


RESEARCH ARTICLE

# Stakeholder perceptions in organizational crisis management: exploring alternative configurations

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## Abstract

Crises are socially constructed. Affected stakeholders of an organizational crisis conceive complex associations between their perceptions of the implicated company's response and about the company itself. The study moves away from a simple cause–effect view by deriving alternative configurations of these associations. This approach allows for a better understanding of how stakeholders attribute responsibility for a critical event and the resulting crisis faced by the company that caused it. Using partial least squares structural equation modeling and fuzzy-set qualitative comparative analysis, we analyze insights of 325 families affected by an environmental incident in 2018 involving Colombia's largest company. We establish a correlation between stakeholders' perceptions of crisis response timeliness and credibility. Accordingly, we expand on how perceptions affect organizational judgments. Finally, we propose that trustworthiness and reputation are antecedents to how organizational crisis response is perceived and how these antecedents affect the degree of the severity of the company crisis.

**Keywords:** Credibility; crisis communication; crisis response; organizational reputation; organizational trustworthiness; perceptions; timeliness

## Introduction

Amid a crisis, a well-perceived response is critical in shaping social conceptions of the company involved. This reasoning proposes that a great deal of the crisis management practice is not situated in the crisis event itself but rather in the affected stakeholders' subjectivity. These stakeholders are the ones who capture information from the environment and form a representation of reality in their minds about crises and their protagonists (Gigliotti, 2020). Organizational standings such as trustworthiness or reputation, which are decisive for cultivating stakeholder engagement, tend to be in the spotlight and are constantly challenged by what offending companies do and when they make declarations (Arpan & Roskos-Ewoldsen, 2005; Claeys, Cauberghe, & Pandelaere, 2016; Huang & Su, 2009; Seeger, 2006; Sellnow & Seeger, 2021; van Zoonen & van der Meer, 2015; Yao, Wei, Zhu, & Bondar, 2019). For instance, some factors such as timeliness and message credibility could project a cushion of benevolence on the stakeholders affected by the corresponding crisis.

Conversely, these events exemplify the halo effect, where previous organizational perceptions can also affect the stakeholders' interpretation of information about the crisis at hand (Claeys & Cauberghe, 2015; Contreras-Pacheco & Claasen, 2018; Coombs & Holladay, 2006). Accordingly, the perceived reputation of an offending company, for example, could behave both as antecedent

and precedent when analyzing the importance of stakeholders' discernments about crisis communication. Relationships and complementarities between various concepts within the academic context of crisis management are underexplored. As reported by researchers such as Holland, Seltzer, and Kochigina (2021) and Kim and Lim (2020), there is a need for a more nuanced approach to understanding the various influences between different crisis response perceptions and social assessments of companies involved in a crisis.

The goal of this work is twofold. Amid an actual environmental crisis caused by an oil spill, under the responsibility of a major Colombian oil-and-gas company in 2018, Ecopetrol, we first explored associations between the perception of timeliness (crisis response timeliness [CRT]) in disclosing a crisis and two social assessments: organizational trustworthiness (OT) and organizational reputation (OR). The research further evaluated the mediating role played by the credibility of the organization's version of events regarding the crisis (crisis response credibility [CRC]). Second, we obtained alternative configurations of those relationships to understand better how affected stakeholders assess a crisis and attribute responsibility to the implicated company in the crisis itself. We used a mixed-methods approach for this purpose and responded to various authors (Bundy, Pfarrer, Short, & Coombs, 2017; Volk, 2017; Yao et al., 2019). First, we adopted a correlational approach to answering our research questions using partial least squares-structural equation modeling (PLS-SEM). We then used fuzzy-set qualitative comparative analysis (fsQCA) to complement the correlational approach.

Our findings contribute to achieving a holistic picture of organizational crises and their repercussions. The study enhances the existing knowledge regarding crisis management and crisis communication. We were able to supplement previous findings by conceptualizing perceptions such as CRT and CRC as antecedents of the implicated company's OT and OR in the aftermath of a crisis. Additionally, in moving away from a simple cause-effect view, we were able to identify alternative arrangements of the constructs mentioned above that shape how stakeholders can perceive both a crisis and the corresponding implicated company.

## Theory and hypotheses

### *Crisis and crisis response*

Although there is consensus about what constitutes a crisis, there is debate about the construction of reality when one occurs. Generally speaking, by drawing out philosophical reasoning, two perspectives can be found regarding its definition (Coombs, 2019). The first adopts an objective view of an organizational crisis, identifying discrete factors that constitute such a crisis and its effects. In line with this objective approach, Bundy and Pfarrer (2015) define an organizational crisis as 'an unexpected, publicly known, and harmful event that has high levels of initial uncertainty that interferes with the normal operations of an [implicated company] and generates widespread, intuitive, and negative perceptions among evaluators' (p. 350).

Assuming that crisis has everything to do with perceptions and emotions (Jin, Pang, & Cameron, 2007; Ndlela, 2019), the second view takes a more subjective stance on the definition of organizational crisis. The more responsible a company is perceived to be for a crisis, the higher its stakeholders' negative perceptions and judgments are. From this perspective, stakeholders make their attributions to critically assess an event and the implicated company (Gigliotti, 2020). In this sense, evaluators may be more motivated to share their opinions and feelings if they are somehow affected by the crisis, regardless of whether they are stakeholders of the implicated company (Jong & Brataas, 2021).

Crisis management actors gather, treat, and diffuse relevant information for addressing a crisis. Thus, organizational crisis response is a set of coordinated messages and actions used to influence stakeholders' crisis perceptions (Coombs, 2007). Such perceptions are related to both the company involved in the crisis and the crisis itself. In that order of ideas, stakeholders' perceptions may be adequately molded by exercising correct communication strategies that ultimately convey the right message, in the right way, at the right moment (Sellnow & Seeger, 2021).

Traditionally, it has been suggested that when dealing with crises, implicated companies are expected to respond appropriately under the penalty of receiving backlash from their stakeholders (Bundy *et al.*, 2017). For instance, features that suggest message effectiveness like the sense of timeliness of addressing a crisis and the credibility of the official narrative about the crisis may affect organizational perceptions such as the company's trustworthiness and reputation. Nevertheless, it is reasonable and valid to consider alternative interpretations of how these variables are subject to different arrangements or configurations (e.g., how the perceived crisis messages' effectiveness can depend on previous organizational judgments). A core purpose of this research is to test these more recent approaches.

### ***Perceptions of timeliness and credibility***

In general terms, a crisis response's timing refers to when a crisis's existence is announced (Sellnow & Seeger, 2021). It is commonly associated with the first entity to report the existence of a crisis, which is known as 'stealing the thunder' (Arpan & Roskos-Ewoldsen, 2005; Beldad, van Laar, & Hegner, 2018; Claeys, Cauberghe, & Pandelaere, 2016). However, while the timing of response is always directly related to the timing of the crisis, it does not necessarily take into account the speed with which others respond to the same crisis (Yao *et al.*, 2019). In other words, as an empirical concept, the timing of crisis response should be considered when implicated companies themselves issue a crisis response regardless of when third parties report the crisis. As such, we define CRT as the temporal distance between the crisis event and the first crisis response issued by an implicated company.

