Activating Constructive Employee Behavioural Responses in A Crisis: Examining the Effects of Pre-Crisis Reputation and Crisis Communication Strategies on Employee Voice Behaviours

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Abstract
This study explores how organizational management can promote employee voice behaviours, as positive behavioural reactions with constructive ideas, in responding to organizational crisis. Using an experimental study ($N = 640$) among full-time employees in the United States, the study found that pre-crisis internal reputation and crisis communication strategies—accommodative response and stealing thunder—positively and directly affected constructive employee voice behaviours in a crisis situation. Furthermore, the study revealed how post-crisis internal reputation mediates the influences of pre-crisis internal reputation and stealing thunder on positive/constructive and negative/destroyive employee voice behaviours. The findings of this study contribute to the theoretical development of crisis communication in the internal context of an organization, especially with respect to employee voice behaviours. The study also highlights an important practical implication for crisis managers who can activate and promote positive employee behaviour voices, thereby influencing leadership’s strategic decision-making in an organizational crisis.

Keywords
constructive employee voice; crisis response strategies; destructive employee voice; pre-crisis reputation; stealing thunder

INTRODUCTION
In an organization, employee communication with management about suggestions, ideas, and information about problems or issues of concern can have tremendous implications for an organization’s performance and even its survival (Morrison, [74], [75]). Organizational management (senior leaders) often relies on information from employees not only to learn about problems but also to develop solutions to problematic situations so that the organization can take corrective action, improve work functioning and organizational engagement, and make more effective strategic decisions (Burris, Rockmann, & Kimmons, [6]).

In this regard, previous research has devoted much attention to encouraging employee to speak up with constructive ideas—that is employee voice behaviour—as one important positive employee response to the problematic event (Burris et al., [6]; Detert & Burris, [29]). Specifically, employee voice behaviour has been considered to be a valuable asset for the companies because it serves organizational performance by fostering innovation and improvement in problematic or challenging situations (e.g. Liang, Shu, & Farh, [62]; Unler & Caliskan, [90]). Researchers have also found that employee voice behaviour can lead to improvements in employee and organizational outcomes, such as job satisfaction (e.g. Pohler & Luchak, [84]) and organizational commitment (e.g. Farndale, Van Ruiten, Kelliher, & Hope-Hailey, [32]). Thus, employee voice behaviour is a well-established concept in the literature of several disciplines, including organizational management and organizational psychology (Marchington, [64]; Unler & Caliskan, [90]).

However, to date, employee voice behaviour is under-researched in crisis management literature, in particular in internal communications, even though it can provide potential insights into how public relations researchers and practitioners can assist leaders’ decision-making processes and understanding of employee views and behaviours (Ruck, Welch, & Menara, [85]). In addition, employee voice behaviour becomes more important in an organizational crisis, where employees' needs and concerns should be effectively communicated to management (Heide & Simonsson, [47]). If the employees do not feel that their voices are being heard and their concerns are being acted on, they are likely to direct their messages externally, to the public domain (Miles & Mangold, [71]). Their messages can be constructive—reinforcing positive organizational reputation—or destructive—undermining organizational reputation (Frandsen & Johansen, [40]).
Employee voice behaviour can direct expressions of voice internally, improving the management's internal crisis communication, and contributing to management decision-making (Miles & Mangold, [71]). Furthermore, the information conveyed employee voices (credible recourses) is often reflected in the official statement an organization makes to deal with the crisis (Opitz, Chaudhri, & Wang, [81]). For example, Amazon's CEO referenced an employee's voice in his internal communication message in response to a negative publicity (Opitz et al., [81]). However, extant studies provide little information on internal crisis communication and how it facilitates employee voice behaviour. Crisis communication researchers have predominantly focused on the external dimensions of crisis communication (such as reputation management among external publics), not employees in an organizational crisis (Kim, [55]; Simonsson & Heide, [86]; Strandberg & Vigsø, [87]).

By conducting an experimental study ($N = 640$) among full-time employees in the United States, this study aims to provide theoretical and practical implications for internal crisis communication by exploring how organizational management can promote employee voice behaviour—specifically, positive behavioural reactions with constructive ideas—in organizational crises. In doing so, this study examines important factors for effective crisis communication that may directly and indirectly influence such behavioural outcomes in a crisis, including pre- and post-crisis internal reputation and crisis communication timing and response strategies.

**LITERATURE REVIEW**

**Employee voice behaviour**

Employee voice behaviour is defined as "discretionary verbal communication of employees' ideas, suggestions, concerns, information about problems, or opinions" intended to stimulate an organizations' improvements and communicated to superiors with the perceived power to take an action (Burris, Detert, & Romney, [5]; Morrison, [75], p.174). Employee voice behaviour originates from the voice concept, which describes employees' proactive speaking up behaviours and suggestions (e.g. Van Dyne, Ang, & Botero, [91]). Hirschman ([48]) originally defined voice as "any attempt at all to change rather than escape from an objectionable state of affairs" (p. 30). Based on Hirschman's concept, voice has been studied as one manifested employee behavioural outcome (i.e. exit, voice, loyalty, and neglect: EVLN) in the workplace (Hagedoorn, Van Yperen, Van de Vliert, & Buunk, [44]).

Employee voice behaviour in the workplace has been described as important behavioural responses, such as acts of verbal expression, discretionary behaviour, and the notion of voice being constructive in its intent; these are important for fostering change and innovation, qualities that are essential to successful organizations (Ruck et al., [85]). For this reason, previous research has attempted to identify important factors that promote employee voice behaviours, including job satisfaction (e.g. Farrell, [33]), climate for voice (e.g. Morrison, Wheeler-Smith, & Kamdar, [76]), employee identification (e.g. Burris et al., [6]), managerial behaviours (e.g. Detert & Burris, [29]), and employee personality characteristics (e.g. LePine & Van Dyne, [61]). However, empirical evidence for predicting employee voice behaviours is unclear in some studies, leading to the need for a more precise conceptualization in voice research by distinguishing different types of employee voice behaviour (e.g. Turnley & Feldman, [88]). Such studies have suggested that managers may differ from employees in their outlook on how they encourage and discourage voice behaviours, distinguishing between various types of voice that may have different aetiologies (Lee, Diefendorff, Kim, & Bian, [59]).

In an effort to identify different employee voice behaviours, Hagedoorn et al. ([44]) proposed two forms: destructive (aggressive) voice behaviour and constructive (considerate) voice behaviour; these differ in their degrees of constructiveness, from problem-solving to contention. Constructive voice behaviour or considerate employee voice behaviour "consists of attempts to solve the problem considering one’s own concerns as well as those of the organization" (Hagedoorn et al., [44], p. 311). Destructive voice behaviour or aggressive employee voice behaviour "consists of efforts to win, without consideration for the concerns of the organization"
Subsequent studies have revealed different psychological and attitudinal antecedents in employees for these behaviours, such as high self-efficacy for destructive (aggressive) voice and high job satisfaction for constructive (considerate) voice behaviours (Hsiung & Yang, [49]; Vantilbourgh, 2015). Still, previous research has rarely explored how constructive employee voice behaviour can be facilitated and destructive employee voice behaviour can be suppressed in the context of internal communication during an organizational crisis.

Employee voice behaviour and internal crisis communication
Due to its nature as an unexpected event, an organizational crisis is a time of ambiguity, uncertainty, and struggle to regain control within the organization (Miller & Heath, [72]). In terms of the internal context of an organization, organizational crisis is a severely problematic situation for employees, because it inherently produces ambiguity and uncertainty (Ulmer, Sellnow, & Seeger, [89]). During a crisis, employees become active sense-makers and sense-givers who voluntarily search out and share negative or positive organization-related information, both internally and externally, by discussing the information and conveying their perspective of the crisis with co-workers, customers, friends, and so on (Kim & Rhee, [54]). Since employees act on their understanding of a crisis situation—an understanding that is socially constructed—employee voice behaviours reflect how employees understand the situation and interpret the crisis information (Heide & Simonsson, [47]; Weick, [94]).

