated that the indirect relationships between corporate response after morality violations and secondary crisis communication were significant. For secondary crisis communication, the 99% CI of the indirect

relationship was [-.28, -.05.], not containing zero. This result suggests that morality violations play a mediating role between corporate response and secondary crisis communication. Similarly, for purchase intention, the 99% CI of the indirect relationship was [-.20, -.04.], not containing zero. The mediating effect of secondary crisis communication between morality violation and purchase intention is also supported.

6. Discussion

6.1. Findings and contributions

Because consumers' SCC is frequent and has an important impact on consumer behavior, crisis managers need to clearly grasp and effectively deal with consumers' SCC on social media. However, little is known about how and why consumers engage in such crisis communication. To address this issue, this study proposed a theoretical model and explored consumers' decision process of engaging in SCC using an empirical survey. The results of the empirical model test provide several important findings. First, drawing on social control perspective, this study considered consumers' SCC as a form of social control in a social broadcasting context and examined the role of morality violation in motivating SCC. The results show that morality violations motivate consumers' SCC in the social media context. This finding is consistent with social control studies that the more deviant the behavior is, the more likely that people in a social group would spread negative communications (Brauer and Chekroun, 2005). This finding proves that examining SCC from a social control perspective is appropriate. The social control perspective contributes to existing understanding of the motivator of consumers' SCC.

Second, this study examined the effect of corporate response on morality violation through the theoretical lens of cognitive dissonance theory. The results show the mediation effect of morality violation between corporate response and SCC. The mediating role of SCC between morality violation and purchase intention is also supported. These two findings enrich existing knowledge of consumers' SCC research by demonstrating the process of SCC.

Moreover, based on impression management studies, this study also examined the moderating effect of susceptibility to informational and normative influence on these relationships. We found that the two dimensions of susceptibility to social influence have different moderating effects. The results show that the positive effect of morality violations on SCC becomes stronger when susceptibility to informational social influence is higher. We also found that susceptibility to normative social influence strengthens the relationship between SCC and purchase intentions. However, the moderating effect of susceptibility to normative influence on the relationship between morality violations and SCC is not significant, nor is the moderating effect of susceptibility to informational influence on the relationship between SCC and purchase intentions. Existing research has already extended offline impression management into an online social media context (Krämer and Winter, 2008). Based on that foundation, our research further extended online impression management into a social media crisis communication context. Impression management research has long recognized that what is appropriate or not can highly vary, depending on the context. Thus, the receiver will have different expectations about the sender's behavior across contexts, such as romantic attraction, occupational success, making friends, or elder care. Our results revealed that in a crisis communication context on social media, the primary goal of consumers' impression management is to be considered as doing right the right thing for other consumers when engaging in SCC. The present study helps firms understand consumers' impression management in social media crisis communication context, suggesting that firms in crisis should try to respond with compassion and care, which is less likely to evoke consumers to angrily exercise "justice" by widely warning other consumers about the company.

This outcome indicates a crucial difference between these two dimensions of susceptibility to social influence. In fact, most studies have not distinguished between informational and normative influence or

have focused only on normative influence (Batra et al., 2000; Wu, 2011). However, as Deutsch and Gerard (1955) noted, the two dimensions can be conceptually distinguished. Researchers have emphasized the difference between the processes that drive the two kinds of social influence: a social process for normative influence and a cognitive process for informational influence (Postmes et al., 2005). Moreover, O'reilly and Caldwell (1985) suggested that the distinction is straightforward: informational influence does not include the component of approval or disapproval, whereas normative social influence does. Our results provide empirical evidence that informational influence and normative influence are influenced by different mechanisms.

6.2. Managerial implications

Aside from positively influencing research in this area, our findings have several important implications for firms facing crisis. First, sometimes the best way to learn what to do is to learn what not to do. In today's decentralized social media communication environment, corporate crisis responses have a more crucial influence on consumers' opinion when conveyed via social media. Corporate responses with a low level of responsibility evoke consumers' perceived morality violations, which will bring a negative storm of crisis communication. This study confirms that corporate responses with a high level of responsibility lead to less morality violations, thus help to decrease consumers' intention to engage in SCC. Accordingly, understanding the role of morality violations in the influence mechanism of corporate response should help firms better predict SCC when crises happen. Second, managers need to make aggressive recovery efforts before consumers communicate negative information on social media. Indeed, consumers who engage in SCC are most likely to spread ill will to others; once consumers engage in SCC, their messages will be received by their contacts on social media. Under such circumstances, their purchase intentions decrease, and lasting harm is done.