For instance, several environmental crises in Latin America are infamous for being belatedly disclosed by implicated companies. Prime examples are the cyanide substance spill caused by a technical failure at the Argentinian subsidiary of Barrick Gold in 2013 (Parrilla, 2016) and Grupo Mexico's toxic spill at its mine in northern Mexico in 2014 (Lammers, 2014). In both cases, apparently for strategic reasons, companies decided to delay reporting critical events until they considered the timing to be right. They eventually disclosed the crises before third parties did, but their delay negatively impacted the companies and their stakeholders. In other words, although the companies did 'steal the thunder,' their initial crisis responses were issued late. In this way, CRT tends to be associated with either the convenience or appropriateness in executing a timely disclosure. Importantly, this 'first crisis response' does not always involve admissions of guilt.

In addition to CRT, the credibility of a company's crisis response is another critical factor shaping stakeholder perceptions of a crisis. Indeed, in crises, each actor has his/her interpretation of what happened and who is responsible. This polysemy of meaning contributes to conflicting perspectives, which can be derived from diverse levels of stakeholders' assessments of the crisis at issue (Ndlela, 2019). There is an inherent risk in issuing a crisis response, as stakeholders may be inclined to interpret the crisis in a different (and potentially counterproductive) manner than the company itself. Consistent and plausible communication about the nature of the crisis by the implicated company can reduce this risk.

On the one hand, consistent narratives avoid perceptions of internal or external contradictions (Yale, 2013). Coombs (2019) and Seeger (2006) affirm the importance of message consistency during a crisis. They suggest that consistent crisis response is more convincing, projecting more confidence to an audience than messages that vary over time. On the other hand, plausible narratives correspond with what is perceived as typically occurring in the world (Yale, 2013). Weick (1995) implies that a plausible narrative of an uncertain event like a crisis can influence how the public understands the event and leads it to accept the company's version of the facts at hand. In light of existing research on consistency and plausibility, we define CRC as the extent to which a crisis response evokes sufficient confidence in its truthfulness to render it acceptable to stakeholders. This idea is in line with Beltramini and Evans's (1985) approach in advertising.

Both timeliness and credibility are emphasized in the managerial crisis communication literature as central components of effective crisis response (Sellnow & Seeger, 2021). For example, whether a company will be perceived positively or negatively is mainly dependent on its capacity to respond quickly to a crisis scenario (Claeys, 2017). However, in some crises, the credibility of a crisis response determines the success of the crisis management efforts and affects the extent of damage inflicted by the crisis (van Zoonen & van der Meer, 2015). Existing research tends to assume the complementarity of the two concepts, although there is not much empirical evidence to support this assumption (e.g., Huang & Su, 2009; Seeger, 2006; Ulmer & Sellnow, 2000).

However, only a few studies have succeeded in establishing similar associations. For instance, Arpan and Roskos-Ewoldsen (2005) demonstrate that the time dimension of crisis response (specifically, 'stealing the thunder') is directly associated with a sense of believability that a company wishes to project in crisis scenarios. In the context of a health crisis, Huang and DiStaso (2020) came to a similar conclusion. Accordingly, a timely crisis response can become an antecedent of a company's crisis narrative credibility. Thus, we intend to test that:

Hypothesis 1: The timelier a crisis response is perceived to be, the more credible the company's version of the crisis will be.

### **Organizational trustworthiness and reputation**

Trustworthiness and reputation are two different forms of social judgment that stakeholders can render to a company. As Elsbach (2014) implies, the concepts seem to be intimately related to each other. In fact, in their efforts to conceptualize them, several scholars have subordinated the former to the latter, implying that reputation is a general assessment regarding, in part, the company's trustworthiness (e.g., Bartikowski, Walsh, & Beatty, 2011; Bennet & Rentschler, 2003; Fombrun, 1996). Nevertheless, their differences can be highly noticeable. On the one hand, whereas OT reflects a company's short-term image based on specific associations, OR involves long-term standing categorizations of the company in relation to other companies (Elsbach, 2014). On the other hand, whereas OT seems to be universal (i.e., trustworthy companies generally have desirable character traits), OR tends to be more localized (i.e., reputed companies conform to practices that are locally appropriate and culturally desirable). Reputation is thus more dependent upon the set of sampled perceivers than trustworthiness (Lange, Lee, & Dai, 2011).

#### *Organizational trustworthiness (OT)*

In a broad manner, the notion of trustworthiness is used interchangeably with the notion of trust. Nonetheless, while trust is a situational factor, trustworthiness constitutes a virtue displayed by individuals or collectives that engenders trust (Greenwood & Van Buren, 2010). More precisely, trust comprises the willingness of one party to be vulnerable to another party based on the assumption that both parties will act according to their concerns (Mayer, Davis, & Schoorman, 1995). Trustworthiness reflects an active form of trust between parties rooted in values and principles that guide their behavior (Barney & Hansen, 1994).

Within the context of companies, trustworthiness refers to the accumulation of perceptual experiences embedded as a set of qualities held by a company that reflects its worthiness (or lack thereof) to be trusted (Caldwell & Clapham, 2003). The degree to which the company can be trusted relates to its moral characteristic of trustworthiness (Greenwood & Van Buren, 2010). In this sense, OT is more specifically defined here as behavior that supports the expectation that a company will conform to prevailing respect for stakeholders' rights and interests. Stakeholders, especially those with less power, must rely on a company's trustworthiness to satisfy fairness obligations that are due to them (Greenwood & Van Buren, 2010). Consequently, OT can be expected to contribute significantly to reducing stakeholder–company conflict by establishing reciprocity between the two parties.

Acknowledging trustworthiness as the degree to which an entity can be trusted to satisfy desired critical requirements, a company in crisis can thus be cataloged accordingly to its reliability. Corresponding to Gefen (2002), a company's reliability is determined by its abilities and the moral characteristics of trustworthiness (i.e., its integrity and benevolence). Relatedly, Newell and Goldsmith (2001) consider that, for a company to be reliable, stakeholders must feel that the company has adequate levels of both expertise (i.e., the knowledge or ability to fulfill its claims) and, evidently, trustworthiness. In the same spirit, authors like Huang & Su (2009), Seeger (2006), and Sellnow, Veil, and Streifel (2010) advocate the sending of timely information during a crisis precisely in order to appear trustworthy. Likewise, since trustworthiness is a concept related to both the message and the source, it is suggested that when an implicated company steals the thunder, it provokes a less damaging appreciation about the crisis and about itself (Arpan & Roskos-Ewoldsen, 2005).