Recent internal crisis communication studies have indicated the importance of managing employee voice behaviours for effective crisis management; by channelling crisis information from employees in terms of improving internal processes and avoiding potential damage to the organization, appropriate response and problem-solving can be achieved during a crisis (Miles & Mangold, [71]; Strandberg & Vigsø, [87]). By doing so, organizations can rely on employee voice behaviours to advocate for the organization and thus to mitigate organizational damage during a crisis situation (Opitz et al., [81]). Employees’ eye-witness perspective can make them an invaluable asset in thwarting reputational harm during a crisis, because their information is more credible than other organizational sources (e.g. CEO) (van Zoonen & van der Meer, [92]).

More importantly, the ultimate goal of effective crisis communication is to maintain or increase supportive behaviours towards an organization in the crisis (Coombs, [18]; Coombs & Holladay, [25]). In the same vein, the primary objective for internal crisis communication is to activate employee behaviours such that employees can remain committed in their roles as well as collaborate to overcome the crisis (Mazzei & Ravazzani, [66]). To promote employee voice behaviour in an adverse condition (e.g. a crisis situation), an examination of situational factors in the workplace is suggested as a better predictor than other characteristics (e.g. satisfaction) (Naus, van Iterson, & Roe, [77]). In this sense, this study explores some important internal crisis communication factors, including pre-crisis reputation and communication response (message) and timing strategies, to predict employee voice behaviours—in particular, employee behavioural responses that are constructive and destructive for the organization.

Pre-crisis reputation and employee voice behaviours
Emphasizing organizational reputation from the employees' perspective, Men ([70]) defined internal reputation as "employees' overall evaluation of the organization based on their direct experiences with the company and all forms of communication" (p. 256). In general, organizational reputation is the cognitive representation of the organization in multiple publics' awareness and/or the publics' evaluation of the organization (Yang & Grunig, [95]), or the net perception of a company's ability to meet the expectations of all its publics (Fombrun, [35]). Fombrun et al. insisted that a company's reputation is built on a collective foundation that should be assessed by different dimensions, such as corporate emotional appeal, products and services, financial performance, vision and leadership, workplace environment, and social responsibility (Fombrun, Ponzi, & Newbury, [37]).
They also argued that organizational reputation is held by both external and internal publics, and significant gaps between the internal reputation and the external reputation can be associated with future crises (Fombrun, Gardberg, & Sever, [36]).

In this regard, scholars have suggested the importance of managing positive internal reputation so as to both create a positive external view (Davies, Chun, da Silva, & Roper, [28]) and protect external reputation in an organizational crisis (Grunig, Grunig, & Dozier, [43]). Prior research has demonstrated that a favourable internal reputation based on employees' evaluations or perceptions increases positive employee behaviours, including job and organization engagement (e.g. Men, [69]), job performance (e.g. Carmeli, Gilat, & Waldman, [7]), citizenship behaviours (e.g. Kang & Bartlett, [53]), and low turnover intentions (e.g. Mishra, [73]).

In the same vein, previous research of employee management has indicated that internal reputation could enhance employee voice behaviours. Naus et al. ([77]) have suggested that employees' perceptions of coherent organizational practices can create an atmosphere in which all employees are able to establish a sense of self-worth and self-respect and to respect others. Vantilborgh ([93]) also implied that employees' positive perceptions of their organization are positively associated with considerate voice behaviour as a constructive response and are negatively related to aggressive voice behaviour as a destructive response.

In the context of crisis communication, the extant literature suggests that positive pre-crisis reputation can increase positive behaviours in the crisis situations. Lyon and Cameron ([63]) demonstrated that customers' post-crisis supportive behaviours towards the organization were more favourable for companies with positive reputations than for companies with negative reputations. Recently, other scholars have also found that an organization's positive pre-crisis reputation could protect post-crisis reputation and increase purchase of corporate products in the product-harm crises (e.g. Hegner, Beldad, & Kraesgenberg, [46]). The literature beyond crisis communication has established the positive effects of previous reputation as an attitudinal antecedent on the external publics' (e.g. shareholders or consumers) behavioural intentions or behaviours (e.g. Gatti, Caruana, & Snehota, [41]).

By applying such empirical evidence for the positive association between pre-crisis reputation and supportive behavioural responses to internal crisis communication, therefore, this study posited the following hypothesis:

1 H A favorable internal pre-crisis reputation will have a positive effect on constructive employee voice behaviors (H1a) and a negative effect on destructive employee voice behaviors (H1b).

**Crisis communication strategies and employee voice behaviours**

Two communication strategies—crisis response and timing strategies—are widely used for effective crisis communication, affecting such behavioural crisis outcomes as word-of-mouth and purchase intent (Claeys & Opgenhaffen, [15]). Specifically, previous research has tested and provided substantial evidence-based assessments of highly accommodative response and proactive self-disclosure as the optimal strategies (Claeys & Coombs, [14]).

In terms of effective crisis response (message) strategies, situational crisis communication theory (SCCT) is a mainstream theory in crisis communication, positing how best to protect an organizational reputation and increase supportive behaviours towards an organization in crisis (Claeys & Opgenhaffen, [15]; Coombs, [18], [19]). According to SCCT, crisis managers need to manage meanings of the crisis by a high fit or match between crisis types, based on different levels of crisis responsibility attributed to the organization and on crisis response strategies ranging from defensive (denial) to accommodative (apology) strategies (Coombs, [18]; Coombs & Holladay, [23]).
Applying crisis response strategies to a variety of crisis situations, existing studies have found strong empirical evidence of the impact of accommodative crisis response strategies on supportive behavioural intentions, including recommendation and purchase or investment intention (e.g. Hegner et al., [46]; Lyon & Cameron, [63]; Park, [82]). More recent studies confirmed such a relationship between crisis response strategies and positive behavioural outcomes in social media contexts by demonstrating that accommodative strategies could increase positive online word-of-mouth posts about the organization (Kim & Park, [57]), engagement in dialogic communication with the organization (Park & Cameron, [83]), and sharing of accommodative posts (DiStaso, Vafeiadis, & Amaral, [30]) in a crisis.

In addition, the importance of communication timing, or when an organization releases crisis information (the timing of self-disclosure), has been emphasized as an important communication strategy during a crisis (Claeys & Cauberghe, [9]; Coombs, [19]). The timing of crisis-related information disclosure is considered a strategy that crisis managers can use to reduce the negative effects of a crisis or of an incident that may develop into a full-blown crisis (Beldad, van Laar, & Hegner, [4]). One communication timing strategy is the stealing thunder strategy (referred to as a self-disclosure strategy or an ex ante crisis timing strategy), in which an organization proactively releases crisis information to the publics before other parties can, such as the government or media (Arpan & Pompper, [1]; Claeys & Cauberghe, [9]). Another communication timing strategy involves waiting to release information until inquiries have arisen from the media and other parties; this strategy is called thunder, or an ex post-crisis timing strategy (Arpan & Roskos-Ewoldsen, [2]; Claeys, Cauberghe, & Leysen, [11]).