Moreover, crisis managers should pay attention to consumers' psychological susceptibility to social influence when they are aiming for purchase recovery after a crisis. Consumers are afraid of being disliked by others when purchasing a product that they have denounced during a product-harm crisis. That is, consumers who are strongly susceptible to normative social influence will be more likely to continue to have lowered purchase intentions than consumers who are not. Thus, to improve purchase recovery after product-harm crises, managers could try to make consumers who engage in secondary crisis communication feel that they will not be disliked by others. For example, image recovery strategies after crisis would relieve consumers' concern about being disliked by others when purchasing from the firm.

7. Limitations and directions for future research

Although this study provides some insights into the role of SCC in crisis management, much remains to be done. Future research can build on this study by addressing its several limitations. First, since this study was conducted in China, it should be noted that China's social media platforms and online behaviors differ in important ways from their counterparts in other countries, such as user demographics. Chinese social media users are young: according to a Weibo user demographics analysis (Sabrina, 2014), 53% of Weibo users were born after 1990, and users born after 1980 accounted for 90%. Moreover, the use of social media in China is among the most intense in the world (Millward, 2015). A broader impact of China's deep involvement in social media is that some netizens experience the Internet only through social media platforms. To them, the Internet is social media and vice versa (Crampton, 2011). Thus, in China, more than in many countries, social media has become deeply integrated into people's lives and is more influential than other aspects of the Internet. Chinese netizens actively engage in

discussions that can directly affect companies. A recent study by Ogilvy One in China found that 55% of China's netizens had initiated or participated in online discussions about companies (Crampton, 2011). Both the young users and intense use make Chinese crisis communication management on social media might be different from other countries. Because negative crisis management on social media is a global challenge for firms, more studies in other culture background are encouraged to enrich consumers' crisis communication research.

Another potential limitation of this research is endogeneity bias, which is a widespread problem in survey-based empirical research that highly relies on observational data. *Endogeneity* refers to "that an explanatory variable correlates with the disturbance term of the regression equation and not accounting for it will likely result in biased parameter estimates that undermine the validity of the findings obtained from regression-type analyses of observational data" (Sande and Ghosh, 2018). Endogeneity bias is caused by measurement errors, simultaneous causality, and omitted variables (Sande and Ghosh, 2018). All the measurement scales used in this study were from previous studies, where they also were established with high levels of reliability and validity. The results of measurement validation conducted supported that the measurement possessed adequate convergent validity, discriminant validity, and reliability. Furthermore, it is possible that firms in crisis alter their responses based on consumers' reaction thus corporate response and consumers' perception would mutually affect each other. But in our survey-based experiment, participants' perceptions were measured after certain corporate response; thus, corporate response is an independent variable. Given the experiment procedure in this study, simultaneous causality is less likely to exist between corporate response (independent variable) and participants' perceptions (dependent variables). Moreover, we controlled potential variables which may affect consumers' perception such as corporate reputation and perceived risk. In summary, we undertook several steps to minimize the impact of endogeneity; however, its effects (potentially from omitted variables) may not have been eliminated.

Moreover, we encourage researchers to consider additional future research involving case studies to observe the effect of corporate response on consumers' SCC for a particular case. More research should focus on actual consumer behavior in crisis communication, because investigating hypothetical crisis scenarios rather than real events may reflect consumer intention rather than behavior. Since intention is not a perfect predictor of behavior, it would be useful to consider the other factors often at play in actual behaviors. Finally, we encourage other researchers to test the robustness of our findings with samples of customers who experience service failures and recoveries in different industries and contexts.

Declarations

Author contribution statement

Hefu Liu, Bowen Zheng: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Gongbing Bi, Paul Benjamin Lowry: Conceived and designed the experiments; Analyzed and interpreted the data; Wrote the paper.

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The authors declare no conflict of interest.