More specifically, Beldad, van Laar, and Hegner (2018) indicate that self-disclosing a crisis before others can disclose it is directly associated with a sense of confidence, dependability, and reliability, all of which companies generally wish to project. Moreover, we draw on Yao *et al.*'s (2019) research which shows that quicker crisis responses can be reflected positively in the stock market, which in the long run, results in favorable outcomes for the company. In that vein, timely crisis responses can be interpreted as having a direct influence on trustworthiness. Therefore, we hypothesize that:

Hypothesis 2: The timelier a crisis response is perceived to be, the more trustworthy the company will be perceived to be.

#### *Organizational reputation (OR)*

OR refers to the overall level of company favorability by its stakeholders based on the degree of satisfaction with their expectations (Fombrun, Gardberg, & Sever, 2000). It represents a collective assessment of how capable a company is in providing valued outcomes to the public, an assessment derived from its history, reality, and behaviors. According to these researchers, a company's reputation depends on its relative standing internally with employees and externally with its other stakeholders in its competitive and institutional environments (Bitektine, 2011). For instance, a lack of consistency in organizational actions or a fall in performance (either gradual or abrupt) indicates a weakening in OR (Ravasi, Rindova, Etter, & Cornelissen, 2018).

Having a good reputation can provide a company with specific advantages such as better access to resources, employing high-quality workers, and higher chances of financial success (Pfarrer, Pollock, & Rindova, 2010). A didactic way to understand OR's comportment regarding the functioning of different organizational events is to use a simple metaphor, that of a sort of bank account (Contreras-Pacheco & Claasen, 2018). A favorable reputation represents a positive reputational balance, indicating the capacity for recovery of the OR when an unfortunate event takes place. Moreover, it is necessary to consider recent contributions that emphasize the socially constructed character of the concept of reputation (Gigliotti, 2020; Ravasi *et al.*, 2018). According to this approach, OR's formation and maintenance are based on exchanges, interactions, and conversational strategies and resources. In short, OR is wholly connected to communication.

OR is the most frequently examined outcome variable in crisis communication research (Coombs, 2019). The primary driver of crisis response strategies within the relevant literature is the need to reduce reputational damage after a crisis. Consequently, we expect that crisis response timing is related to assessing the crisis's impact on a transgressing company's reputation. Claeys, Cauberghe, and Pandelaere (2016), for instance, found that the reputational damage derived from a 'disclosing-first' crisis response is significantly lower than the damage generated by a 'wait-and-see' strategy. Claeys (2017) further suggests that disclosing first can help improve (or mitigate the damage of) the reputation of an implicated company. On this basis, we expect that:

Hypothesis 3: The timelier a crisis response is perceived to be, the more reputable a company will be considered to be.

### **Interaction effects**

Up to this point, we have essentially suggested that CRT is an antecedent of both OT and OR. However, previous research also highlights the role and impact of a message's ability to address the damage caused by organizational misconduct on some consequent social judgments (such as responsibility and integrity) an implicated company faces (Brühl, Basel, & Kury, 2018; Utz, Matzat, & Snijders, 2009). Moi, Rodehuts Kors, and Koch (2016) also underscore the potential effects of diverse conditions, such as the quality of information issued by a company in crisis, on the general perception. Overall, we also maintain that a credible organizational message can reinforce the perception of both trustworthiness and reputation of a company in crisis.

To support this circumstance, we appeal to general mindsets derived from the field of marketing. Here, the correlation between the perception of a message's believability and the favorable conditions of the company that conveys that message has been extensively validated (Balaji, Jiang, & Jha, 2021). For instance, it is suggested that the degree to which an advertising message by a reliable advertiser seems realistic, consumers tend to believe such a message and may buy the product solely based on the publicity message (Herbig & Milewicz, 1993; Kim & Choi, 2012). Turning more specifically to the issue under discussion, scholars like Lee and Jahng (2020) say that, in the midst of an organizational crisis, a persuasive narrative effectively preserves the level of trust toward the incriminated company. We, therefore, assume that a credible message increases the level of trustworthiness of a company in crisis and vice versa. Likewise, in line with van Zoonen and van der Meer (2015), we also understand that such behavior may still affect the perception of a company in crisis. This phenomenon is indicative of interaction among variables.

As seen from the above discussions, we endorse the thesis that there are relevant benefits (in terms of trustworthiness and reputation) of both timeliness and credibility from organizational messages. However, crisis communication research has considered each factor in isolation from one another (Johansson, 2019). While the concept of timeliness has been extensively scrutinized (Beldad, van Laar, & Hegner, 2018; e.g., Arpan & Roskos-Ewoldsen, 2005; Claeys, Cauberghe, & Pandelaere, 2016; Drumheller & Kinsky, 2021), except for Utz, Matzat, and Snijders (2009), van Zoonen and van der Meer (2015), and more recently Huang and DiStaso (2020), not many studies have, so far, explained the effect of message credibility on the way stakeholders perceive a crisis. Furthermore, as Yao et al. (2019) note, timely response on its own lacks the necessary power to influence an organizational crisis's outcomes strongly. Mediation analysis is necessary to understand how CRT influences CRC and, in turn, shapes OT and OR. Nevertheless, since we have previously suggested the existence of direct associations between CRT and both OT and OR, we propose partial instead of complete indirect relationships here. In consequence, we hypothesize that:

Hypothesis 4a: Perceptions of CRC partially mediate the relationship between perceptions of CRT and OT.

Hypothesis 4b: Perceptions of CRC partially mediate the relationship between perceptions of CRT and OR.

It is also worth recalling that a favorable reputation is a valuable intangible asset for any company. As such, '[c]rises are taken as a threat to the organizational reputation' (Coombs, 2007: 163). This primary focus on OR suggests that, in the context of crises, OT performs a fundamental role in explaining OR; the more trust an entity projects, the more positive its reputation behaves. As

Hosmer (1995) suggests, a favorable reputation is a natural consequence of trustworthy behavior. Likewise, similar results were obtained when examining the context of family companies (Astrachan, Patel, & Wanzenried, 2014), brand crises (Singh, Crisafulli, Quamina, & Xue, 2020), and, of course, organizational crises (Beldad, van Laar, & Hegner, 2018). Hence, we posit that:

Hypothesis 5: An implicated company's OT has a positive effect on its OR.

Correspondingly, by integrating the aforementioned relations, when we acknowledge the connection between trustworthiness and reputation (Hypothesis 5), we also suggest that trustworthiness explains reputation when the former is built on a high level of credibility projected by a crisis message (such Hypothesis 4a suggests). Moreover, we have also assumed that a persuasive narrative (credibility) preserves the level of trust toward a company in crisis. It also affects the perception of a crisis company's reputation (two assumed relationships to state the partial mediation Hypotheses 4a and 4b). As a result, we expect OT to function as a critical mechanism by which a credible message impacts the reputation of a company in crisis. In other words, we propose that:

Hypothesis 6: An implicated company's OT partially mediates the relationship between perceptions of CRC and OR.