Scholars have noted the positive effects of stealing thunder on supportive behavioural intentions; mere self-disclosure of negative information (compared with third-party disclosure) positively affected consumers' choices in a health-product purchase in the future (Fennis & Stroebe, [34]). Such a proactive crisis communication strategy can reduce consumers' intentions to engage in negative word-of-mouth about the organization in the crisis (Einwiller & Johar, [31]). More recent studies have confirmed the positive effects of stealing thunder on customers' supportive behavioural intentions towards a company (repeated purchase of product) across different crises, such as an organizational misdeed (Lee, [60]) or a product-harm crisis (Beldad et al., [4]).

However, previous studies focusing predominantly on such crisis communication strategies have examined organizations' communications with external publics (customers), not internal publics (employees), during a crisis (Mazzei & Ravazzani, [66]). When the internal context of an organization is considered, the importance of appropriate crisis response and timing strategies becomes apparent (Ulmer et al., [89]). In a crisis, employees are eager to find out what happened and what is going on in their organization, and they have high expectations of receiving adequate, relevant, and timely information from management (Heide & Simonsson, [47]; Johansen, Aggerholm, & Frandsen, [52]). Moreover, employee research scholars have emphasized that internal communication occupies a pivotal position in generating employee communication behaviours (Grunig, [42]) that are particularly relevant in a crisis situation (Kim & Rhee, [54]; Mazzei, Kim, & Dell'Oro, [65]).

In this sense, it is imperative for managers to identify and carry out appropriate internal crisis communication strategies, because inappropriate strategies may worsen employees' individual and collective behavioural reactions during crisis (Ayoko, Ang, & Parry, [3]; Weick, [94]). More importantly, Mazzei and Ravazzani's ([66]) study also indicated that inappropriate crisis communication strategies (such as evasive and defensive responses) could lead to negative employee behaviours that undermine relationships with the organization. Applying effective crisis communication strategies such as accommodative response and stealing thunder to internal crisis communication, this study suggested the following hypotheses:

2 H Accommodative strategies will have a positive effect on constructive employee voice behaviors (H2a) and a negative effect on destructive employee voice behaviors (H2b)
Stealing thunder strategies will have a positive effect on constructive employee voice behaviors (H3a) and a negative effect on destructive employee voice behaviors (H3b).

Mediating the role of post-crisis reputation for employee voice behaviours

Extant crisis communication research has demonstrated the effects of post-crisis reputation on behavioural outcomes. According to SCCT in particular, the more negative the reputation, the less likely stakeholders are to report behavioural intentions that support an organization (e.g. using products or services) (Coombs, [20]). The reputational damage inflicted by a crisis can lead customers to stop buying products or lead community members to no longer support the organization (Coombs, [18]). The existing research has confirmed a close link between post-crisis reputation and behavioural intentions, such as purchase intention and support for an organization (Coombs, [17]; Coombs & Holladay, [22]; Park & Cameron, [83]).

In addition to the link between post-crisis reputation and behavioural outcomes, crisis communication scholars have found positive effects of pre-crisis reputation and crisis communication strategies on post-crisis reputation. These scholars have demonstrated how a favourable pre-crisis reputation can act as benefit of the doubt or shield that generates positive effects (i.e. the halo effect) on post-crisis reputation (e.g. Claeys & Cauberghe, [10]). The researchers have also demonstrated how an unfavourable pre-crisis reputation can exacerbate a crisis situation by bringing about additional damage to post-crisis reputation (i.e. the Velcro effects) (e.g. Coombs & Holladay, [24]).

In terms of crisis communication strategies, accommodative response has been found to be more effective than defensive response, avoiding blame and negative impressions and restoring or maintaining a more favourable post-crisis reputation (Lee, [58]). These effects are seen across different crisis situations, such as product tampering (Claeys, Cauberghe, & Vyncke, [13]), car recall (Choi & Chung, [8]), or food poisoning (Crijns, Claeys, Cauberghe, & Hudders, [27]) crises. As to the positive effects of stealing thunder on post-crisis reputation, previous research has demonstrated that self-disclosing a crisis can result in a less negative post-crisis organization reputation (Claeys & Cauberghe, [9]) and reduces the impact of negative publicity on the organization by diverting customers' attention (Claeys, Cauberghe, & Pandelaere, [12]); this is because self-disclosing a crisis can be perceived as credible and legitimate news (Fowler, [38]), thereby leading to positive news stories based on the sources provided by communication practitioners (Zhou & Shin, [97]). In the internal context, Ayoko et al.'s ([3]) research (based on textual analyses of newspapers and websites for three organizations' crisis communications) confirmed that crisis response strategies directed at employees can help organizations restore their image after a crisis. Therefore, this study suggested the following hypothesis:

Post-crisis reputation will mediate the positive effects of pre-crisis reputation and crisis communication strategies on constructive employee voice behaviors (H4a) and their negative effect on destructive employee voice behaviors (H4b).

This study presents a proposed model with attendant hypotheses in Figure 1.
METHOD

Study design
For the research design, this study used a 2 (response strategy: accommodative or defensive) x 2 (timing strategy: stealing thunder or thunder) experimental study with the between-subjects groups. This study included employee pre-crisis reputation as a measured variable because it was assessed based on the participants’ existing company reputations. To ensure the validity of measures for determining pre-crisis reputation, scholars suggest that researchers use existing favourable and unfavourable reputations from actual organizations, rather than trying to produce favourable or unfavourable reputations with one message (Coombs & Holladay, [24]).

Other independent variables, such as response message strategy and timing strategy, were manipulated. Since there are different characteristics or channels of internal communication instruments, including organizational periodicals, e-mail, intranet, formal meetings, and bulletin boards, used by organizations during a crisis (Johansen et al., [52]; Mazzei & Ravazzani, [66]), this study provided participants with scenarios that described a crisis situation and different communication strategies implemented by their company rather than showing a certain type of instrument (e.g. e-mail or bulletin board message). A crisis history was included as a control variable in this study because this factor can function as an intensifier of a crisis situation when the public perceives the situation and evaluates organizational reputation (Coombs, [17]).

Participants
A total of 640 full-time employees participated in this study. The participants were recruited through an online research firm (Qualtrics), which maintains 1.8 million panel members, and paid five US dollars to complete the questionnaire. The participants were full-time employees working in the automotive industry in the United States. This industry has been one of the nation's five most crisis-prone industries for the past three years, according to the Institute for Crisis Management’s Annual Crisis Report (ICM Annual Crisis Report, [51]). The average age of participants was 39.08 (SD = 12.38), ranging from 19 to 80 years. Women made up 50% (n = 320), and men made up 50% (n = 320). Regarding the participants' ethnic groups, 79.7% (n = 510) were White, 9.1% (n = 58) were African American, 6.6% (n = 29) were Hispanic/Latino, 3.0% (n = 19) were Asian or Asian American, and 1.7% (n = 11) were other ethnicities (e.g. Native American). With regard to level of education, 28.7% of the respondents (n = 189) had a high school degree or less, 41.9% (n = 268) had a two-year associate’s degree or less, 20.5% (n = 131) had a bachelor’s degree or less than at a four-year university degree, and 8.1% (n = 52) had a postgraduate degree or less.
Stimulus development

To develop stimulus, fictitious scenarios were adopted from an actual crisis in the automotive industry (car recall) to enhance the ecological validity of the experimental design (Lyon & Cameron, [63]). The fictitious scenarios were created based on excerpts of press releases describing car recalls caused by a safety issue, causing a crisis for the participants’ companies. The excerpts of press releases were based on a press release created for the actual Toyota voluntary recalls in March 2018. To ensure validity of the situation and appropriateness of the writing style, two professional experts—one with more than a decade of professional experience in corporate communication in the automotive industry and the other with almost 30 years of experience in public relations writing—reviewed and edited the scenarios.

