

When CSR Meets Mobile SNA Users in Mainland China: An Examination of Gratifications Sought, CSR Motives, and Relational Outcomes in Natural Disasters

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With the heavy use of mobile social networking applications (SNAs), corporations have widely applied corporate social responsibility (CSR) activities enhanced by mobile technologies (i.e., mCSR) to target stakeholders. This study examined the relationships among gratifications sought and use on mobile SNAs, CSR motives, and the organization–public relationships in the context of the 2017 Jiuzhaigou earthquake in China. Results from an online survey ($N = 589$) demonstrated that gratifications such as recognition needs and accessibility significantly predicted the level of mobile SNA use in times of a natural disaster. In addition, a corporation's mCSR for disaster relief drove positive organization–public relationship outcomes among individuals, who used mobile SNAs for information-seeking and -sharing as well as attributed the mCSR to the corporation's value and stakeholder expectations it faced. Theoretical and practical implications of the findings are discussed.

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The advance of social and mobile media technology has enhanced the convenience for individuals in connecting with their friends, peers, and family for communication and instrumental, social, and entertainment purposes. Research has shown that social media users nowadays dominantly spend their social media time on mobile devices instead of desktops (Scott, Bay-Cheng, Prince, Nochajski, & Collins, 2017). Taking China as an example, a 2017 survey revealed that Chinese people spend three hours on their smartphones daily, ranking them as the second heaviest users in the world (People's Daily Online, 2017). A smartphone is a daily necessity rather than a communication tool. WeChat in China, a mobile-based instant messaging and social media application, had gained more than 1 billion active users by January 2018 (Tencent, 2018). More important than its user number is WeChat's capability to attract its users' "stickiness" with the platform, generating economic and social impacts. For instance, WeChat had a 34.0% share of the total mobile traffic in China (Facebook makes 14.1% of the traffic in North America) in 2017 (Graziani, 2018). In addition, its social and other advertising revenues increased by 65% to RMB25,610 million (Tencent, 2018). In the same year, 40.3% of WeChat users donated to charity via the app and the health institutions that implemented the app had shorter patient waiting times by 43.6 minutes than those institutions not using the app (Graziani, 2018).

Individuals' increasing mobile media dependency has led organizations across industries to adopt mobile media in their operations (e.g., commerce, charity, health care, and emergency and crisis management) and communication (Westlund, 2013). By successfully tapping the affordances of mobile media, the organizations enhance operation outcomes via effective engagement with the targeted publics and alignment with their expectations for mobile-driven operations (e.g., S. Kim, 2011; Kollat & Farache, 2017). This emerging change of media use among individuals and organizations is even more salient in China because of the government's advocacy of information technology development in its 13th Five-Year Plan (Cheng, 2016; State Council of the Chinese Government, 2016). The phenomenon gives rise to a concept of *informatics*, which is defined as the interconnectedness of people, organizations, information, and technology in a given communication context (Hagar, 2010).

Despite the lively academic discussions on how mobile media should be employed in corporate operations and communications in China, few have examined whether and how corporate social responsibility (CSR) initiatives enhanced by social and mobile media generate positive relational outcomes in the context of natural disasters. However, existing studies conducted outside China have suggested that social media on mobile devices play a key role in disaster communication and management because of individuals' heavy use of these devices (Lev-On, 2012) and the real-time, crowdsourced, or volunteered geographic information and actions generated on these platforms (Horita, Degrossi, Assia, Zipf, & Albuquerque, 2013; Zook, Graham, Shelton, & Gorman, 2012). Thus, it becomes significant to explicate public reactions to corporate CSR activities for disaster relief using social media on mobile devices in China.

To fill this research void, this study randomly surveyed 589 Chinese residents affected by the Jiuzhaigou earthquake in 2017. The 7.0-magnitude earthquake rocked Sichuan Province in China on August 8 and destroyed hundreds of thousands of houses, injured 543 people, and displaced 61,500 local residents and tourists (China Earthquake Administration, 2017). Based on this high-impact disaster in China, this study scrutinized the interplay among three variables: individuals' (1) predispositions in terms of gratifications sought in using social networking apps (SNAs) on mobile devices and such mobile SNA use, (2) perceived motives of a CSR initiative that is enhanced by mobile media and technologies (mCSR), and (3) perceived relational outcomes with the corporation that implements the CSR initiative.

The study contributes to the CSR and informatics literature from two dimensions. First, it advances the understanding of how mobile technology influences Mainland Chinese people's reactions to CSR in the context of a natural disaster. Second, the majority of CSR research in China has examined the CSR effect on brand evaluation/preference (Liu, Wong, Shi, Chu, & Brock, 2014) and purchase intention or behavior (Deng & Xu, 2017; Li, Zhang, Mao, & Min, 2012) from the consumers' perspective. This study extends the literature by exploring the CSR effect on relational outcomes among individuals in China.