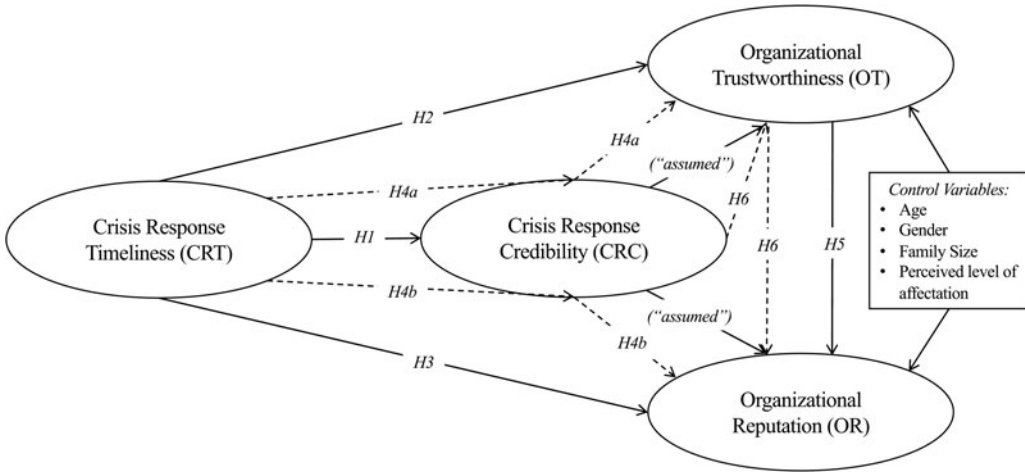
### **Alternative configurations**

Tho and Trang (2015) suggest that configurational solutions such as fsQCA can be applied to support regression-based frameworks such as PLS-SEM. A configurational approach establishes the required conditions for an outcome to be achieved and the co-presence of sufficient factors that lead to the same outcome (Ragin, 2009). In other words, configurational approaches hold that more than one path, solution, or configuration of conditions can lead to the same result. This phenomenon is known as equifinality (Goertz & Mahoney, 2009). Such nonlinear configurations reveal asymmetric characteristics and synergetic effects that replace conventional correlational effects.

Thus far, by formulating both linear and mediational hypotheses, we have adopted a straightforward approach to plausibly explain how, in the context of an organizational crisis, perceptions of reputation can be affected by structured connections between CRT, credibility, and OT. Nevertheless, additional relevant contributions may indicate distinctive clarifications about how each of these variables can behave in the function of the others. For instance, prior research insinuates that social judgments can convey information about a company in crisis, thus constituting audiences' perceptions of the crisis itself (Beldad, van Laar, & Hegner, 2018; Claeys & Cauberghe, 2015; Contreras-Pacheco & Claasen, 2018; Sellnow & Seeger, 2021).

Alternative configurations may denote the need to refrain from exclusively thinking of time-liness and credibility perceptions as explanatory factors. Indeed, they may also be outcomes derived from the influence of other variables during a crisis. Bundy and Pfarrer (2015) and Joshi and McKendall (2018) put forward the unconventional view in which social judgments that are considered as regular outcomes (e.g., reputation, trustworthiness, status, image, and legitimacy) could also be antecedents of other variables. In the interaction between trustworthiness and reputation, although there is extensive evidence about their causal association (i.e., the former is permanently proposed as a precedent of the latter), there has been no attempt, to the best of our knowledge, to examine the opposite directional postulate. Thus, trustworthiness is disparaged as an ultimate social evaluation in the crisis management and communication literature. Our view is that it is worthwhile to address this issue.

Configurational methods allow settings to be causally related in one configuration yet unrelated or inversely related in others (Fiss, 2011; Ragin, 2009). Bundy *et al.* (2017) and Volk



H7: Alternative configurations exist that address model equifinality, and allow diverse construct combinations.

Figure 1. Research model.

(2017) address this research gap by suggesting comparative/configurational approaches for future research in the field of both crisis and strategic communication. They aim to estimate the alternative complex causal formulas that lead to high membership in four outcome conditions (perceptions of CRT, CRC, OT, and OR). These considerations lead us to expect that:

Hypothesis 7: Alternative configurations exist that indicate equifinality in crisis response management.

Comprehensive visualization of the research model is shown in Figure 1.

## Methodology

### Overview

To test our hypotheses, we carried out an online survey with 325 Colombian respondents affected by a major environmental crisis in 2018. We analyzed the data first using PLS-SEM (Hypotheses 1–6) followed by fsQCA (Hypothesis 7). This dual approach complements correlational with configurational methods to identify the different possible combinations of our model and provide a new manner for interpreting linear results.

### Crisis scenario

On March 12, 2018, news of an oil spill triggered a significant emergency in the village of La Fortuna, Colombia, an area considered ecologically fragile and extremely important in terms of natural resources and biodiversity. The spill started 10 days before (on March 2), the date on which it was also soundly and broadly reported already by the corporate media of Ecopetrol, ranked #313 in the Forbes Global 2000 2020 List (Forbes.com, 2020). This company seemed to be, at the time, responsible for the event. In this case, a conventional incident soon became a major environmental emergency. The spill grew to an unprecedented scale and lasted for more than 27 days. It was classified as the worst environmental disaster caused by a company in Colombia’s history (Salamanca, 2018, April 1). Despite its communication efforts, Ecopetrol was the subject of several accusations of late disclosure, concealment, negligence, carelessness,



and deception formulated by several stakeholders about its actions and omissions (Business & Human Rights Resource Centre, 2018; Rubiano, 2018, March 24). Social media, on which the incident was a trending topic for more than 2 months, contributed significantly to this event's controversy.

### **Sample and data collection**

Data were collected via a survey submitted to 2132 individuals referred by three nongovernmental organizations located in the region of Magdalena Medio, where La Fortuna, the village affected by the oil spill, is situated (Departamento de Santander). Participants were members of families affected by the unfortunate event. The survey was sent out on March 21, while the crisis was still unfolding. An Internet-based questionnaire, which ensured informed consent, was designed using Google Forms and assessed in content and form by four reputed university professors in communication, corporate social responsibility, and strategy in Colombia.

An introductory message encouraged respondents to fill out and redirect the survey to acquaintances affected by the oil spill. Respondents could fill out the instrument on behalf of their families. The filter questions were: (1) 'Do you and your family feel that you were affected by Ecopetrol's recent oil spill?', and (2) 'Where and how far from the spill are you located?'. Those who answered positively to the first question and reported proximity to the spill were allowed to continue with the questionnaire. Selected respondents were then asked about their relationship with Ecopetrol. Some respondents were employees or shareholders or had close relatives who were Ecopetrol's employees or contractors. These answers were excluded from the analysis in order to circumvent confirmation bias. After the oil spill was halted, as announced by Ecopetrol on March 30, no more responses were added to the final sample.

Five hundred eight responses were received and automatically tabulated, and 183 responses were excluded from the final analysis based on the exclusion criteria. Consequently, a total of 325 self-reported affected family members, diverse in terms of age, gender, family size, and perceived level of damage caused by the spill to their living places, composed our final sample (Table 1). Besides demographic and control questions aimed at understanding respondents, our questionnaire included items measuring CRT, CRC, OR, and OT and assessed on a 5-point Likert scale that ranged from '1 = strongly disagree' to '5 = strongly agree.'