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References

- Alfonso, G.H., Suzanne, S., 2008. Crisis communications management on the web: how Internet-based technologies are changing the way public relations professionals handle business crises. *J. Contingencies Crisis Manag.* 16 (3), 143–153.
- Algesheimer, R., Dholakia, U.M., Herrmann, A., 2005. The social influence of brand community: evidence from European car clubs. *J. Market.* 69 (3), 19–34.
- Bambauer-Sachse, S., Mangold, S., 2011. Brand equity dilution through negative online word-of-mouth communication. *J. Retailing Consum. Serv.* 18 (1), 38–45.
- Batra, R., Ramaswamy, V., Alden, D.L., Steenkamp, J.-B.E., Ramachander, S., 2000. Effects of brand local and nonlocal origin on consumer attitudes in developing countries. *J. Consum. Psychol.* 9 (2), 83–95.
- Bearden, W.O., Netemeyer, R.G., Teel, J.E., 1989. Measurement of consumer susceptibility to interpersonal influence. *J. Consum. Res.* 15 (1), 473–481.
- Bei, J., 2013. How Chinese Journalists Use Weibo Microblogging for Investigative Reporting. Reuters Institute Fellowship Paper, University of Oxford.
- Benoit, W.L., 1997. Image repair discourse and crisis communication. *Publ. Relat. Rev.* 23 (2), 177–186.
- Berger, J., Iyengar, R., 2013. Communication channels and word of mouth: how the medium shapes the message. *J. Consum. Res.* 40 (3), 567–579.
- Bradford, J.L., Garrett, D.E., 1995. The effectiveness of corporate communicative responses to accusations of unethical behavior. *J. Bus. Ethics* 14 (11), 875–892.
- Brauer, M., Chekroun, P., 2005. The relationship between perceived violation of social norms and social control: situational factors influencing the reaction to deviance. *J. Appl. Soc. Psychol.* 35 (7), 1519–1539.
- Brown, T.J., Barry, T.E., Dacin, P.A., Gunst, R.F., 2005. Spreading the word: investigating antecedents of consumers' positive word-of-mouth intentions and behaviors in a retailing context. *J. Acad. Market. Sci.* 33 (2), 123–138.
- Carrington, M.J., Neville, B., Canniford, R., 2015. Unmanageable multiplicity: consumer transformation towards moral self coherence. *Eur. J. Market.* 49 (7/8), 1300–1325.
- Chang, H.H., Chuang, S.S., 2011. Social capital and individual motivations on knowledge sharing: participant involvement as a moderator. *Inf. Manag.* 48 (1), 9–18.
- Chang, H.H., Tsai, Y.C., Wong, K.H., Wang, J.W., Cho, F.J., 2015. The effects of response strategies and severity of failure on consumer attribution with regard to negative word-of-mouth. *Decis. Support Syst.* 71 (1), 48–61.
- Chekroun, P., Brauer, M., 2002. The bystander effect and social control behavior: the effect of the presence of others on people's reactions to norm violations. *Eur. J. Soc. Psychol.* 32 (6), 853–867.
- Cheng, Y., 2020. The social-mediated crisis communication research: revisiting dialogue between organizations and publics in crises of China. *Publ. Relat. Rev.* 46 (1), 101769.
- Cheung, C.M.K., Lee, M.K.O., 2012. What drives consumers to spread electronic word of mouth in online consumer-opinion platforms. *Decis. Support Syst.* 53 (1), 218–225.
- Chevalier, J.A., Mayzlin, D., 2006. The effect of word of mouth on sales: online book reviews. *J. Market. Res.* 43 (3), 345–354.
- Chozan, 2018. Weibo statistics: Q4 2017 financial report. Available at: <https://chozan.co/2018/02/21/weibo-statistics-q4-2017/> (Accessed).
- Coombs, T., Schmidt, L., 2000. An empirical analysis of image restoration: texaco's racism crisis. *J. Publ. Relat. Res.* 12 (2), 163–178.
- Coombs, W.T., 1998. An analytic framework for crisis situations: better responses from a better understanding of the situation. *J. Publ. Relat. Res.* 10 (3), 177–191.