Gratifications and Uses of Mobile SNAs in Natural Disasters

Digital media have changed how organizations interact with and engage publics (Jin, Lin, Gilbreath, & Lee, 2017; Phua, Jin, & Kim, 2017). Uses and gratification theory (UGT) postulates that individuals actively choose to use a medium that gratifies their needs or goals. Consequently, the more an individual is gratified by using a medium, the more he or she will use the medium (Rubin, 2002). Over the past two decades, UGT researchers have studied how people use different digital media and have identified five types of gratifications: cognition needs, accessibility, affection, recognition needs, and entertainment (Cheng, Liang, & Leung, 2015; Leung & Wei, 2000; Lev-On, 2012; Jin et al., 2017; Rubin, 2002; Wei & Lo, 2006).

The term *cognition needs* refers to gratification from information exchange, which is the most typical instrumental gratification according to UGT researchers (Cheng et al., 2015; Leung & Wei, 2000). *Accessibility* refers to the gratification from technological convenience that allows users to always be connected to others and communicate with them. It constitutes a unique factor driving social media use on mobile devices according to Cheng et al. (2015). *Affection* points to gratification from emotional support. The literature emphasizes the increasing importance of this gratification in using social networks in crises, in which the high situational uncertainties compel individuals to cope by expressing, seeking, and sharing emotional support such as empathy (J. Kim & Jin, 2016), as well as demonstrating care and compassion for crisis victims and receiving emotional support in return from other social media and mobile users. The term *recognition needs* signifies gratification from social interaction and joining others in collective actions (Leung, 2007). Burnell and Kuther (2016) found that individuals who perceive strong support in their social networks tend to be at risk for social network and mobile phone dependency. *Entertainment* refers to gratification from recreation, escapism, hedonistic pleasure, and/or aesthetic enjoyment via seeking relaxation and releasing emotions (Dolan, Conduit, Fahy, & Goodman, 2016). UGT researchers have identified this gratification as a salient driving force of using new media (Lev-On,

2012), such as mobile apps (Ho & Syu, 2010). In this study, these five gratifications define our understanding of Chinese users' gratifications sought from using mobile SNAs and their subsequent use of the media.

To address the criticisms against UGT, Palmgreen and Rayburn (1985) extended the theory by distinguishing gratifications sought and gratifications obtained. Gratifications sought, not always identical to gratifications obtained, are a reflection of gratifications obtained in past use (Littlejohn, 1996). As Palmgreen and Rayburn (1985) and Littlejohn (1996) argue, personal beliefs and evaluations of a medium determine gratifications expected by the medium users (i.e., gratifications sought) that further lead to their actual media use. Gratifications obtained after the media use, in turn, refine the above-mentioned beliefs that influence gratifications sought for future media consumption. Based on this extension of UGT, we proposed the following hypothesis:

H1: The five types of gratifications sought (i.e., accessibility [1a], cognition needs [1b], affection [1c], recognition needs [1d], and entertainment [1e]) using mobile SNAs in natural disasters are positively related to the use of mobile SNAs in the context of a natural disaster among individuals in China.

Mobile-Enhanced CSR (mCSR) in Natural Disasters

Mobile Apps Used in Natural Disasters

With the emergent use of social media and advanced information communication technologies (ICTs), mobile apps are increasingly used in managing natural disasters. These mobile apps are either general-purpose (messaging apps, social media apps, news apps, and weather apps) or built-for-disaster-purpose ones (e.g., American Red Cross "First Aid"). A systematic review of 49 journal articles that investigated the role of mobile apps in disaster communication reported the following key results (Tan, Prasanna, Stock, Hudson-Doyle, Leonard, & Johnston, 2017). Research in this area has risen since 2010 on the topics of ICT adaptation and utilization, ICT capability improvement, social media analytics of socially generated content, and information behaviors. Built-for-disaster-purpose apps serve as a platform for (1) crowdsourcing (to collect disaster-related data from the public), (2) collaborating (to collaborate on disaster management), (3) alerting and informing (to disseminate authorized disaster-related information), (4) collating (to analyze data to build situation awareness), and (5) notifying (to notify others during disaster; Tan et al., 2017, p. 301). The apps have four types of users among the general public: victims, targeted information receivers, in situ sensors, and offsite volunteers. Apps or technologies with which users are already familiar before a disaster have greater potential for individual and community disaster management.

mCSR in Disaster Relief

In this study, mCSR refers to CSR initiatives (including its communication) that tap the communicative affordances of mobile media (e.g., mobile phones and tablets) into their implementation. Schrock (2015) proposes four communicative affordances of mobile media: portability, availability, locatability, and multimediality. *Portability* refers to communication done in any place or context, and

availability refers to always-on communication (Licoppe, 2004) with various forms simultaneously (i.e., multiplexity; Boase, 2008) because communicators on mobile media can always be connected. *Locatability* refers to communication empowered by locative, social networks (de Souza e Silva & Frith, 2010) as well as communication of locations. *Multimediality* refers to communication engaged in multimedia, such as screen sharing, photo sharing, and synchronous video streaming (Schrock, 2015).