### **Measures**

All items were derived from well-established scales that measure feelings and perceptions formed based on media information about an incident. OR was measured using the RepTrack™ Pulse, a four-item Likert scale designed and validated by Ponzi, Fombrun, and Gardberg (2011). OT was measured using a four-item scale extracted from Newell and Goldsmith's (2001) proposal. Perceptions of CRT were measured by using a two-item scale applied by Gelderman (1998) to measure timeliness satisfaction (CRT1 and CRT2) and one item measuring perceptions of Ecopetrol's delay in disclosing the incident (CRT3). Finally, we used a four-item scale extracted from the dimensions of message plausibility (CRC1 and CRC2) and consistency (CRC3 and CRC4) proposed and evaluated by Yale (2013) to measure perceptions of CRC. The first two scales were adapted to capture Ecopetrol's social judgments, with the last two scales adapted to address perceptions about the environmental incident under scrutiny here specifically. All the measures were initially prepared in English and then translated into Spanish. Back-translation ensured the reliability of the translation. The scales' reliability was verified by calculating their Cronbach's  $\alpha$ , and the constructs' validity was verified by calculating corresponding factor loadings.

**Table 1.** Respondents' profile

Control variables	Frequency	%
Gender		
Male	134	41.23
Female	191	58.77
Age		
21–25	33	10.15
26–30	54	16.61
31–35	85	26.15
36–40	79	24.31
Over 40	68	20.92
Missing	6	1.85
Family size		
Live alone	12	3.69
Two members	68	20.92
3 or 4 members	124	38.15
5 or 6 members	74	22.77
7 or more members	44	13.54
Missing	3	.92
Perceived damage to home		
Low	91	28.00
Medium	189	58.15
High	45	13.85

### Control variables

We also included control variables to account for possible alternative explanations for variations in both OT and OR behaviors. Besides *age* and *gender*, it is reasonable that specific familial and respondent characteristics and the relative perception of being affected by the incident would influence our results. In that regard, we included *family size* and the *perceived degree of affection* as control variables.

### Data analysis

We performed both a correlational (PLS-SEM) and a configurational (fsQCA) approach to test the proposed model relationships. These two methods are based on different assumptions and have different motivations (Rasoolimanesh, Ringle, Sarstedt, & Olya, 2021). On the one hand, PLS-SEM analyzes the net impact of independent variables on dependent variables, as well as the competition among the former in explaining the latter; likewise, it adheres to the rules of linearity, unifinality (i.e., when one input leads to a single output), and additive effects (Hair, Hult, Ringle, & Sarstedt, 2022). The PLS-SEM technique is considered appropriate for this particular examination since it allows simultaneous estimations of multiple causal interactions among constructs. Additionally, compared to other correlational methods, the bootstrap procedure embedded in it is superior in analyzing the mediating mechanisms (Lowry & Gaskin, 2014).

On the other hand, fsQCA explores combinatorial structures and supposes the existence of asymmetries between variables, equifinality (i.e., when diverse inputs lead to a single output), multifinality (i.e., when one input leads to diverse outputs), and conjunctural causation (Cooper & Glaesser, 2011; Pappas & Woodside, 2021). In contrast to other qualitative comparative analyses, in fsQCA, the variables are served on a continuous and not on a binary scale. Furthermore, it pursues combinations/configurations of causal conditions, leading to a specific outcome, rather than mere associations between constructs (Ragin, 2009). Despite its newness, the combination of PLS-SEM and fsQCA has been used in several studies within the organizational literature (e.g., Kaya, Abubakar, Behraves, Yildiz, & Sani, 2020; Skarmeas, Saridakis, & Leonidou, 2018; Zhang, Long, & von Schaeuwen, 2021). However, to the best of our knowledge, the present study is the first to apply this dual approach to examining interactions between perceptions and judgments in the context of crisis.

#### *Correlational analysis (PLS-SEM)*

First, we employed PLS-SEM, a component-based statistical technique for causal modeling suitable for exploratory models. By considering its qualities, at this stage, the data are analyzed in two simultaneous steps. First, in the measurement model, we assessed the validity and construct reliability and the ability of the model to reproduce the data (i.e., model fit) adequately. Second, the hypothesized research model was examined to test the hypothesized causal associations (Hypotheses 1–3 and 5) and the mediation effects (Hypotheses 4a, 4b, and 6). We applied a consistent bootstrapping procedure of 5000 subsamples, followed by inspections of path coefficients and *t*-statistics for each link and the explained variance of each dependent variable. We chose this technique because PLS-SEM, as a multivariate analytical approach, works efficiently with complex models and makes practically no assumptions about the underlying data distribution (Lowry & Gaskin, 2014). PLS-SEM was conducted using SmartPLS v3.2.8.

#### *Configurational analysis (fsQCA)*

fsQCA, our second method of data analysis, was used to test for alternative configurations for our variables (Hypothesis 7). Since this method is centered on identifying patterns across cases without returning to them, fsQCA has been proven to work adequately with relatively considerable sample sizes, like the one presented in this work (Cooper & Glaesser, 2011; Pappas & Woodside, 2021). With this in mind, it was necessary to transform the set of constructs into fuzzy variables to create linguistic categories rather than precise numerical values. Skarmeas, Saridakis, and Leonidou (2018) suggest comparing PLS-SEM's correlational analysis with fsQCA by creating a set of variables that represent the constructs initially used in the correlational analysis (which were measured initially with Likert scales). To accomplish this, we calculated the arithmetical means of the variables that make up each construct. A new data set containing the four evaluated variables was constructed, which was transformed into a condition to establish set membership. Each condition represents a value that indicates the presence or absence of the corresponding condition in a particular outcome (Ragin, 2009). For this process of data calibration, we assumed that the constructs previously obtained represent a structure (or type of relationship) that indicates that when a value of the measured variable increases, the belonging of this variable to a given outcome in the fuzzy set also increases (Goertz, 2006). We specified three qualitative anchors for the calibration: .05 for the threshold of full nonmembership, .50 for the crossover point (i.e., the point of maximum ambiguity), and .95 for the threshold of total membership (Woodside, 2013).

Subsequently, we aimed to address the configurations of variables (i.e., presence or absence) that lead to different outcomes. Here, we sought to understand how a specific construct could be explained according to the levels of the three remaining constructs. For this work, all four constructs were analyzed as output variables derived from the others, resulting in four different analyses of fsQCA (one for each construct). Following the recommendations of Fiss (2011),

Ragin (2009), and Skarmeas, Saridakis, and Leonidou (2018), we calculated the *Inclusion* and *Coverage* of a set. While the former refers to the extent (from 0 to 1) to which a causal combination leads to a given outcome, the latter indicates the percentage of cases with high membership in the outcome condition represented by a particular causal complex condition. The *Inclusion* cut-off point used in this study was .8, with values equal to or above this threshold indicating sufficiency. The entire fsQCA data analysis was conducted using fs/QCA v3.0 software.