Each condition included a fictitious scenario written differently, in accordance with crisis response strategies (timing: stealing thunder or thunder X message: accommodative or defensive). Two different timing strategy conditions were created by changing the source that revealed the crisis event. For instance, participants in the thunder condition read an excerpt of a press release that a third party (Consumer Reports) had discovered a safety issue and participants' companies responded to it by conducting safety recalls. In the stealing thunder condition, the press release stated that the participants' company voluntarily revealed the safety issue and conducted the recall. Regarding the crisis response strategies, Coombs and colleagues (e.g. Coombs, Holladay, & Claeys, [26]) suggested that a defensive strategy (denial) should be used in cases that correlate to a lower level of crisis responsibility (e.g. technical-error product accidents) because it works to separate the organization from responsibility for the crisis, while an accommodative strategy (apology) works by accepting responsibility at a higher level of crisis responsibility (e.g. organizational misdeeds) by accepting responsibility. Accordingly, the suggestions were applied to the two conditions (stealing thunder and thunder); each story either took responsibility (accommodative) for the crisis as caused by management failure, or blamed other circumstances (defensive) to protect the organization. In this case, the defensive strategy stated that the crisis was accidently caused by a technological issue. Thus, four different conditions were created as stimuli (see Appendix 1).

Measures

The question items were mostly adopted from previous research. All items used a 7-point bipolar Likert-type scale, ranging from strongly disagree (1) to strongly agree (7) or another labelling of response categories, such as "very unlikely" to "very likely" or "not at all" to "very much." All measures used in this study are provided in Table 1.

| Condition A: Organizational self-disclosure and apology message (Accommodative and stealing thunder) | Condition C: Third-party (Consumer Reports) disclosure and organizational apology Message (Accommodative and thunder) |
| Condition B: Organizational self-disclosure and denial message (Defensive and stealing thunder) | Condition D: Third-party (Consumer Reports) disclosure and organizational denial message (Defensive and thunder) |

The pre-crisis internal reputation was measured by Men's ([70]) internal reputation scales, originally from the Harris–Fombrun Corporate Reputation Quotient, which consists of eight dimensions (Fombrun et al., [36]): emotional appeal, product and services, innovation, workplace, governance, citizenship, leadership, and performance (26 items, \( M = 5.24, SD = 1.41 \), Cronbach's alpha (\( \alpha = .98 \)).

Crisis history as a control variable was measured by a question (e.g. in the last five years, has your current company had direct experience with a similar incident as the crisis just described?) with answers falling on a 7-
point scale. Specifically, the 7-point scale for crisis history was provided as follows: (a) NO, (b) YES, once, (c) YES, twice, (d) YES, three times, (e) YES, four times, (f) YES, five times, and (g) YES, more than five times ($M = 1.92, SD = 1.62$).

For post-crisis internal reputation, the SCCT scales (Coombs & Holladay, [21]) were adopted and slightly modified (e.g. wording change: from this organization to my company) to measure employees' post-crisis reputation with four items. The post-crisis reputational scale, which originated from McCroskey's ([67]) measure of character, has been widely used for development and testing of SCCT in crisis communication research over the last two decades. To remind the participants of this scale asking about their organization's reputation post-crisis, this study provided instructions (in regard to the crisis message you read, how likely would you be to perceive each of the following) prior to the presentation of the post-crisis reputation scales ($M = 5.11, SD = 1.69, \alpha = .95$).

Employee voice behaviours were measured by Hagedoorn et al.'s ([44]) two types of voice measures: considerate voice, with eight items for constructive employee voice behaviours ($M = 5.46, SD = 1.31, \alpha = .95$), and aggressive voice, with seven items for destructive employee voice behaviours ($M = 3.21, SD = 1.47, \alpha = .89$).

**Procedure**

An online research firm (Qualtrics), which maintains 1.8 million panel members, solicited participants using an online survey link that contained an informed consent form and a questionnaire. The firm selectively sent the link to its online panel members who are full-time employees, and a qualifying question asking about their full-time status was used to verify their employment. A pretest ($N = 60$) was conducted to check for randomization and instruments for accuracy and believability (content credibility) of the fictitious scenarios and clarity of the questions used in the study. Respondents in the pretest answered that the fictitious scenarios were accurate ($M = 5.35, SD = 1.61$) and believable ($M = 5.45, SD = 1.55$) and all questions were clear ($M = 6.43, SD = 0.87$) based on a 7-point semantic differential scale, ranging from inaccurate, unbelievable, or unclear (1) to accurate, believable, or clear (7). Therefore, no issues were found in the pretest. The main test was then conducted among 640 full-time employees ($N = 640$) in medium and large corporations in the automotive industry. Participants in the pretest and the main test were different employees, and repeated participation was blocked or not solicited.

Participants gave their consent to participate in the study after reading the purpose, procedures, statement of privacy, and benefits. The participants then provided answers for questions about internal reputation within their companies (i.e. pre-crisis internal reputation). The participants were then assigned to one of four experimental conditions (see Table 1), based on a randomization procedure designed by Qualtrics.com. To help the participants imagine the crisis involved their own company, a following instruction was given to the participants before the stimulus was shown: You will read a scenario talking about your company's car recall. Please read it carefully to answer the subsequent questions. When you answer the questions, please remember that your company faces the crisis situation as the following statement describes. After reading the stimulus, participants answered a question about whether their company has had direct experience with an incident similar to the recall crisis described. This question was used to measure crisis history. Participants then provided answers for a series of questions measuring the dependent variables: post-crisis internal reputation and constructive and destructive voice behaviours. To guide the participants provide answers based on the crisis scenario they read, the specific instructions (e.g. in regard to the recall crisis you read, please answer the following statements and please indicate how likely it is that you would react to the crisis in the described ways) were present prior to showing questions for post-crisis internal reputation and employee voice behaviours. On
the last page, participants were debriefed and told that the crises were fictitious and had been created for the purposes of the study.

RESULTS

Manipulations checks
A series of the independent-samples t tests were used to check the manipulations for both the response and timing strategies. The t tests yielded the result that the manipulations were successful as intended. With regard to the manipulation of crisis response strategies, participants who read a defensive message from their company were more likely to perceive their company as trying to blame the crisis on other circumstances outside the organization's control, \( t(638) = -6.11, p < .001 \) (\( M_{\text{accommodative}} = 3.46, SD_{\text{accommodative}} = 2.05, M_{\text{defensive}} = 4.42, SD_{\text{defensive}} = 1.89 \)). Those who read an accommodative message were more likely to perceive that their company took full responsibility for the crisis, \( t(638) = 7.67, p < .001 \) (\( M_{\text{accommodative}} = 5.70, SD_{\text{accommodative}} = 1.41, M_{\text{defensive}} = 4.70, SD_{\text{defensive}} = 1.86 \)).

Furthermore, this study checked and confirmed the appropriateness of the defensive and accommodative strategies, depending on different levels of crisis responsibility (Coombs et al., [26]). Crisis responsibility was measured by two questions (\( M = 4.20, SD = 1.48, r = .40 \)) (e.g. "the blame for the crisis lies with my company"). These have been used for attribution of crisis responsibility in the SCCT research (Coombs, [16]). A binary regression revealed that the message strategy accounted for a significant portion of variance in crisis responsibility, \( R^2 = .01, F(1, 638) = 4.69, p = .03 \). The accommodative condition (\( \bar{Y}_{\text{accommodative}} = 4.33 \)) had higher crisis responsibility than the defensive condition (\( \bar{Y}_{\text{defensive}} = 4.08 \)), and the difference between the two conditions was statistically significant at \( p = .03 \).