Facebook Safety Check, Google Public Alerts, and Twitter Alerts are examples of general-purpose mobile apps used in disasters. They also represent the three corporations' practice of mCSR in disaster relief. It is evident that the above-mentioned communicative affordances make mobile media an effective tool for organizations to engage various parties (victims and family, members in the affected community, donors and volunteers, authorities and disaster relief teams, nongovernment organizations, the firm's employees and management, and others concerned about the disaster) in a collective effort for disaster relief. In addition, recent research has demonstrated the following positive outcomes of CSR communication using social media: (1) corporate social media content endorsement among the social media users (Araujo & Kollat, 2018), (2) CSR rating by publics (Lee, Oh, & Kim, 2013), (3) relational outcomes with stakeholders (Wang & Huang, 2018), and (4) consumer engagement in terms of support for the cause, purchase intention, attitude toward the brand, and word of mouth (Chen & Fu, 2015; Uzunoglu, Turkel, & Akyar, 2017). All in all, corporations that practice mCSR can make significant impacts on society in disasters.

mCSR and Organization–Public Relationships in Natural Disasters

Abundant CSR literature has suggested the positive effect of CSR on cultivating public trust that further drives a long-term relationship between an organization and its publics/stakeholders (Bhattacharya, Korschun, & Sen, 2009; Deng & Xu, 2017; Fang, Palmatier, Scheer, & Li, 2008; Hung-Baesecke, Chen, & Boyd, 2016; Kollat & Farache, 2017; Stanaland, Lwin, & Murphy, 2011). The underlying mechanism of the positive relationship between CSR and organization–public relationships (OPRs) is as follows: CSR efforts of a corporation signal its moral character, including its goodwill to make society better and its commitment to sustainability and fair/ethical treatment of its stakeholders (Smith & Alexander, 2013). CSR efforts, if evaluated as credible and transparent, result in positive public perceptions (e.g., public acceptance for and trust in the corporation, good corporate reputation, and quality OPRs) and reactions (e.g., purchase intention/behavior, recommendation intention, and loyalty; Cone Communications, 2017; Uzunoglu et al., 2017). This is because CSR efforts match the public's expectation of corporations to be moral and beneficial to society, as expectation confirmation theory posits (Oliver, 1993). Consequently, corporations actively communicate their CSR efforts with their stakeholders. For example, Etter (2014) found that a quarter of corporate tweets are CSR-related. An Ad Meter poll of *USA Today* revealed that 2018 Super Bowl advertisements had a strong CSR focus: Approximately 20% of the commercials contained a social, environmental, or purposeful conscientiousness message (Reputation Institute, 2018).

Following the same rationale, it is logical to argue that communicating corporate mCSR efforts to the general public in natural disasters generates quality OPRs. CSR communication research has also

shown that the public reactions to CSR communication depend on a few factors. This study examined two of the commonly identified factors: individual dispositions and CSR motives.

Individual Dispositions: Gratifications Sought and Use of Mobile SNAs

As media effect research has revealed, "Individuals use their unique sets of cognitive, affective, and motivational characteristics in processing any media message" (Atkinson, 2014, p. 3228). Research has also found that social media could be effective information-seeking and -sharing tools during disasters and crises (Sutton et al., 2013). Moreover, Mileti and Sorensen (1990) contend that publics tend to engage in more information-seeking and -sharing behaviors when they are coping cognitively and emotionally after encountering a crisis. A study by Austin, Liu, and Jin (2012) found that, during a crisis, information form and source could have an effect on publics' information-seeking and -sharing behaviors. In this study, which used the context of a natural disaster, individuals' gratifications and use of mobile SNAs present individual dispositions that affect their evaluation of information about mCSR efforts and their subsequent reactions to the efforts. According to UGT, it is reasonable to hypothesize that those who turn to mobile SNAs in natural disasters for gratifications tend to be in favor of CSR efforts enhanced by mobile SNAs. The well-received mCSR further results in a positive perception of the corporation. Thus, we proposed the following:

- H2: Individuals in China who seek gratifications—accessibility (2a), cognition needs (2b), affection (2c), recognition needs (2d), and entertainment (2e)—in using mobile SNAs in natural disasters are likely to form a positive perception of their relationships with the corporation that performs mCSR for disaster relief.*
- H3: Individuals in China who use mobile SNAs for information-seeking (3a) and information-sharing (3b) in natural disasters are likely to form a positive perception of their relationships with the corporation that performs mCSR for disaster relief.*

CSR Motives

Perceived motives of CSR initiatives have been found to be a strong predictor of public reactions to the initiatives because individuals do not always have a real experience with the initiative and are skeptical (S. Kim, 2011; Misani, 2017). Misani (2017) argues that CSR motives on public trust should be scrutinized in a two-stage model: how the motive attributions affect individuals' evaluation of CSR information credibility, followed by their effect on trustworthiness of the corporation. In addition, Groza, Pronschinske, and Walker (2011) found that the perceived organizational motives consumers assign to CSR are a key psychological mechanism through which proactive and reactive CSR information is processed (p. 639).