## Results

### PLS-SEM results

To assess the suitability of conducting subsequent steps, PLS-SEM required several model inspections (see Tables 2 and 3). First, we loaded the items on their respective factors to assess the constructs' validity. Most items achieved adequate factor loadings, much higher than .4 (Hair et al., 2022). We also obtained adequate model fit indices (standardized root mean residual [SRMR = .076] and the normed fit index [NFI = .906]) (Hu & Bentler, 1999). Furthermore, the model was evaluated for its predictive validity by calculating *Stone-Geisser* ( $Q^2$ ) values (Hair et al., 2022).

Together with acceptable values of the Cronbach's  $\alpha$  and composite reliabilities obtained for each construct, these model assessments confirmed the reliability and robustness of our empirical model (Loewenthal & Lewis, 2021). The values obtained for the coefficients of determination ( $R^2$ ) also reveal that observed outcomes (CRC, OT, and OR) are adequately replicated by the model (Lowry & Gaskin, 2014). Acceptable divergent validity is indicated by a square root of the average variance extracted (AVE) that is higher than the bivariate correlations between the latent variables (Hair et al., 2022).

As for hypothesis testing, both Table 4 and Figure 2 show the correlation among the studied variables. These depictions also show the path coefficients and their occurrence. The direct path coefficients corresponding to Hypotheses 1 and 5 were significant, whereas those corresponding to Hypotheses 2 and 3 were not. Further, our study provided mixed results when a rapprochement to the mediation analyses was made. The mediation analyses addressed in Hypotheses 4a, 4b, and 6 were tested. While both Hypotheses 4a and 6 were partially supported, Hypothesis 4b was not confirmed.

Following Mathieu and Taylor's (2006) indications, we did not find empirical support for sustaining that perceived CRC could act as a partial mediator between perceived CRT and both OT and OR (Hypotheses 4a and 4b). However, while the case for Hypothesis 4b is unquestionable, we found that for Hypothesis 4a, the indirect path between CRT and OT was significant, indicating the existence of mediation in this relationship. Since the direct effect between these two variables was nonsignificant (see Hypothesis 2), it is determined that CRC completely mediates the relationship between CRT and OT instead of partially. Something similar happens with Hypothesis 6. The link between CRC and OR is proved to be completely mediated by OT based on the direct nonsignificant effect between CRC and OR and the impact of this indirect effect on this relationship.

It is further noteworthy that none of the control variables statistically influenced the models ( $t < 1.96$ ;  $p > 1.0$ ). Since their actions did not alter the associations of the models, the results are not reported here.

### fsQCA results

Table 5 presents the significant results for each of the four constructs under study. In support of Hypothesis 7, we identify a pattern of equifinality in the solutions. Our findings indicate that each variable is susceptible to being explained as a function of the remaining variables.

The results suggest that the configurations obtained by fsQCA are informative, as they have *Inclusion* values larger than .74 and *Coverage* values between .25 and .65 (Woodside, 2013).

**Table 2.** Measurement model (loadings, reliability, and model determination)

Constructs and items		Factor loading	Cronbach's $\alpha$	Composite reliability	$R^2$	$Q^2$
Crisis response timeliness (CRT) (Gelderman, 1998)						
CRT1	Ecopetrol's information about the incident was released quickly enough.	.854	.791	.802	–	–
CRT2	Ecopetrol provided up-to-date information about the incident.	.885				
CRT3	I think Ecopetrol was delayed in reporting the incident. (RC)	.732				
Crisis response credibility (CRC) (Yale, 2013)						
CRC1	I believe the version of Ecopetrol about the incident could be true.	.866	.873	.876	.743	.581
CRC2	Ecopetrol's version of the incident was plausible.	.752				
CRC3	The information presented in Ecopetrol's version of the incident was consistent.	.863				
CRC4	All of the facts in Ecopetrol's version of the incident agreed with each other.	.708				
Organizational trustworthiness (OT) (Newell and Goldsmith, 2001)						
OT1	I trust Ecopetrol.	.820	.839	.843	.605	.519
OT2	Ecopetrol makes truthful claims.	.797				
OT3	Ecopetrol is honest.	.787				
OT4	I do not believe what Ecopetrol tells me. (RC)	.674				
Organizational reputation (OR) (Ponzi, Fombrun, and Gardberg, 2011)						
OR1	Ecopetrol is a company I have a good feeling about.	.896	.882	.883	.531	.400
OR2	Ecopetrol is a company that I trust.	.841				
OR3	Ecopetrol is a company that I admire and respect.	.804				
OR4	Ecopetrol has an excellent overall reputation.	.681				

RC, reverse-coded items.

The structural model explains 74.3% of the variance in CRC ( $R^2 = .743$ ), 60.5% of that in OT ( $R^2 = .605$ ), and 53.1% of that in OR ( $R^2 = .531$ ).

$Q^2$  values > 0 imply that the structural model has predictive relevance.

**Table 3.** Correlation matrix and divergent validity

	Mean	SD	AVE	CRT	CRC	OT	OR
CRT	1.863	1.03	.683	<b>.826</b>			
CRC	2.244	1.07	.640	.703	<b>.800</b>		
OT	2.535	1.13	.595	.629	.752	<b>.772</b>	
OR	2.805	1.08	.655	.516	.633	.724	<b>.809</b>

The diagonal (in bold) elements in the matrix are the square root of AVEs.

When reviewing the conditions that remain present in the different models ( $M_i$ ), we can conclude that: (1) perceived CRT is a function of perceived CRC and OR; (2) perceived CRC is a function of perceived CRT; (3) OT is not a necessary condition, as there is no separate construct that has an effect on all the pathways that lead to it; and (4) OR is a function of the perception of CRT, CRC, and OT, as high values of these indicate the presence of OR. These alternatives are summarized in Table 6.

Notably, the configurational results extend the understanding of the correlational results. Through our fsQCA, alternative variable paths were found that confirmed, complemented, as well as (some of them) challenged our PLS-SEM results. These understandings help us interpret interactions between these four constructs better.

## Discussion and conclusions

The quest for understanding how stakeholders, especially those most affected by an organizational crisis, conceive their reality and transform it into value judgments about the crisis and the implicated company has been enormously dynamic in recent years (Coombs, 2019; Gigliotti, 2020; Sellnow & Seeger, 2021). By following the suggestions of various scholars (Bundy et al., 2017; Pearson & Clair, 1998; Volk, 2017; Yao et al., 2019), we assumed that this topic would involve new challenges. First, we collected first-hand information from those affected by an actual crisis to understand their perspectives and construct their reality. We also considered a broader view of the interactions traditionally proposed in the literature, transcending the one-to-one linear analysis between antecedents and consequents. Our goal was to expand opportunities for widening the scope and application of new approaches in the crisis management and crisis communication domains. By doing this, we believe that we demonstrated that taking on those challenges is worthwhile in terms of contributions to both research and practice.