In terms of the timing strategy, the participants in the stealing thunder condition reported their company as the information revealer ("the recall was voluntarily announced by your company"), and the mean scores of participants in the stealing thunder condition were significantly higher than those in the thunder condition, \( t(638) = 6.95, p < .001 \) (\( M_{\text{stealing\_thunder}} = 5.45, SD_{\text{stealing\_thunder}} = 1.62, M_{\text{thunder}} = 4.49, SD_{\text{thunder}} = 1.87 \)). In the thunder condition, the participants confirmed a third party, Consumer Reports, as the first source of information disclosure ("the recall was discovered by Consumer Reports first, and your company then responded to it"), \( t(638) = -7.04, p < .001 \) (\( M_{\text{stealing\_thunder}} = 4.07, SD_{\text{stealing\_thunder}} = 2.05, M_{\text{thunder}} = 5.10, SD_{\text{thunder}} = 1.63 \)).

Dimensionality checks
For dimensionality checks, this study performed a confirmatory factor analysis (CFA) using AMOS 23 to analyse the dimensionality of multiple items underlying a single construct (pre-crisis internal reputation, post-crisis internal reputation, and constructive and destructive voice behaviours). Through the CFA procedure, this study confirmed a theoretical factor structure (Netemeyer, Bearden, & Sharma, [78]). The CFA model achieved the acceptable model fit, \( \chi^2 (923, = 640) = 2,457.28, p < .001, \chi^2/df = 2.66, \) Comparative Fit Index (CFI) = 0.94, Tucker–Lewis Index (TLI) = 0.94, root mean square error of approximation (RMSEA) = 0.06, and standardized root mean residual (SRMR) = 0.05. Acceptability was established in terms of joint criteria from Hu and Bentler ([50]) (CFI \geq 0.95 and SRMR \leq 0.80 or RMSEA \leq 0.05 and SRMR \leq 0.08) and Hair, Black, Babin, and Anderson ([45]) (\( \chi^2/df \leq 3.00, TLI \geq 0.90, SRMR \leq 0.08 \) with CFI \geq 0.92, and RMSEA \leq 0.07 with CFI \geq 0.92).

Furthermore, this study assessed standardized loading estimate, convergent validity, and discriminant validity for construct validity. All standardized loading estimates for latent variables were greater than 0.50 with statistical significance, thus achieving convergent validity; average variance extracted (AVE) was greater than
maximum shared variance (MSV) for each variable, thus achieving discriminant validity. Composite reliability (CR) was successfully established (CR > 0.70) in all measurement items (Hair et al., [45]) (see Table 2).

2. Table Composite reliability and construct validity of pre-crisis internal reputation, post-crisis internal reputation, and employee voice behaviours (N = 640)

<table>
<thead>
<tr>
<th>Latent variables</th>
<th>Measurement items</th>
<th>β</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-crisis internal reputation</td>
<td><strong>Emotional appeal (EA)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EA1: I have a good feeling about my company.</td>
<td>.93</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>EA2: I admire and respect my company.</td>
<td>.94</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>EA3: I trust my company.</td>
<td>.92</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td><strong>Product and services (PS)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PS1: My company stands behind its products and services.</td>
<td>.87</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>PS2: My company meets customer needs.</td>
<td>.89</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>PS3: My company offers high-quality products and services.</td>
<td>.88</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td>PS4: My company offers products and services that are a good value for the money.</td>
<td>.76</td>
<td>.76</td>
</tr>
<tr>
<td>Innovation (IN)</td>
<td><strong>Innovation (IN)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IN1: My company is an innovative company.</td>
<td>.87</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>IN2: My company is generally the first company to go to market with new products and services.</td>
<td>.82</td>
<td>.67</td>
</tr>
<tr>
<td></td>
<td>IN3: My company adapts quickly to change.</td>
<td>.85</td>
<td>.71</td>
</tr>
<tr>
<td>Workplace (WP)</td>
<td><strong>Workplace (WP)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WP1: My company rewards its employees fairly.</td>
<td>.87</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>WP2: My company demonstrates concern for the health and well-being of its employees.</td>
<td>.91</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>WP3: My company offers equal opportunities in the workplace.</td>
<td>.86</td>
<td>.74</td>
</tr>
<tr>
<td>Governance (GO)</td>
<td><strong>Governance (GO)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GO1: My company is open and transparent about the way the company operates.</td>
<td>.89</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td>GO2: My company behaves ethically.</td>
<td>.91</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>GO3: My company is fair in the way it does business.</td>
<td>.91</td>
<td>.83</td>
</tr>
<tr>
<td>Citizenship (CT)</td>
<td><strong>Citizenship (CT)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CT1: My company supports good causes.</td>
<td>.91</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>CT2: My company acts responsibly to protect the environment.</td>
<td>.84</td>
<td>.71</td>
</tr>
<tr>
<td></td>
<td>CT3: My company has a positive influence on society.</td>
<td>.90</td>
<td>.80</td>
</tr>
<tr>
<td>Leadership (LD)</td>
<td><strong>Leadership (LD)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD1: My company has a strong and appealing leader.</td>
<td>.89</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>LD2: My company has a clear vision for its future.</td>
<td>.88</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>LD3: My company is a well-organized company.</td>
<td>.89</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td>LD4: My company has excellent managers.</td>
<td>.87</td>
<td>.75</td>
</tr>
<tr>
<td>Performance (PF)</td>
<td><strong>Performance (PF)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PF1: My company is a profitable company.</td>
<td>.91</td>
<td>.61</td>
</tr>
<tr>
<td></td>
<td>PF2: My company delivers financial results that are better than expected.</td>
<td>.83</td>
<td>.70</td>
</tr>
<tr>
<td></td>
<td>PF3: My company shows strong prospects for future growth.</td>
<td>.78</td>
<td>.84</td>
</tr>
</tbody>
</table>

- Composite reliability (CR): 0.98
- Average variance extracted (AVE): 0.83
- Maximum shared variance (MSV): 0.65
<table>
<thead>
<tr>
<th>Post-crisis internal reputation (IR)</th>
<th>IR1: My company is concerned with the well-being of its employees.</th>
<th>.85</th>
<th>.72</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR2: My company is basically HONEST.</td>
<td></td>
<td>.93</td>
<td>.87</td>
</tr>
<tr>
<td>IR3: I trust my company to tell the truth about this situation.</td>
<td></td>
<td>.93</td>
<td>.87</td>
</tr>
<tr>
<td>IR4: Under most circumstances, I would be likely to believe what my company says.</td>
<td></td>
<td>.92</td>
<td>.84</td>
</tr>
</tbody>
</table>
| • Composite reliability (CR): 0.95
• Average variance extracted (AVE): 0.82
• Maximum shared variance (MSV): 0.65 |                                             |      |    |
| Constructive employee voice behaviour (CV) | CV1: I would try to come to an understanding with my supervisor. | .83  | .69|
| CV2: In collaboration with my supervisor, I would try to find a solution that is satisfactory to everybody. |                                             | .87  | .75|
| CV3: I would try to work out an ideal solution in collaboration with my supervisor. |                                             | .92  | .84|
| CV4: Together with my supervisor, I would explore each other's opinions until the crisis solved. |                                             | .90  | .80|
| CV5: I would try to compromise with my supervisor. |                                             | .79  | .63|
| CV6: I would talk with my supervisor about the crisis until I reach total agreement. |                                             | .85  | .72|
| CV7: I would suggest solutions to my supervisor. |                                             | .84  | .71|
| CV8: I would immediately try to find a solution. |                                             | .82  | .68|
| • Composite reliability (CR): 0.96
• Average variance extracted (AVE): 0.73
• Maximum shared variance (MSV): 0.24 |                                             |      |    |
| Destructive employee voice behaviour (DV) | DV1: I would describe the crisis as negatively as possible to my supervisor. | .73  | .54|
| DV2: I would try to win the case. |                                             | .51  | .28|
| DV3: I would deliberately make the problem sound more problematic that it really is. |                                             | .87  | .75|
| DV4: I would be persistent with my supervisor in order to get what you want. |                                             | .65  | .42|
| DV5: I would be starting a "fight" with my supervisor. |                                             | .76  | .58|
| DV6: I would try to prove in all possible ways to my supervisor that I am right. |                                             | .73  | .54|
| DV7: By definition, I would blame my company for the crisis. |                                             | .72  | .52|
| • Composite reliability (CR): 0.88
• Average variance extracted (AVE): 0.51
• Maximum shared variance (MSV): 0.02 |                                             |      |    |