The typology of CSR motives was first proposed as single-dimensional and bipolar, including egoistic versus altruistic (e.g., Webb & Mohr, 1998), firm-serving versus public-serving (e.g., Barone, Miyazaki, & Taylor, 2000), and intrinsic versus extrinsic motives (e.g., Vlachos, Panagopoulos, & Rapp, 2013). Ellen, Webb, and Mohr (2006) propose a two-dimensional typology that includes four motives

(i.e., egoistic, values, stakeholder, and strategic) by considering the positive and negative evaluation of the motives. According to Ellen et al., egoistic-driven motives, as self-serving and negative, reflect a corporation's intention to exploit rather than help stakeholders and to have the secret purpose of profiting from the false impressions generated by misleading information. Values-driven motives (public-serving and positive) represent the public's belief that a corporation acts out of its character, cares about the cause, and has a genuine concern about social problems the specific CSR activity is geared toward (Skarmeas & Leonidou, 2013). Stakeholder-driven motives are based on the need to react to the external pressure or to satisfy publics' expectations and, thus, are public-serving and negative (Skarmeas & Leonidou, 2013). Identified as self-serving and positive, the strategic-driven motives refer to the corporate intention to boost sales, profits, or other economic objectives by engaging in CSR activities (Ellen et al., 2006).

Most research has found that egoistic- and stakeholder-driven motives drive negative public responses to CSR activities, whereas values-driven motives generate positive ones (Ellen et al., 2006; Sen, Bhattacharya, & Korschun, 2006; Skarmeas & Leonido, 2013). However, results on the effect of strategic-driven motives are inconclusive. Stakeholders responded positively to strategic-driven motives in the studies of Ellen et al. (2006) and Groza et al. (2011), whereas the responses recorded by Becker-Olsen, Cudmore, and Hill (2006) and Walker, Heere, Parent, and Drane (2010) were negative. Vlachos et al. (2013 and Vázquez, Lanero, García, and García (2013) found no significant effect of strategic-driven motives on stakeholder responses. The literature review led to the following hypothesis:

H4: Perceived motives of mCSR—egoistic-driven (4a), values-driven (4b), stakeholder-driven (4c), and strategic-driven (4d)—significantly predict Chinese individuals' perceived relationships with the corporation that performs mCSR for disaster relief.

Method

This study conducted an online survey that targeted Mainland Chinese who were affected by the Jiuzhaigou earthquake using Qualtrics, a Web-based software package frequently used in academia studies (Carr, 2013). To overcome the disadvantages of online surveys, this study applied two attention check questions in the beginning and middle of the survey to secure response quality. Participants were asked, "What color is the sky?" and "Make sure to select 'orange' for this question so that we know you are paying attention." Those who failed to provide the right answers were forced to leave the survey. The background of the Jiuzhaigou earthquake and a fictitious company called CAT Health were introduced. To be specific, CAT Health was described as a leading multinational corporation doing good for the local Chinese community. Its CSR activities with detailed actions such as donating and calling for volunteers on mobile apps were presented in the survey as well.

After the pilot study, the main test was conducted in September 2017 by randomly inviting 1,000 Mainland Chinese participants affected by the Jiuzhaigou earthquake to participate on Qualtrics' online panel. The professional panel data allow the researcher to obtain the most representative sample that is feasible. A total of 589 surveys were collected (response rate: 59%), among which 318 (54%) participants were men, and 271 (46%) were women. Their mean age was 33 years ($SD = 9.76$, ranging

from 18 to 68 years). Regarding education, 55.8% had a bachelor's degree, 19.9% a master's degree, 15.0% an associate degree, 6.1% a high school diploma, and 3.2% a doctoral degree. Participants had a wide range of monthly incomes: 12.4% less than \$455 (¥3,000), 13.3% between \$455 (¥3,000) and \$758 (¥5,000), 18.5% between \$758 (¥5,000) and \$1,212 (¥8,000), 28.0% between \$1,212 and \$2,273 (¥15,000), and 27.8% more than \$2,273 (¥15,000).

Measures

Gratifications Sought

We identified five factors such as cognition needs, entertainment, recognition needs, affection, and accessibility based on previous scales of gratifications for social media use on mobile devices in China (e.g., Cheng et al., 2015; Wei & Lo, 2006). Nineteen gratification items were used and a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) was applied to assess individuals' evaluation of gratification statements.