Considerable prior research indicates that the types of perceptions about a crisis response are related to a company's organizational social judgments in crisis (Claeys, Cauberghe, & Pandelaere, 2016; Lee & Jahng, 2020; Sellnow & Seeger, 2021; van Zoonen & van der Meer, 2015; Yao et al., 2019). Indeed, our findings show that, during an organizational crisis, perceptions of CRT (i.e., the temporal gap between the crisis occurrence and the first response delivered by an implicated company in which the corresponding crisis is addressed) and CRC (i.e., the extent to which a crisis response evokes sufficient confidence in its truthfulness, rendering it acceptable to stakeholders) are linked to OT and OR. However, the proven links of our correlational model appear more complex than previously envisioned. This study found that in addition to conventional correlations among variables, relationships can also be seen through alternative arrangements and patterns obtained through configurational methodological approaches. From this perspective, some seemingly straightforward results obtained through correlational analysis can be subject to several considerations identified by our configurational analysis. Overall results provide a more nuanced understanding of the development of perceptions and organizational judgments in the context of crises.

**Table 4.** PLS-SEM research model results

Path and hypothesis		Examined path	Regression weight		t-value <sup>a</sup>	Path exists?	Conclusion
Direct paths							
1.	Hypothesis 1	<i>CRT</i> → <i>CRC</i>	.917	***	43.849	✓	Hypothesis supported
2.	Hypothesis 2	<i>CRT</i> → <i>OT</i>	.163		.272	✗	Hypothesis not supported
3.	Hypothesis 3	<i>CRT</i> → <i>OR</i>	.058		.105	✗	Hypothesis not supported
4.		<i>CRC</i> → <i>OT</i>	.936	**	4.036	✓	–
5.		<i>CRC</i> → <i>OR</i>	–.576		.645	✗	–
6.	Hypothesis 5	<i>OT</i> → <i>OR</i>	1.479	**	3.593	✓	Hypothesis supported
Indirect paths							
7.	Hypothesis 4a	<i>CRT</i> → <i>CRC</i> → <i>OT</i>	.858	**	5.711	✓	Hypothesis partially supported <sup>b</sup>
8.	Hypothesis 4b	<i>CRT</i> → <i>CRC</i> → <i>OR</i>	–.194		.152	✗	Hypothesis not supported
9.		<i>CRT</i> → <i>OT</i> → <i>OR</i>	–.009		.043	✗	–
10.	Hypothesis 6	<i>CRC</i> → <i>OT</i> → <i>OR</i>	1.229	**	3.442	✓	Hypothesis partially supported <sup>b</sup>
11.		<i>CRT</i> → <i>CRC</i> → <i>OT</i> → <i>OR</i>	.724	*	2.209	✓	–

<sup>a</sup>If  $t > 1.96$ , the relation is significant with a 95% confidence level (Lowry & Gaskin, 2014).

<sup>b</sup>Both Hypotheses 4a and 6 propose partial mediation. However, the paths evaluated (7 and 10) reveal complete mediation.

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

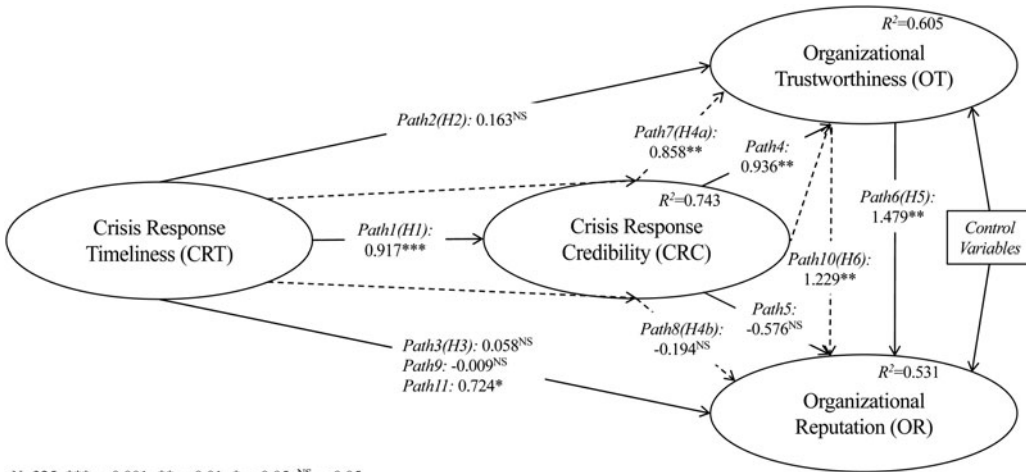


Figure 2. Results of the correlational research model.

Table 5. fsQCA Inclusion and Coverage

Complex solution	Inclusion	Coverage
1. Crisis response timeliness (CRT)		
(a) $CRC \times OR$	.815	.610
$M_1$	.815	.610
$M_1: CRC \times OR \rightarrow CRT$		
2. Crisis response credibility (CRC)		
(a) $CRT \times OT$	.878	.648
(b) $CRT \times OR$	.902	.577
$M_2$	.862	.689
$M_2: CRT \times OT + CRT \times OR \rightarrow CRC$		
3. Organizational trustworthiness (OT)		
(a) $CRC \times OR$	.910	.613
(b) $CRT \times OR$	.904	.550
(c) $CRT \times CRC$	.877	.617
$M_3$	.856	.760
$M_3: CRC \times OR + CRT \times OR + CRT \times CRC \rightarrow OT$		
4. Organizational reputation (OR)		
(a) $CRT \times CRC \times OT$	.827	.562
$M_4$	.827	.562
$M_4: CRT \times CRC \times OT \rightarrow OR$		



**Table 6.** fsQCA results

Configuration	Model	Pathway	CRT	CRC	OT	OR
Crisis response timeliness (CRT)	$CRT = f(CRB, OT, OR)$	(a)		●		●
		Total				
		Conclusion			●	
Crisis response credibility (CRC)	$CRB = f(CRT, OT, OR)$	(a)	●		●	
		(b)	●			●
		Total				
Conclusion		●		∅	∅	
Organizational trustworthiness (OT)	$OT = f(CRT, CRB, OR)$	(a)		●		●
		(b)	●			●
		(c)	●	●		
		Total				
Conclusion		∅	∅		∅	
Organizational reputation (OR)	$OR = f(CRT, CRB, OT)$	(a)	●	●	●	
		Total				
Conclusion		●	●	●		

Note. This representation follows Skarmeas, Saridakis, and Leonidou's (2018) suggestion for structure: small black circles indicate a high presence of a condition, and white circles indicate low presence or absence (not in this case). Large black circles indicate a core-necessary presence condition, and large white circles (not in this case) indicate absence. '∅' indicates a peripheral (i.e., not necessary) condition. Blank spaces in a pathway indicate, 'do not care.'