Note. Construct validity (standardized loading estimate > 0.50, convergent validity: AVE > 0.50, discriminant validity: AVE > ASV), and composite reliability (CR > 0.70) were successfully established in all measurement items (Hair et al., [45]). Confirmatory factor analysis (CFA) model goodness-of-fit indices met all of the joint criteria by Hu and Bentler ([50]) and Hair et al. ([45]): $\chi^2 (923, = 640) = 2,457.28, p < .001, \chi^2/df = 2.66$, Comparative Fit Index (CFI) = 0.94, Tucker–Lewis Index (TLI) = 0.94, root mean square error of approximation (RMSEA) = 0.06, and standardized root mean residual (SRMR) = 0.05. $\beta$: standardized loading estimate, $R^2$: explained variance.
Hypothesis testing

To test the hypotheses, ordinary least squares (OLS) multiple regression analysis was run using STATA 13. There was no violation of multicollinearity, as all independent variables met the criteria of VIF greater than 10 and tolerance less than 0.10. The Breusch–Pagan/Cook–Weisberg test revealed that heteroscedasticity was present only in a regression model of constructive employee voice behaviours as fitted values of the dependent variable, $\chi^2(1) = 21.96, p < .001$; consequently, the White heteroscedastic robust standard error was run as a remedial measure. The results of this study are reported in the regression model of constructive employee voice behaviours and independent variables. Another regression model of destructive employee voice behaviours did not violate homoscedasticity.

The independent variables in the model accounted for a significant portion of the variance in constructive employee voice behaviour, $R^2 = .22, F(6, 633) = 22.28, p < .001$, but not in aggressive employee voice behaviours, $R^2 = .01, F(6, 633) = 0.65, p = .69$ (see Table 2).

In terms of H1, which proposed positive effects of pre-crisis internal reputation on crisis outcomes, pre-crisis internal reputation was strongly positive, with statistical significance for constructive employee voice behaviours ($b = 0.47, t = 6.22, p < .001$) but not for destructive employee voice behaviours ($b = -0.02, t = -0.31, p = .75$), after controlling for the effects of other independent variables. Thus, H1 was partially supported.

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The associations between crisis communication strategy and crisis outcomes were not consistent with H2. When controlling for other effects, crisis message strategy (accommodative strategy: $b = 0.20, t = 2.14, p = .03$) was statistically significant for constructive employee voice behaviours but not for destructive voice behaviours (accommodative strategy: $b = -0.01, t = -0.05, p = .96$). To estimate how two different response strategies affect constructive employee voice behaviours, the predicted value of the accommodative strategy ($\hat{Y}_{accommodative}$) was compared with the predicted value of the defensive thunder strategy ($\hat{Y}_{defensive}$) by applying coefficients of all independent variables to the multiple regression equation. The difference between the predicted values was 0.20 ($\hat{Y}_{accommodative} = 5.47$ and $\hat{Y}_{defensive} = 5.27$), $p < .05$. Thus, H2 was partially supported.

In the test of H3, statistical significance was found for stealing thunder’s positive effect on constructive employee voice behaviours ($b = 0.18, t = 2.01, p = .04$) but not for destructive employee voice behaviours ($b = -0.14, t = -1.23, p = .22$), after controlling for other effects. The different predicted values (0.18: $\hat{Y}_{stealing\_thunder} = 5.45$ and $\hat{Y}_{thunder} = 5.27$) between the two timing strategies on constructive employee voice behaviours were statistically significant at $p < .05$. Thus, H3 was partially supported.

With regard to testing H2 and H3, this study also examined the interaction effects of pre-crisis internal reputation and crisis communication strategies. However, no interaction term yielded significant results in constructive (pre-crisis reputation*message strategy: $b = 0.01, t = 0.12, p = .91$, pre-crisis reputation*timing strategy: $b = -0.11, t = -1.47, p = .14$) or destructive (pre-crisis reputation*message strategy: $b = 0.05, t = 0.56, p = .58$, pre-crisis reputation*timing strategy: $b = -0.04, t = -0.51, p = .61$) employee voice behaviours, after controlling for the effects of other independent variables (see Table 3).

3 Table. OLS multiple regression analysis for the associations between independent variables and constructive and destructive employee voice behaviours ($N = 640$)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Constructive employee voice behaviour</th>
<th>Destructive employee voice behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>5.27</td>
<td>3.28</td>
</tr>
<tr>
<td></td>
<td>62.47***</td>
<td>32.68***</td>
</tr>
</tbody>
</table>
H4 expected that post-crisis reputation would mediate the effects of pre-crisis reputation and crisis message and timing strategies on constructive and destructive employee voice behaviours. To examine the mediating role of post-crisis reputation, a path analysis was conducted using structural equation modelling through SPSS Amos 23 (Hair et al., [45]). The path model was estimated using a bootstrapping technique \( N = 2,000 \) to validate mediation effects of post-crisis internal reputation on the associations between the exogenous (pre-crisis internal reputation and communication strategies) and endogenous (constructive and destructive employee voice behaviours) variables (Zhao, Lynch, & Chen, [96]). The results in the models achieved an acceptable model fit: \( \chi^2 (5, = 640) = 5.98, p = .31, \chi^2/df = 1.20, CFI = 0.99, TLI = 0.99, SRMR = 0.02, RMSEA = 0.02. \) These model fit indices met all of the joint criteria established by Hair et al. ([45]) and Hu and Bentler ([50]), confirming that the path model was good enough to analyse estimated effects.

In the path model, post-crisis internal reputation mediated the effects of pre-crisis internal reputation and timing strategy (stealing thunder) on constructive and destructive employee voice behaviours. Specifically, there were positive associations between pre-crisis internal reputation and post-crisis internal reputation, \( \beta = .77, p < .01, 95\% [0.73, 0.81] \), as well as between stealing thunder and post-crisis internal reputation, \( \beta = .09, p < .01, 95\% [0.05, 0.16] \). Subsequently, post-crisis internal reputation had a strong positive effect on constructive employee voice behaviours, \( \beta = .32, p < .01, 95\% [0.14, 0.42] \) and a strong negative effect on destructive employee voice behaviours, \( \beta = −0.08, p < .05, 95\% [−0.19, −0.01] \), with statistical significance, respectively. However, post-crisis internal reputation did not mediate the effects of message strategy on employee voice behaviours.

With regard to the direct effects of exogenous variables on employee voice behaviours, only pre-crisis internal reputation had a statistically significant positive effect on constructive employee voice behaviours, \( \beta = 0.20, p < .01, 95\% [0.16, 0.38] \), but not on destructive employee voice behaviours. Nevertheless, no crisis communication strategies (crisis response or timing strategies) directly affected employee voice behaviours in the path model (see Figure 2).
DISCUSSION

This study examined several important factors that promote constructive employee voice behaviours and suppress destructive employee voice behaviours in an organizational crisis. The study found that pre-crisis internal reputation and crisis communication—specifically accommodative response and stealing thunder—strategies positively and directly affected constructive employee voice behaviours in a crisis situation. Furthermore, the study revealed how post-crisis internal reputation mediated the influence of pre-crisis internal reputation and stealing thunder on positive/constructive employee voice behaviours and negative/destructive employee voice behaviours.