We adopted exploratory factor analyses as this study aimed to explore the relationships among variables without assuming an a priori fixed number of factors in the Chinese disaster context. As shown in Table 1, results of the exploratory factor analyses successfully yielded five gratification factors, accounting for 76.42% of the variance. Cognition needs (Eigenvalue = 3.91, Cronbach's α = .91, variance explained: 20.90%) contained five items (e.g., "broaden my knowledge base on a specific crisis" and "understand events happening in general"; $M = 5.98$, $SD = 1.01$). Entertainment (Eigenvalue = 3.16, Cronbach's α = .89, variance explained: 16.62%), contained four items (e.g., "kill time" and "have fun"; $M = 4.80$, $SD = 1.36$). Recognition needs (Eigenvalue = 3.03, Cronbach's α = .89, variance explained: 15.92%) consisted of four items (e.g., "enhance sense of belonging by joining the groups" and "enhance personal identity and value"; $M = 4.94$, $SD = 1.26$). Accessibility (Eigenvalue = 2.46, Cronbach's α = .83, variance explained: 12.97%) included four items (e.g., "respond to strangers' requests" and "add new friends anytime and anywhere"; $M = 5.13$, $SD = 1.10$). Affection (Eigenvalue = 1.90, Cronbach's α = .86, variance explained: 10.01%) consisted of two items (i.e., "let others know I care for them" and "get the feeling that the others care about me"; $M = 5.62$, $SD = 1.17$).

Table 1. Exploratory Factor Analyses of Gratifications Sought Items With Varimax Rotation.

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5
Cognition needs							
1. Understand events happening in a specific crisis	5.94	1.13	.86				
2. Understand events happening in general	6.12	1.21	.85				
3. Broaden my knowledge base on a specific crisis	5.88	1.15	.82				
4. Find out what's going on with the crisis in society	6.65	1.11	.74				
5. Broaden my knowledge base on what's going on in general	5.79	1.26	.86				
Entertainment							
6. Escape from study/work pressure	4.39	1.67		.85			
7. Kill time	4.95	1.57		.80			
8. Have fun	4.90	1.58		.88			
9. Release my emotions	4.95	1.51		.80			
Recognition needs							
10. Gain respect and support	4.85	1.42			.83		
11. Enhance sense of belonging by joining the groups	5.11	1.43			.71		
12. Enhance personal identity and value	4.63	1.50			.87		
13. Let other people know I care about the society	5.17	1.46			.67		
Accessibility							
14. Be available to friends anytime and anywhere	5.27	1.29				.66	
15. Add news friends anytime and anywhere	5.10	1.41				.70	
16. Respond to strangers' requests	4.64	1.56				.72	
17. Respond to friends' messages	5.50	1.23				.75	
Affection							
18. Let others know I care about them	5.60	1.27					.75
19. Get the feeling that the others care about me	5.68	1.28					.76
Eigenvalue			3.91	3.16	3.03	2.46	1.90
Cronbach's α			.91	.89	.89	.83	.86
Variance explained (%)			20.90	16.62	15.92	12.97	10.01

Note. Scales for gratifications sought items were 1 = strongly disagree to 7 = strongly agree.

Use of Mobile SNAs

We adopted two dimensions such as information-seeking and -sharing behaviors as the measure of SNA use on mobile devices (Cronbach's $\alpha = .93$).

Information-seeking behavior. Six questions were used to measure information-seeking behavior, which included "browsing updates from government agency's social pages" and "browsing updates from friends or family members' social pages" in the Jiuzhaigou earthquake. A 7-point scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), was applied ($M = 5.05$, $SD = 1.15$, Cronbach's $\alpha = .85$).

Information-sharing behavior. Seven questions such as "sharing a news article on the social media page," "commenting on news on social media pages about the crisis," and "uploading a picture/video related to the Jiuzhaigou earthquake on a social media page" were asked based on Jin, Fraustino, and Liu's (2016) study. A 7-point scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), was applied ($M = 4.63$, $SD = 1.61$, Cronbach's $\alpha = .92$).

Perceived CSR Motives

We adopted 14 items as the measurement, including stakeholder-driven, egoistic-driven, values-driven, and strategic-driven motives (Groza et al., 2011; Skarmeas & Leonidou, 2013). Exploratory factor analyses successfully extracted four dimensions, accounting for 78.61% of the variance. The first factor, stakeholder-driven motives (Eigenvalue = 3.08, Cronbach's $\alpha = .90$, variance explained: 23.71%), contained four items (e.g., "the corporation wants to keep its existing customers"; $M = 5.21$, $SD = 1.09$). The second factor, values-driven motives (Eigenvalue = 2.52, Cronbach's $\alpha = .87$, variance explained: 19.37%), contained three items (e.g., "the corporation has a long-term interest in the society"; $M = 5.27$, $SD = 0.91$). The third factor, egoistic-driven motives (Eigenvalue = 2.33, Cronbach's $\alpha = .83$, variance explained: 17.96%), also had three items (e.g., "the corporation is taking advantage of social causes"; $M = 4.01$, $SD = 1.29$). The fourth factor, strategic-driven motives (Eigenvalue = 2.28, Cronbach's $\alpha = .90$, variance explained: 17.57%), also had four items (e.g., "I feel its stockholders expect it"; $M = 4.96$, $SD = 1.09$). All items were measured on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Perceived OPRs