Two interconnected conclusions are derived from the correlational analysis. First, this work addresses previous research opportunities (Bundy *et al.*, 2017; Holland, Seltzer, & Kochigina, 2021; Kim & Lim, 2020; Yao *et al.*, 2019). Although the communication process involved in responding to a crisis in both a timely and credible fashion is challenging for companies, our results confirm that a company capable of projecting the impression of doing so produces a positive, progressive effect on both social types of judgments in examination (OT and OR). In this sense, our results build on those from previous studies (Arpan & Roskos-Ewoldsen, 2005; Beldad, van Laar, & Hegner, 2018; Claeys, Cauberghe, & Pandelaere, 2016; Huang & DiStaso, 2020; Utz, Matzat, & Snijders, 2009; van Zoonen & van der Meer, 2015) that have empirically established similar associations.

Second, in line with influential studies and propositions (e.g., Astrachan, Patel, & Wanzenried, 2014; Beldad, van Laar, & Hegner, 2018; Hosmer, 1995; Singh *et al.*, 2020), our work reinforces the idea that trustworthiness behaves as an antecedent of reputation. It seems that since the former constitutes a short-lived image (i.e., the company is somewhat in control of what it aspires to portray) and the latter involves long-standing observations (Elsbach, 2014), conveying signals of timeliness and credibility during a crisis effectively contributes to the enhancement of the image of a trustworthy company and subsequently of its reputation. This idea is fundamental because the examined sample group consists of affected stakeholders of an existing disaster produced by a prominent company. According to Lange, Lee, and Dai (2011), trustworthiness is more universal in nature than reputation. This latter judgment depends more on the perceiver's background than on the former judgment. In that case, it would appear that the stakeholders first need to perceive general manifestations of an organization's trustworthy behavior to adapt their particular vision (based on the local appropriateness and cultural desirability) to the implicated company's reputation.

From our configurational analysis, we learned that there are also alternative routes in which the perceived timeliness of a crisis response can be affected by the response perception of

credibility in conjunction with the implicated company's reputation. Moreover, we found that, in addition to the perception of responding promptly, the sense of the credibility of a crisis response can also be determined by either the trustworthiness or reputation of the company in crisis. These results also suggest that the constructs of timeliness, credibility, and even reputation can influence perceptions of OT in a peripheral way. Although the three former variables are indeed conditions of the latter, they are not necessarily required to work together to influence trustworthiness in a crisis. Finally, we can report a significant result of ambiguity regarding the impact on an implicated company's reputation. While only perceived credibility and trustworthiness appeared to influence reputational judgments in the correlational analysis, the confluence of timeliness, credibility, and trustworthiness perceptions was mandatory for influencing OR in the configurational analysis.

Furthermore, the alternative paths obtained through the configurational analysis provide fresh insights into crisis management. For instance, besides reaffirming the high interdependency between CRT and credibility perceptions, we also found an apparent dependency of timeliness with reputation (as suggested by Bundy & Pfarrer, 2015; Joshi & McKendall, 2018). This result proposes that it is reasonable to consider OR as a potential antecedent for perceived CRT and other perceptions and judgments. Moreover, taking into consideration that reputations are based on past behaviors (Bitektine, 2011), the circumstance that this construct could be an antecedent for both timeliness and credibility is also, in part, aligned with previous contributions (Beldad, van Laar, & Hegner, 2018; Claeys & Cauberghe, 2015; Contreras-Pacheco & Claasen, 2018; Coombs & Holladay, 2006). These studies highlight precrisis reputation as a well-grounded antecedent for minimizing the harms of negative publicity after a crisis.

Moreover, the examination of reputation in terms of the other constructs highlights the limited role of the timeliness perception alone in exerting influence over it, as well as the importance of the perceived credibility of a crisis response together with OT as drivers of this judgment. These results build upon previous contributions of Arpan and Roskos-Ewoldsen (2005) and Claeys, Cauberghe, and Pandelaere (2016), advancing a more precise understanding of 'stealing the thunder' as a crisis timing strategy by emphasizing its potential complementarity with the level of credibility projected by a crisis response in order to impact both OT and reputation positively. In sum, these newly identified configurations lead to different interpretations of the role of the perceptions of timeliness, credibility, trustworthiness, and reputation in shaping how affected stakeholders sense a crisis and the corresponding implicated company's role in it. These results consequently shed light on the effectiveness of specific configurations in the conception of crisis response strategies.

Our work also has practical implications for companies in crisis. Even though all of our results are related to both crisis and organizational perceptions, it is vital that a plausible and consistent message also emerges to achieve crisis response effectiveness alongside proactive disclosure. At the same time, it is noteworthy that responding in a timely fashion to a crisis, or more precisely, creating the sense that the company has responded on time to a crisis, is also associated with having a favorable reputation for generating a perception of high trustworthiness built on high credibility in the crisis response to stakeholders. Thus, in line with authors like Ndlela (2019), this work validates the idea that the effort put forth by any company (especially those exposed to potential crises) should be permanent in order to protect its reputation, which is predominantly achieved by proactively managing stakeholders' perceptions. At times, implicated companies misread a crisis, focusing on technical or legal aspects rather than perception issues. As Coombs (2019) repeatedly states, stakeholders' perceptions are commonly the natural triggers of crises.

Despite several insights emerging from our study, this work also has limitations. The most obvious is the cross-sectional nature of our data. Even though both analyses have a methodological balance, the correlational-configurational approach cannot overcome the study's inability to establish causality. However, given that the equifinality issue is explicitly addressed when obtaining configurational results, we believe this restriction does not influence our interpretation. Our study draws inferences based on the association between constructs. Clarifications of the

temporal order between them are possible only through a longitudinal approach. In this spirit, we think that future studies should collect panel data and test a causal model.

In addition, there is also a need to consider the context of the crisis and participants' profiles. Regarding context, data from a developing country like Colombia may differ from data collected in other cultural and economic contexts. Future research should compare and contrast results from other contexts to develop a more comprehensive understanding of the phenomenon. Regarding participant profiles, the fact that participants were affected stakeholders of the 'worst environmental disaster produced by a company in Colombia' might have led participants to respond in a biased way in which emotions overcame reason and therefore dictated reality. However, this is precisely why it is necessary to study perceptions within the actual context of organizational crisis management and crisis communication.

To better understand how organizational crises evolve and are managed by offending organizations, we propose that, in addition to traditional approaches based on second-hand information and real-life simulations, future research should also be focused on studies performed 'where the action takes place.' In our experience, this may be more challenging, but the outcome is more gratifying. In agreement with authors like Jong and Brataas (2021), interacting with affected stakeholders and uncovering their perspectives help to complement the understanding of reality in challenging contexts. As a result, we propose that configurational or other qualitative methods are employed in addition to correlation analysis when the reality in diverse manners is interpreted. These new approaches can be fruitful for obtaining more and worthy deductive–inductive conclusions. After all, as in any communication process, perceptions of a given situation (especially the difficult ones) are often substantially independent from the facts themselves.

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