Specifically, this study found a strong and positive effect of pre-crisis internal reputation on constructive employee voice behaviours, when controlling for the effects of other factors. In line with previous research (e.g. Lyon & Cameron, [63]), this finding confirms the positive effects of pre-crisis reputation on customers' supportive behaviours towards an organization in a crisis and extends it to the internal context. This result indicates that employees who have a positive perception of their company are likely to engage in positive supportive behaviours, such as suggesting constructive ideas to management in order to deal with their organizational crisis. The finding also underlines the importance of internal reputation management with employees, which has not drawn much attention from practitioners and researchers and which can benefit effective internal crisis communication through collaboration, based on the employee's perspective.

In addition, this study revealed the direct and positive effects of specific crisis communication strategies—accommodative response and stealing thunder—on constructive employee voice behaviour. This finding substantiates that if a company's crisis communication admits responsibility with an apology message and self-discloses the crisis information to the employees, it can increase employees' positive and discretionary behaviours in a crisis. Supporting previous research about the positive effects of crisis communication strategies on positive behavioural intentions (e.g. Beldad et al., [4]), this result suggests that crisis managers should choose and implement appropriate internal crisis communication strategies in order to encourage employees to communicate suggestions, ideas, and other information about the crisis.

In terms of employees' behavioural characteristics in a crisis, this result was most significant. In an organizational crisis, employees are likely to act independently as active communicators in an organizational crisis by voluntarily collecting valuable information for their organization, sharing the information, and building support networks internally and externally (Heide & Simonsson, [47]; Kim & Rhee, [54]; Kim, [55]). The findings of this study indicate how crisis managers can assist leaders' decision-making processes through soliciting employees' constructive ideas in a crisis, specifically by implementing appropriate crisis communication strategies (a response message matched with responsibility and timely information) in a crisis (Ruck et al., [85]). Specifically, crisis managers can facilitate more opportunities for organizational management to check how crisis information is being circulated and interpreted internally and externally through employees' constructive ideas based on
employee communication behaviours, such as collecting and exchanging crisis information with other co-workers as well as external publics. By doing so, the organizational management can better understand employees' and/or other publics' needs and concerns that should be addressed in the process of crisis communication.

However, this study did not find any significant direct effects of pre-crisis internal reputation and crisis communication strategies on destructive employee voice behaviours. This finding shows that employees may not engage in destructive voice behaviours during a crisis—such as clashing with their supervisor, blaming their organization for the crisis, and or worsening the crisis—even if they held unfavourable pre-crisis perceptions and perceived inappropriate communication strategies from their company. This result can be explained by their organizational identity, which makes them different from other external publics: employees feel a different sense of belonging to their organization and an immediate sense of obligation to defend the organization during a crisis (Frandsen & Johansen, [40]).

Specifically, employees may be very concerned that their destructive voice behaviours (e.g. fighting with supervisors) would interfere with their managers' ability to make the strategic decisions necessary for effective crisis management (Ng, Feldman, & Butts, [79]). As another possible explanation for the result, employees may fear potential backlashes, including facing legal cases and being dismissed or disciplined by their employers, from their destructive voice behaviours (McDonald & Thompson, [68]). For these reasons, employees could be reluctant to show their destructive voice behaviours during a crisis (Unler & Caliskan, [90]). Even so, more research should be conducted to confirm this finding, because destructive voice behaviour in this study may not have been perceived by participants as destructive, as this study had intended. Aggressive voice behaviour used for destructive voice behaviour in this study is considered to be less constructive compared with considerate voice behaviour, but it could be more constructive than other destructive behavioural responses (e.g. exit and silence) (Hagedoorn et al., [44]).

In addition, this study did not find any moderation effect between pre-crisis internal reputation and crisis communication (timing and message) strategies. One plausible explanation for this result could be the crisis type (a product-harm crisis: car recall) used in the experimental conditions of this study. In a product-harm crisis, the amount of damage (severity) generated by the crisis could interact with pre-crisis reputation as an important role in varying the effectiveness of crisis communication strategies (Coombs & Holladay, [23]). The severe crisis intensifies the level of crisis responsibility, subsequently generating negative crisis outcomes, including unfavourable post-crisis reputation and less supportive behavioural intentions, during a crisis. However, this study did not create different variations in severity in the crisis situation across the experimental conditions. Similarly, previous research, which did not consider variations in severity in the product-harm crisis, yielded the limited results of the interaction effects between crisis communication strategies and pre-crisis reputation on post-crisis reputation (e.g. Claey & Cauberghe, [10]; Coombs & Holladay, [24]) and purchase intention (e.g. Beldad et al., [4]).

The result also indicates that the effectiveness of each internal crisis communication factor, particularly pre-crisis internal reputation, stealing thunder, and accommodative strategy, can exert robustly, not changed by the levels of other factors. Based on the results of multiple regression analysis used in this study, furthermore, it is reasonable to assume that pre-crisis internal reputation has the strongest impact for employees' positive and proactive behavioural responses in a crisis regardless of the internal crisis communication strategies. This finding supports and extends the important role of pre-crisis reputation for effective crisis communication to the internal context, which has been mainly demonstrated in the external context by previous research (e.g. Claey & Cauberghe, [10]). However, more research should be conducted with other crisis communication factors (e.g. severity) to fully understand the main as well as interaction effects of the internal crisis communication factors.
A path analysis in this study corroborates the direct effects of pre-crisis internal reputation on constructive employee voice behaviours. More importantly, the path model revealed that post-crisis internal reputation mediated the effects of pre-crisis internal reputation and timing strategy (stealing thunder) on both forms of employee voice behaviours. This finding indicates that, through post-crisis internal reputation, pre-crisis internal reputation and timing strategy not only enhance constructive employee voice behaviour but also suppress destructive employee voice behaviours (Vantilborgh, [93]). This result underscores the importance of pre-crisis internal reputation and effective crisis communication strategies to employees during a crisis, because those two factors directly affect post-crisis internal reputation, which transfers the positive effects of pre-crisis internal reputation and stealing thunder to both forms of employee voice behaviours.

Implications
This study contributes to theoretical developments in internal crisis communication (which have remained relatively unexplored) by extending evidence-based crisis communication theories (SCCT and stealing thunder) to the internal context). To activate proactive behaviours, the primary objective of effective crisis communication, the researchers suggest timely and factual communication as the optimal strategy, based on the company and its management self-disclosing information and providing accommodative responses to address the crisis (Claeys & Coombs, [14]). Since crisis communication theories have been developed and tested in the external context for decades, the effectiveness of optimal strategies in the internal context had not yet been empirically uncovered by existing research (Kim, Kang, Lee, & Yang, [56]). This study demonstrates how important optimal strategies are for crisis communication managers and organizational management in activating and enhancing constructive employee voice behaviours, as positive and proactive behavioural responses in a crisis. Applying optimal strategies to the internal context would promote more internal crisis communication research in a variety of crisis situations, broadening the scope of theoretical development of crisis communication.