- Coombs, W.T., 2006. The protective powers of crisis response strategies: managing reputational assets during a crisis. *J. Promot. Manag.* 12 (3-4), 241–260.
- Coombs, W.T., 2012. *Ongoing Crisis Communication: Planning, Managing, and Responding*. Sage, Thousand Oaks, CA.
- Coombs, W.T., Holladay, S.J., 2009. Further explorations of post-crisis communication: effects of media and response strategies on perceptions and intentions. *Publ. Relat. Rev.* 35 (1), 1–6.
- Coombs, W.T., Holladay, S.J., 2014. How publics react to crisis communication efforts: comparing crisis response reactions across sub-arenas. *J. Commun. Manag.* 18 (1), 40–57.
- Crampton, T., 2011. Social media in China: the Same, but Different. *China Business Review*. Available at: <http://www.chinabusinessreview.com/social-media-in-china-the-same-but-different/>. (Accessed 1 January 2011).
- D'rozario, D., Choudhury, P.K., 2000. Effect of assimilation on consumer susceptibility to interpersonal influence. *J. Consum. Market.* 17 (4), 290–307.
- Davis, K., 1949. *Human Society*. MacMillan Company, New York, NY.
- Deborah, A., Michela, A., Anna, C., 2019. How to quantify social media influencers: an empirical application at the Teatro alla Scala. *Heliyon* 5 (5), e01677.
- Deutsch, M., Gerard, H.B., 1955. A study of normative and informational social influences upon individual judgment. *J. Abnorm. Soc. Psychol.* 51 (3), 629–636.
- Dinardo, A.M., 2002. The Internet as a crisis management tool: a critique of banking sites during Y2K. *Publ. Relat. Rev.* 28 (4), 367–378.
- Duval, S., Duval, V.H., Neely, R., 1979. Self-focus, felt responsibility, and helping behavior. *J. Pers. Soc. Psychol.* 37 (10), 1769.
- Ellison, N., Heino, R., Gibbs, J., 2006. Managing impressions online: self-presentation processes in the online dating environment. *J. Computer-Mediated Commun.* 11 (2), 415–441.
- Emarketer, 2016. Weibo Reaches 100 Million Daily Users. Available at: <https://www.emarketer.com/Article/Weibo-Reaches-100-Million-Daily-Users/1013449> (Accessed).
- Enquist, M., Leimar, O., 1993. The evolution of cooperation in mobile organisms. *Anim. Behav.* 45 (4), 747–757.
- Festinger, L., 1962. A theory of cognitive dissonance. *Sci. Am.* 207 (4), 93–107.
- Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *J. Market. Res.* 18 (1), 38–50.
- Goffman, E., 1959. *The Presentation of Self in Everyday Life*. Doubleday and Company, New York.
- Gonzales, A.L., Hancock, J.T., 2011. Mirror, mirror on my Facebook wall: effects of exposure to Facebook on self-esteem. *Cyberpsychol., Behav. Soc. Netw.* 14 (1-2), 79–83.
- Grace, D., Ross, M., Shao, W., 2015. Examining the relationship between social media characteristics and psychological dispositions. *Eur. J. Market.* 49 (9/10), 1366–1390.
- Helm, S., Tolsdorf, J., 2013. How does corporate reputation affect customer loyalty in a corporate crisis? *J. Contingencies Crisis Manag.* 21 (3), 144–152.
- Hennig, T.T., Gwinner, K.P., Walsh, G., Gremler, D.D., 2004. Electronic word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the Internet? *J. Interact. Market.* 18 (1), 38–52.
- Henningsen, D.D., Henningsen, M.L.M., 2003. Examining social influence in information-sharing contexts. *Small Group Res.* 34 (4), 391–412.
- Hsin Chang, H., Wen Chen, S., 2008. The impact of online store environment cues on purchase intention: trust and perceived risk as a mediator. *Online Inf. Rev.* 32 (6), 818–841.
- Huang, L.Y., Hsieh, Y.J., Wu, Y.C.J., 2014. Gratifications and social network service usage: the mediating role of online experience. *Inf. Manag.* 51 (6), 774–782.
- Kaye, B.K., 2005. It's a blog, blog, blog world: users and uses of weblogs. *Atl. J. Commun.* 13 (2), 73–95.