Scholars in the field of public relations have extensively discussed and measured the relationships between organizations and their publics (Cheng, 2018; Grunig & Huang, 2000). This study adopted Hon and Grunig's (1999) scale to measure participants' perceptions of their relationships with the corporation. The first dimension was trust ($M = 5.18$, $SD = 1.04$, Cronbach's $\alpha = .92$), which contained five questions such as "the corporation can be relied on to keep its promises" and "the corporation will take my opinions into account when making decisions." Second, satisfaction ($M = 5.36$, $SD = 0.95$, Cronbach's $\alpha = .91$) included four questions (e.g., "both the corporation and I would benefit from the relationship" and "I would enjoy dealing with the corporation"). The third dimension was control

mutuality ($M = 5.18$, $SD = 1.03$, Cronbach's $\alpha = .88$), consisting of three questions such as "the corporation and I will be attentive to what each other talk about." Last but not least, commitment ($M = 5.00$, $SD = 1.19$, Cronbach's $\alpha = .92$) consisted of two questions such as "I could see that the corporation wants to maintain a relationship with me." All questions were based on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

A composite measure for OPRs was created by combining the above four factors, including trust, satisfaction, control mutuality, and commitment ($M = 5.22$, $SD = 0.89$, Cronbach's $\alpha = .91$).

Results

A multiple regression analysis was conducted to test the impacts of individuals' gratifications sought for mobile SNA use and their consumption of the mobile SNAs in natural disasters in China (H1). The linear combination of accessibility, cognition, and recognition needs, affection, and entertainment jointly explained 31% of the variance in the level of mobile SNA use in this context, $R^2 = .31$, $F(5, 579) = 52.87$, $p < .001$. Specifically, recognition needs ($\beta = .35$, $p < .001$) and accessibility ($\beta = .29$, $p < .001$) significantly predicted the level of mobile SNA use. In addition, among the five types of gratifications sought, accessibility and recognition needs were found to be significant predictors of information-seeking and -sharing among Mainland Chinese on mobile SNAs in times of a natural disaster. This means that the more accessible SNAs on mobile devices are and the more recognition needs that people seek from these tools, the more frequently they would like to use SNA tools on mobile devices for information-seeking and -sharing during natural disasters in China. Contrary to our expectation, cognition needs and affection did not have a significant influence on mobile SNA use in this context. Notably, entertainment ($\beta = -.09$, $p < .05$) was found to negatively affect mobile SNA use. Hence, Hypothesis 1 was partially supported.

Hierarchical regression analyses tested the hypotheses regarding the influence of gratifications sought for mobile SNA use (H2), mobile SNA use of information-seeking and -sharing (H3), and perceived CSR motives (H4) on perceived OPR outcomes. The gratifications-sought variables were first entered in Model 1, information-seeking and -sharing were entered in Model 2, and CSR motives (i.e., egoistic-, values-, stakeholder-, and strategic-driven motives) were entered in Model 3. Preliminary analyses were conducted in SPSS20 and data indicated very low multicollinearity for all added independent variables (i.e., the tolerance ranged from .67 to .92). As shown in Table 2, hierarchical regression analyses revealed that the gratifications-sought variables jointly explained 36% of the variance in the quality of OPRs, $\Delta F(5, 412) = 46.62$, $p < .001$, $R^2 = .37$). In particular, accessibility ($\beta = .22$, $p < .001$), cognition needs ($\beta = .22$, $p < .001$), affection ($\beta = .13$, $p < .05$), and recognition needs ($\beta = .19$, $p < .001$) significantly predicted the quality of OPRs in Model 1. However, entertainment showed insignificant effects on OPR outcomes. Therefore, Hypothesis 2 was partially supported.

Table 2. Hierarchical Regression Analyses of the Organization–Public Relationship.

Independent variable	Dependent variable: Organization–public relationship			
	ΔR^2	ΔF	B	<i>t</i>
Model 1	.36	46.62***		
Accessibility			.22	3.67***
Cognition needs			.22	4.81***
Affection			.13	2.38*
Recognition needs			.19	3.47***
Entertainment			.05	1.17
Model 2	.11	5.18***		
Accessibility			.12	2.28*
Cognition needs			.20	4.70***
Affection			.09	1.92
Recognition needs			.04	0.67
Entertainment			.07	1.60
Information-seeking			.22	3.70***
Information-sharing			.22	3.50***
Model 3	.21	24.43***		
Accessibility			.03	0.61
Cognition needs			.09	2.58**
Affection			.05	1.34
Recognition needs			.05	1.12
Entertainment			.07	2.04*
Information-seeking			.09	1.91
Information-sharing			.15	3.11**
Egoistic-driven motives			−.19	−5.53***
Values-driven motives			.39	9.75***
Stakeholder-driven motives			.25	6.03***
Strategic-driven motives			.02	0.53

Note. ΔR^2 = change in R^2 ; ΔF = change in F ; β is the standardized coefficient.

* $p < .05$. ** $p < .01$. *** $p < .001$.