As for practical implications, this study also provides a meaningful insight into how to activate and promote proactive and positive employee voice behaviour through employees' constructive ideas in a crisis. In terms of internal communication, a system of effective internal communication for organizational management requires maintaining and improving communication channels among employees, in order to achieve cooperation based on employee voice contributions within the organization (Seltzer, Gardner, Bichard, & Callison, 2012). However, such an internal communication system does not guarantee the facilitation of employees' voice contributions with constructive ideas for their organization. This study suggests how organizational management can promote employee voice contributions and employee cooperation (or collaboration) in a crisis situation by managing a favourable pre-crisis internal reputation and using appropriate crisis communication strategies. Thus, this study indicates how communication managers can achieve effective internal crisis communication by understanding employees as an important part of the crisis management system (Simonsson & Heide, [86]).

Limitations and suggestions for future research
This study has some limitations that should be addressed for future research. The study relied on only one crisis type (operational crisis: product recall in the automotive industry). Organizational crises can be divided into operational crises (actual or potential disruption to organizational operations) and paracrises (reputational and related asset damage) (Coombs, [20]). Since different crises affect different publics and warrant different crisis response strategies (Coombs, [20]), the internal crisis communication factors examined in this study should be retested with paracrises. Future research should also explore how employee voice behaviours can be facilitated by pre-crisis internal reputation and crisis communication strategies in the paracrises—which involve rumours, faux pas, and challenges—thereby making an important contribution to the theoretical development of internal crisis communication.
Since only crisis situational factors in a crisis were considered—including pre-crisis internal reputation and crisis communication strategies, this study did not explain other factors that have been found to influence employee voice behaviours. The likelihood of positive employee voice behaviour should be greater, to the extent that an employee has a strong desire to help the organization function more effectively or more appropriately vis-à-vis its employees (Morrison, [74]). Support for the idea that voice is prosocially motivated can be found in studies showing a relationship between employee voice and a variety of internal motivational states, reflecting a sense of commitment to the well-being of one's organization, co-workers, and/or customers (Morrison, [75]). It is suggested that future research includes considering employee motives for employee voice behaviours during a crisis.

Lastly, future research should revise the extant measures of employee voice behaviours or develop a more detailed script (instruction) of a crisis that can help the participants conceive the measures in the crisis situation context. Some items for the employee voice behaviours (e.g., I would be starting a "fight" with my supervisor) could be related more to the employee's personality or working style than to the crisis specific issue in this study. For this reason, the employee voice behaviours could be a function of both stable personality predisposition and the crisis situation (Nikolaou, Vakola, & Bourantas, [80]). In addition, the detailed script can help respondents understand the questions exactly as worded (Fowler, [39]).

CONCLUSION
For effective internal crisis management, organizational management or senior leaders need to make decisions based on an understanding of employees' views and behaviours during an organizational crisis. To develop better solutions that help an organization to cope with such a problematic situation (crisis), leadership should encourage employees to express more constructive ideas rather than destructive ones. In this sense, this study focused on investigating important factors that promote constructive employee voice behaviour and suppress destructive employee voice behaviours during a crisis. Findings demonstrated that both pre-crisis internal reputation and crisis communication strategies—accommodative response messages with proactive self-disclosure—would increase constructive employee voice behaviours in a crisis. By providing empirical evidence tested within the internal context of crisis communication, this study contributes to the theoretical development of employee voice behaviours, which has remained relatively unexplored. In addition, this study aims to help public relations professionals with its meaningful insight into how to assist their leadership's strategic decision-making by activating and promoting positive employee voice behaviours in an organizational crisis.

1 Appendix
Conditions (scenarios) by crisis response message and timing strategies
Condition A: Organizational message (accommodative & stealing thunder)
Today your company voluntarily announced that it is conducting a safety recall in the United States on 2,730 Model Year 2018 XX vehicles. Your company decided to release the information about the safety issue because the company felt it was important to share the information with consumers promptly although other organizations did not discover and report it yet.

The involved vehicle's engine may be equipped with pistons from a particular production period that were produced with a diameter larger than the specification. In certain conditions, this may cause the vehicle to run rough, create an abnormal sound, emit smoke from the exhaust, and illuminate warning lights and messages. In some cases, a reduction of power may occur and the engine could stop running. A vehicle's engine which stops while driving at higher speeds can increase the risk of a fatal crash. The seriousness of the recall was backed up by National Highway Traffic Safety Administration (NHTSA), which issued its own consumer advisory.
The CEO in your company said in a statement that "the recall of XX vehicles may have been caused by our management failure. We apologize for this security issue and any inconvenience for our valuable customers. We will take responsibility for this issue."

For all involved vehicles, your company dealers will check the production date code of the pistons in the engine. If involved pistons are found, the engine will be replaced with a new one at no cost to customers. All known owners will receive a notification via first class mail by the end of June.

Condition B: Organizational message (defensive & stealing thunder)
Today your company voluntarily announced that it is conducting a safety recall in the United States on 2,730 Model Year 2018 XX vehicles. Your company decided to release the information about the safety issue because the company felt it was important to share the available information with consumers promptly although other organizations did not discover and report it yet.

The involved vehicle's engine may be equipped with pistons from a particular production period that were produced with a diameter larger than the specification. In certain conditions, this may cause the vehicle to run rough, create an abnormal sound, emit smoke from the exhaust, and illuminate warning lights and messages. In some cases, a reduction of power may occur and the engine could stop running. A vehicle's engine which stops while driving at higher speeds can increase the risk of a fatal crash. The seriousness of the recall was backed up by National Highway Traffic Safety Administration (NHTSA), which issued its own consumer advisory.

The CEO in your company said in a statement that "it would take extraordinary circumstances for the problem to occur. The recall of XX vehicles may have been accidently caused by technology or equipment failure. Unfortunately, the situation was out of our hands and happened due to the breakdown of the technical system."

For all involved vehicles, your company dealers will check the production date code of the pistons in the engine. All known owners will receive a notification via first class mail by the end of June.

Condition C: Third party (consumer reports) message (accommodative & thunder)
Today Consumer Reports, an independent and nonprofit member organization, discovered that XX vehicle manufactured by your company has a safety issue on its engine. Your company just responded to the report. As a result, your company decided to conduct a safety recall in the United States on 2,730 Model Year 2018 XX vehicles.

The involved vehicle's engine may be equipped with pistons from a particular production period that were produced with a diameter larger than the specification. In certain conditions, this may cause the vehicle to run rough, create an abnormal sound, emit smoke from the exhaust, and illuminate warning lights and messages. In some cases, a reduction of power may occur and the engine could stop running. A vehicle's engine which stops while driving at higher speeds can increase the risk of a fatal crash. The seriousness of the recall was backed up by National Highway Traffic Safety Administration (NHTSA), which issued its own consumer advisory.

The CEO in your company said in a statement that "the recall of XX vehicles may have been caused by our management failure. We apologize for this security issue and any inconvenience for our valuable customers. We will take responsibility for this issue."

For all involved vehicles, your company dealers will check the production date code of the pistons in the engine. If involved pistons are found, the engine will be replaced with a new one at no cost to customers. All known owners will receive a notification via first class mail by the end of June.
Condition D: Third party (consumer reports) message (defensive & thunder)

Today Consumer Reports, an independent and nonprofit member organization, discovered that XX vehicle manufactured by your company has a safety issue on its engine. Your company just responded to the report. As a result, your company decided to conduct a safety recall in the United States on 2,730 Model Year 2018 XX vehicles.

The involved vehicle's engine may be equipped with pistons from a particular production period that were produced with a diameter larger than the specification. In certain conditions, this may cause the vehicle to run rough, create an abnormal sound, emit smoke from the exhaust, and illuminate warning lights and messages. In some cases, a reduction of power may occur and the engine could stop running. A vehicle's engine which stops while driving at higher speeds can increase the risk of a fatal crash. The seriousness of the recall was backed up by National Highway Traffic Safety Administration (NHTSA), which issued its own consumer advisory.

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REFERENCES