- Ki, E.J., Nekmat, E., 2014. Situational crisis communication and interactivity: usage and effectiveness of Facebook for crisis management by Fortune 500 companies. *Comput. Hum. Behav.* 35 (1), 140–147.
- Kiambi, D.M., Shafer, A., 2016. Corporate crisis communication: examining the interplay of reputation and crisis response strategies. *Mass Commun. Soc.* 19 (2), 127–148.
- Kiecker, P., Cowles, D., 2002. Interpersonal communication and personal influence on the Internet: a framework for examining online word-of-mouth. *J. Euromarketing* 11 (2), 71–88.
- Kietzmann, J.H., Hermkens, K., McCarthy, I.P., Silvestre, B.S., 2011. Social media? Get serious! Understanding the functional building blocks of social media. *Bus. Horiz.* 54 (3), 241–251.
- Kim, H.W., Gupta, S., Koh, J., 2011. Investigating the intention to purchase digital items in social networking communities: a customer value perspective. *Inf. Manag.* 48 (6), 228–234.
- Knox, G., Van Oest, R., 2014. Customer complaints and recovery effectiveness: a customer base approach. *J. Market.* 78 (5), 42–57.
- Koo, D.M., 2015. The strength of no tie relationship in an online recommendation: focused on interactional effects of valence, tie strength, and type of service. *Eur. J. Market.* 49 (7/8), 1163–1183.
- Krämer, N.C., Winter, S., 2008. Impression management 2.0: the relationship of self-esteem, extraversion, self-efficacy, and self-presentation within social networking sites. *J. Media Psychol.: Theories, Methods, and Applications* 20 (3), 106.
- Kristof-Brown, A., Barrick, M.R., Franke, M., 2002. Applicant impression management: dispositional influences and consequences for recruiter perceptions of fit and similarity. *J. Manag.* 28 (1), 27–46.
- Ku, Y.C., Chen, R., Zhang, H., 2013. Why do users continue using social networking sites? An exploratory study of members in the United States and Taiwan. *Inf. Manag.* 50 (7), 571–581.
- Kuan, K.K., Zhong, Y., Chau, P.Y., 2014. Informational and normative social influence in group-buying: evidence from self-reported and EEG data. *J. Manag. Inf. Syst.* 30 (4), 151–178.
- Laufer, D., Coombs, W.T., 2006. How should a company respond to a product harm crisis? The role of corporate reputation and consumer-based cues. *Bus. Horiz.* 49 (5), 379–385.
- Leary, M.R., Kowalski, R.M., 1990. Impression management: a literature review and two-component model. *Psychol. Bull.* 107 (1), 34.
- Lee, M.K., Shi, N., Cheung, C.M., Lim, K.H., Sia, C.L., 2011. Consumer's decision to shop online: the moderating role of positive informational social influence. *Inf. Manag.* 48 (6), 185–191.
- Lee, W.J., Lee, W.J., O'cass, A., O'cass, A., Sok, P., Sok, P., 2017. Unpacking brand management superiority: examining the interplay of brand management capability, brand orientation and formalisation. *Eur. J. Market.* 51 (1), 177–199.
- Lin, C.P., Chen, S.C., Chiu, C.K., Lee, W.Y., 2011. Understanding purchase intention during product-harm crises: moderating effects of perceived corporate ability and corporate social responsibility. *J. Bus. Ethics* 102 (3), 455–471.
- Lin, T.M., Fang, C., 2006. The effects of perceived risk on the word-of-mouth communication dyad. *SBP (Soc. Behav. Pers.)* 34 (10), 1207–1216.
- Lindenmeier, J., Schlee, C., Priel, D., 2012. Consumer outrage: emotional reactions to unethical corporate behavior. *J. Bus. Res.* 65 (9), 1364–1373.
- Liu, B.F., Austin, L., Jin, Y., 2011. How publics respond to crisis communication strategies: the interplay of information form and source. *Publ. Relat. Rev.* 37 (4), 345–353.
- Liu, B.F., Jin, Y., Austin, L.L., 2013a. The tendency to tell: understanding publics' communicative responses to crisis information form and source. *J. Publ. Relat. Res.* 25 (1), 51–67.