After controlling for the influence of the gratifications-sought variables, data showed that mobile SNA use frequency for information-seeking and -sharing jointly contributed to an additional 11% of the variance in OPR quality, $\Delta F(7, 410) = 5.18, p < .001, R^2 = .11$. Both information-seeking ($\beta = .22, p < .001$) and -sharing behaviors ($\beta = .22, p < .001$) on mobile SNAs demonstrated a large positive influence on the perceived quality of relationships with the corporation that practiced mCSR in Model 2. In other words, both information-seeking and -sharing behaviors on mobile SNAs could work as important influencers

of people's perceptions toward their relationships with mCSR-performing corporations for disaster relief in China. Thus, Hypothesis 3 was supported.

Finally, after controlling for the influence of the gratifications-sought variables, information-seeking and -sharing behaviors, the four types of CSR motives in Model 3 jointly explained an additional 21% of the variance in OPR quality, $\Delta F(11, 406) = 24.43, p < .001, R^2 = .21$. Specifically, values-driven motives ($\beta = .39, p < .001$) and stakeholder-driven motives ($\beta = .25, p < .001$) served as strong positive predictors of OPR outcomes, whereas egoistic-driven motives ($\beta = -.19, p < .001$) negatively influenced OPR outcomes. This indicates that the more likely individuals are to perceive the motive of mCSR for disaster relief as egoistic-driven, the lower level of relationship quality they perceive with the mCSR-performing corporation; the more likely individuals are to perceive the mCSR motive as values- or stakeholder-driven, the better relationship quality they perceive with the corporation. Strategic-driven motives were found to have an insignificant effect on OPR outcomes ($\beta = .02, p > .05$). Thus, Hypothesis 4 was partially supported.

Hierarchical regression analyses of this study also revealed interesting results on the mediation effects. First, the significant effects of affection needs ($\beta = .13, p < .05$) and recognition needs ($\beta = .19, p < .001$) on the quality of OPRs observed in Model 1 became insignificant when information-seeking and -sharing items were added to the equation. Thus, the effects of affection and recognition needs on OPRs were mediated by mobile SNA use for information-seeking and -sharing. Second, the significant impact of information-seeking ($\beta = .22, p < .001$) on OPRs observed in Model 2 became insignificant when egoistic-driven, values-driven, and stakeholder-driven CSR motives were considered. Thus, the effect of information-seeking on OPRs was mediated by the three above-mentioned CSR motives.

Discussion

The use of social technologies and mobile media is integrated into our social structure and has consequently changed the communication and behavior of people and organizations in societies. CSR efforts, enhanced by mobile technologies (mCSR), are at the frontier of innovation in improving the success of CSR initiatives for disaster relief by facilitating information-seeking and -sharing behaviors and strengthening engagement between corporations and their publics during disaster relief. This pioneering study examined Mainland Chinese people's reactions to mCSR for disaster relief. Results revealed that a corporation's mCSR for disaster relief drove positive OPR outcomes among individuals who sought the gratifications of accessibility, cognition needs, affection, and recognition needs by using mobile SNAs during the disaster; used mobile SNAs for seeking and sharing information during the disaster; and perceived the mCSR as driven by the corporation's value and stakeholder expectations.

OPR Predictors: Gratifications Sought and Use of Mobile SNAs

The positive influence of gratifications sought for mobile SNA use and consumption of mobile SNAs in disasters on perceived relational outcomes with the corporation that performed mCSR for disaster relief found in this study confirms findings from previous literature. When individuals' expectations for a corporation match their actual experience with the corporation, they tend to be satisfied with and trust the corporation (Martínez

& Rodríguez del Bosque, 2013; Oliver, 1993). Gratifications sought and use of mobile SNAs in disasters form expectations of disaster relief efforts enhanced by the use of mobile SNAs (i.e., mCSR in this study).

The research findings also advance our understanding of the link between the gratifications sought and mobile SNA use among Chinese people who were affected by the 2017 Jiuzhaigou earthquake disaster. The positive influence of accessibility and recognition needs and the negative effect of entertainment on the use of mobile SNAs were expected. Counterintuitively, cognition needs and affection did not motivate such media consumption. The insignificant effect of cognition needs is inconsistent with the findings of Lev-On (2012). A plausible explanation is the respondents' exposure to sufficient information about the disaster management disseminated by the Chinese government and/or the news media agencies (Niu, 2017). The insignificant effect of affection on media consumption might be because the respondents were directly or indirectly affected by the earthquake and, thus, they focused on recovering from the disaster rather than being cared for by others or showing care to others. In addition, the Jiuzhaigou earthquake lasted a very short time in comparison to disease outbreaks or typhoons and flooding. Therefore, the affective needs were relatively low and lasted for a shorter period.

Notably, this study identified that the effect of gratifications sought, such as affection and recognition needs, on the quality of OPRs was mediated by mobile SNAs such as information-seeking and -sharing behaviors. This interesting result revealed that mobile SNA use played a critical role in influencing individuals' perceived relational outcomes with corporations in a natural disaster in China. On Chinese SNAs, the largest number of Internet users (ranked as the most in the world; Statista, 2017) highly depend on these multifunctional online tools to seek and share information for interpersonal communication and emotional support; thus, corporations may conduct CSR campaigns frequently and widely on mobile SNAs of China.