- Liu, H., Ke, W., Wei, K.K., Hua, Z., 2013b. The impact of IT capabilities on firm performance: the mediating roles of absorptive capacity and supply chain agility. *Decis. Support Syst.* 54 (3), 1452–1462.
- Lord, K.R., Lee, M.S., Choong, P., 2001. Differences in normative and informational social influence. *Adv. Consum. Res.* 28 (1), 280–285.
- Lowry, P.B., Twyman, N.W., Pickard, M., Jenkins, J.L., 2014. Proposing the Affect-Trust Infusion Model (ATIM) to explain and predict the influence of high and low affect infusion on Web vendor trust. *Inf. Manag.* 51 (5), 579–594.
- Lowry, P.B., Zhang, J., Wang, C., Siponen, M., 2016. Why do adults engage in cyberbullying on social media? An integration of online disinhibition and deindividuation effects with the social structure and social learning model. *Inf. Syst. Res.* 27 (4), 962–986.
- Lyon, T.P., Montgomery, A.W., 2013. Tweetjacked: the impact of social media on corporate greenwash. *J. Bus. Ethics* 118 (4), 747–757.
- Mackinnon, D.P., Lockwood, C.M., Williams, J., 2004. Confidence limits for the indirect effect: distribution of the product and resampling methods. *Multivariate Behav. Res.* 39 (1), 99–128.
- Millward, S., 2015. WeChat Grows to 549M Monthly Active Users. *Tech in Asia*. Available at: <https://www.techinasia.com/wechat-549-million-active-users-q1-2015>. (Accessed 13 May 2015).
- Min, S., Min, S., Kim, N., Kim, N., Zhan, G., Zhan, G., 2017. The impact of market size on new market entry: a contingency approach. *Eur. J. Market.* 51 (1), 2–22.
- Moore, S.G., 2012. Some things are better left unsaid: how word of mouth influences the storyteller. *J. Consum. Res.* 38 (6), 1140–1154.
- Noguti, V., Lee, N., Dwivedi, Y., 2016. Post language and user engagement in online content communities. *Eur. J. Market.* 50 (5/6), 695–723.
- O'reily, C., Caldwell, D.F., 1985. The impact of normative social influence and cohesiveness on task perceptions and attitudes: a social information processing approach. *J. Occup. Psychol.* 58 (3), 193–206.
- Pang, H., 2018. WeChat use is significantly correlated with college students' quality of friendships but not with perceived well-being. *Heliyon* 4 (11), e00967.
- Park, J., Lennon, S.J., Stoel, L., 2005. On-line product presentation: effects on mood, perceived risk, and purchase intention. *Psychol. Market.* 22 (9), 695–719.
- Pavlou, P.A., Gefen, D., 2005. Psychological contract violation in online marketplaces: antecedents, consequences, and moderating role. *Inf. Syst. Res.* 16 (4), 372–399.
- Pfeffer, J., Zorbach, T., Carley, K., 2014. Understanding online firestorms: negative word-of-mouth dynamics in social media networks. *J. Market. Commun.* 20 (1–2), 117–128.
- Postmes, T., Haslam, S.A., Swaab, R.I., 2005. Social influence in small groups: an interactive model of social identity formation. *Eur. Rev. Soc. Psychol.* 16 (1), 1–42.
- Ramadan, R., 2017. Questioning the role of Facebook in maintaining Syrian social capital during the Syrian crisis. *Heliyon* 3 (12), e00483.
- Rivas, T., 2014. McDonald's Burned by New China Meat Scandal. *Barron's Asia*. Available at: <http://www.barrons.com/articles/SB50001424053111904780504580043273324546574>. (Accessed 21 July 2014).
- Sabrina, 2014. Sina Weibo User Demographics Analysis in 2013. *China Internet Watch*. Available at: <https://www.chinainternetwork.com/5568/what-weibo-can-tell-you-about-chinese-netizens-part-1/> (Accessed).
- Sande, J.B., Ghosh, M., 2018. Endogeneity in survey research. *Int. J. Res. Market.* 35 (2), 185–204.
- Schindler, D.R.C.P.S., 2011. Hypothesis testing. In: Gordon, B. (Ed.), *Business Research Methods*. McGraw-Hill/Irwin, New York, NY.
- Schultz, F., Utz, S., Göritz, A., 2011. Is the medium the message? Perceptions of and reactions to crisis communication via twitter, blogs and traditional media. *Publ. Relat. Rev.* 37 (1), 20–27.
- Seeger, M.W., 2006. Best practices in crisis communication: an expert panel process. *J. Appl. Commun. Res.* 34 (3), 232–244.
- Shadish, W.R., Cook, T.D., 2009. The renaissance of field experimentation in evaluating interventions. *Annu. Rev. Psychol.* 60 (1), 607–629.
- Shi, Z., Rui, H., Whinston, A.B., 2014. Content sharing in a social broadcasting environment: evidence from Twitter. *MIS Q.* 38 (1), 123–142.
- Siomkos, G., Shrivastava, P., 1993. Responding to product liability crises. *Long. Range Plan.* 26 (5), 72–79.
- Siomkos, G.J., 1994. The hidden crisis in product-harm crisis management. *Eur. J. Market.* 28 (2), 30–41.
- Siomkos, G.J., 1999. On achieving exoneration after a product safety industrial crisis. *J. Bus. Ind. Market.* 14 (1), 17–29.
- Siomkos, G.J., Malliaris, P.G., 2011. Consumer response to company communications during a product harm crisis. *J. Appl. Bus. Res.* 8 (4), 59–65.
- Siu, N.Y.M., Zhang, T.J.F., Yau, C.Y.J., 2013. The roles of justice and customer satisfaction in customer retention: a lesson from service recovery. *J. Bus. Ethics* 114 (4), 675–686.
- Sridhar, S., Srinivasan, R., 2012. Social influence effects in online product ratings. *J. Market.* 76 (5), 70–88.
- Stone, R.N., Grønhaug, K., 1993. Perceived risk: further considerations for the marketing discipline. *Eur. J. Market.* 27 (3), 39–50.
- Sweetser, K.D., Metzgar, E., 2007. Communicating during crisis: use of blogs as a relationship management tool. *Publ. Relat. Rev.* 33 (3), 340–342.
- Szymanski, D.M., Henard, D.H., 2001. Customer satisfaction: a meta-analysis of the empirical evidence. *J. Acad. Market. Sci.* 29 (1), 16–35.
- Tsai, Y.H., Joe, S.W., Lin, C.P., Wang, R.T., 2014. Modeling job pursuit intention: moderating mechanisms of socio-environmental consciousness. *J. Bus. Ethics* 125 (2), 287–298.
- Utz, S., Schultz, F., Glocka, S., 2013. Crisis communication online: how medium, crisis type and emotions affected public reactions in the Fukushima Daiichi nuclear disaster. *Publ. Relat. Rev.* 39 (1), 40–46.
- Van Voorhis, C., Morgan, B., 2001. Statistical rules of thumb: what we don't want to forget about sample sizes. *Psi Chi Journal. Psi Chi J.* 1 (3).
- Vassilikopoulou, A., Siomkos, G., Chatzipanagiotou, K., Pantouvakis, A., 2009. Product-harm crisis management: time heals all wounds? *J. Retailing Consum. Serv.* 16 (3), 174–180.
- Verhagen, T., Nauta, A., Feldberg, F., 2013. Negative online word-of-mouth: behavioral indicator or emotional release? *Comput. Hum. Behav.* 29 (4), 1430–1440.
- Waters, R.D., 2009. Examining the role of cognitive dissonance in crisis fundraising. *Publ. Relat. Rev.* 35 (2), 139–143.
- Westerman, D., Spence, P.R., Van Der Heide, B., 2014. Social media as information source: recency of updates and credibility of information. *J. Computer-Mediated Commun.* 19 (2), 171–183.
- Wetzer, I.M., Zeelenberg, M., Pieters, R., 2007. Never eat in that restaurant, I did!': exploring why people engage in negative word-of-mouth communication. *Psychol. Market.* 24 (8), 661–680.
- Wu, G., 2011. Country image, informational influence, collectivism/individualism, and brand loyalty: exploring the automobile purchase patterns of Chinese Americans. *J. Consum. Market.* 28 (3), 169–177.
- Wu, S., Hofman, J.M., Mason, W.A., Watts, D.J., 2011. Who says what to whom on Twitter. In: *Proceedings of the 20th International Conference on World Wide Web*, March 28–April 1 of Conference Hyderabad. ACM, India, pp. 705–714.
- Zheng, B., Liu, H., Davison, R.M., 2018. Exploring the relationship between corporate reputation and the public's crisis communication on social media. *Publ. Relat. Rev.* 44 (1), 56–64.