OPR Predictors: Perceived CSR Motives

The identified effects of egoistic-driven and values-driven motives on public reactions to the mCSR-performing corporations in natural disasters in China are consistent with previous findings (Gao & Mattila, 2014). In contrast to the literature, however, a positive effect of stakeholder-driven motives of mCSR on OPRs was found in this study. This finding could be explained by the following. CSR attribution theorists have posited a negative evaluation of stakeholder-driven motives of CSR because CSR practice is not self-motivated but externally pushed by stakeholder demands (Ellen et al., 2006). However, self-motivation is less a concern for disaster-related CSR initiatives than those for economic, environmental, and social sustainability associated with the corporate operation for two reasons. First, the government, rather than corporations, is typically responsible for disaster relief. Second, CSR is an unfamiliar concept among Chinese people and, thus, they appreciate CSR efforts regardless of whether they are self-motivated or stakeholder-demanded.

Strategic-driven motives were the only CSR motive that exerted no influence on perceived OPRs, echoing the findings of Vlachos et al. (2013) and Vázquez et al. (2013). Hung-Baesecke, Stacks, Coombs, Chen, and Boyd (2018) argue that Chinese people are neutral to strategic-driven CSR (i.e., corporate efforts to fulfill societal needs to make profits). They usually generate a positive evaluation of strategic-driven CSR when a corporation demonstrates that the CSR initiative's social-impact objectives have been achieved. The insignificant effect of strategic-driven CSR might have resulted because the survey respondents had no

knowledge about the mCSR outcomes. This research provides further empirical support for the inconclusive result of the negative public reactions to strategic CSR.

Interestingly, this study also found that the effect of information-seeking on relational outcomes was mediated by three CSR motives: egoistic-, values-, and stakeholder-driven motives. This finding suggests that individuals might frequently seek information on mobile devices in a natural disaster. However, they tend to seek negative information and distrust corporate CSR activities if egoistic-driven CSR motives are perceived (Skarmeas & Leonido, 2013). Consequently, when corporations intend to influence people's perceptions through CSR activities in disasters in China, CSR motives play an important role in determining the perceived relational outcomes.

Practical Implications

The research findings provide the following insights into how mobile and social media change the landscape of CSR practices in China. First, when applicable, mCSR should be practiced if a corporation decides to contribute to disaster relief in China. Corporations should also explore the feasibility of using their general-purpose mobile apps (e.g., WeChat accounts or brand apps) for mCSR. Such an operation is worth trying because it can facilitate the effectiveness of mCSR because of user familiarity with the platform (Tan et al., 2017) and/or enable the mCSR to be implemented whenever applicable. The continuity of the mCSR practice, in turn, significantly contributes to positive public attitudes toward the corporation (Oh, Chen, & Hung-Baesecke, 2017; Rim & Kim, 2016). Second, such mCSR efforts should be actively communicated to the Chinese public to cultivate OPRs, targeting those who seek gratifications from and use mobile SNAs during disasters. Third, two messages (i.e., how mobile technologies can enhance the social impacts of the mCSR practice and actual outcomes of the practice) should be emphasized in mCSR communication to encourage assignment of a positive motive to the mCSR practice among the target audience. The former message should be an appeal when the mCSR is announced, and the latter should be used in the CSR communication after the practice is completed (i.e., after the disaster relief).

Limitations

Even though the study makes significant contributions to the body of knowledge of CSR and crisis management among Chinese mobile SNA users, it has several limitations that should be noted and addressed in future research. First, this study used a random sample drawn from a professional online panel rather than directly from the general population. More research should be conducted to test the generalizability of the results. Second, distrust is a concept distinct from trust in its formation and effect in the context of CSR communication (Cheng, Jin, Hung-Baesecke, & Chen, 2018). However, this study did not add distrust as one dimension of OPR outcomes and did not discuss potential differences between trust and distrust. The concept and mechanism of control mutuality have been underexamined in the Chinese context as well.

Directions for future research include three dimensions. First, it is meaningful to examine the underlying mechanism that explains the effect of mCSR efforts on individual OPR outcomes, especially distrust and control mutuality. Second, another interesting topic for future research is to explore the

methods of how to best build mCSR efforts into a corporation's general-use mobile apps (Tan et al., 2017). Researchers can further test the effect of such practice on mCSR engagement and outcomes, the app's overall engagement, corporate reputation, OPRs, word-of-mouth intention, and purchase intention and behavior. Relationship marketing theory that posits to build relationships with consumers (or other stakeholders) by value-adding services or experiences might be a useful theoretical framework to approach the proposed examination (Brodie, Ilic, Juric, & Hollebeek, 2013). Last but not least, given the significant effect of CSR motives on OPRs, future research should further examine CSR narratives and communication styles (e.g., gamification; Coombs & Holladay, 2015) that can effectively articulate the motive of a CSR initiative to the Chinese public.

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