

THESIS

EFFECTS OF CRISIS SEVERITY AND CRISIS RESPONSE STRATEGIES ON POST-
CRISIS ORGANIZATIONAL REPUTATION

Submitted by

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ABSTRACT

EFFECTS OF CRISIS SEVERITY AND CRISIS RESPONSE STRATEGIES ON POST- CRISIS ORGANIZATIONAL REPUTATION

Using situational crisis communication theory (SCCT), this study investigates the impact of crisis severity and crisis response strategies on post-crisis organizational reputation within the field of crisis communication. In the experiments, 289 respondents participated in a 2 (crisis severity: low vs high) x 2 (crisis response strategy: match vs mismatch) between-subjects factorial design. The results show that in the case of high crisis severity, a matched crisis response strategy positively influenced post-crisis organizational reputation as compared to a mismatched crisis response strategy. However, in the case of low crisis severity, there was no impact of a matched or mismatched crisis response strategy on organizational reputation. The study discusses its theoretical and empirical implications and limitations.

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I. Introduction

Healthy women with functioning reproductive systems will go through the menstruation cycle every month. Females will use sanitary pads or some form of protection for forty-years, spanning the point at which they start puberty through to when they experience the menopause. Given the vital role sanitary pads play in women's lives, the discovery of radon, a radioactive material, in the hygienic products distributed in South Korea had far-reaching implications for women in this area of the world. The severity of the scare and the companies' failure to take direct action caused significant unease, leading to women boycotting their products.

Given these real circumstances, a crisis can have serious direct and indirect effects on organizations and their staff, consumers, suppliers, reputation, and more (Ulmer, Sellnow, & Seeger, 2011). For this reason, it is vital that organizations, and crisis communicators within them, take steps to manage and contain any crisis which occurs properly. The literature in the field of crisis response has put forward various theories of how best to do this, among them the pioneering Situational Crisis Communication Theory (SCCT) which drew up a typology of crisis types and matched best response strategies to each based on the degree of organizational responsibility (Coombs, 2007). Other research, however, suggests that it is not necessary to strictly align crisis type and response strategy in this way but, rather, that 'mismatched' response strategies may be just as effective in containing a crisis and, in particular, its effect on an organization's reputation (e.g., Claeys, Cauberghe, & Vyncke, 2010; Grappi & Romani, 2015; Kim & Sung, 2014).

This study addresses criticisms of and possible flaws in SCCT and considers whether adding one factor can improve the strategy of matching crisis type and response strategies. The

factor to be considered is crisis severity. For Coombs (1995), the severity of a crisis is a critical factor in measuring the degree of damage done to the reputation of the organization in question (Coombs, 1995). However, there is a lack of consensus on this point. A study by Claeys and researchers (2010), for example, found a negative relationship between the two, although it should be noted that that study was methodologically different in that it tested severity as an additional factor only, rather than as the principal characteristic of the crisis (Claeys et al., 2010). Further research in this area is needed to consider the possible intensifying effect of severity on damage to the organizational reputation in times of post-crisis.

Therefore, the present study addresses the need for further experimental research in the field. An experiment was conducted on one factor from SCCT, crisis severity – to determine its impact on the public's perception of reputation towards the organization. The objective was to draw up guidelines for communicators within a crisis situation, whatever its degree of severity by matching a crisis response strategy to the different levels of crisis severity. After a theoretical overview, the following components are discussed: hypotheses, methods, results and discussion.

II. Literature Review

II. 1 Attribution Theory

Attribution theory provides evidence that people seek to explain the reasons why bad things occur (Weiner, Amirkhan, Folkes, & Verette, 1987). Attribution theory was introduced in the 1950s as “naïve psychology” to help explain the reason for people’s behavior, making the causal explanation of their action (Heidler, 1958). As a series of Heidler’s later studies, Weiner proposed that people search for the cause of the events, particularly, if it’s *a negative and unexpected* event which will impel those affected to attribute responsibility and award both blame and praise (Weiner, 1985, 1986).

Weiner (1986) noted subsequent emotional reactions after attribution: when an individual attributes responsibility for an event, an emotional reaction will be evoked (e.g., anger and sympathy). With the attributions of responsibility, emotions can play a role as a motivator for actions. For the situation that is considered responsible, anger is aroused, and behavioral actions are negative; for the situation that is not regarded as responsible, sympathy is aroused, and behavioral actions are positive (Weiner, 2006).

Attribution theory was rooted by situational crisis communication theory (SCCT), allowing to apply to the field of crisis communication as extent research. Coombs and Holladay (1996) indicated that attribution theory is applicable to elucidate the association between a situation and pair with a communication strategy. Based on the attribution theory, SCCT (Coombs, 2007) suggests a different crisis type based on the extent of crisis attributed responsibility; preventable cluster as high responsibility crisis situation; accident cluster as

medium responsibility crisis situation; victim cluster as low responsibility crisis situation, which addresses in the following section.

II. 2 Situational Crisis Communication Theory (SCCT)

Situational Crisis Communication Theory (SCCT) uses the critical variables of attribution theory (Weiner, 1985) (see Figure 1). SCCT develops this theory and applies it to the restoration of an organization's post-crisis reputation by first understanding the nature of the crisis in question, and then using attribution of responsibility to devise protective and recuperative strategies (Coombs, 2007).

According to Coombs (2012), "A crisis is the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes" (p. 2). In fact, a crisis has an impact not only on an organization but also on the public and stakeholders. A crisis arouses extensive incidents that result in negative consequences to organizations, companies, industries, their public, even their products, services, or their reputations (Fearn-Banks, 2016). A crisis disturbs or distresses the entire organizations, or has the potential to do so (Coombs, 2015).

Coombs discusses that a crisis is composed of a set of four intermingled factors: prevention, preparation, response, and revision; prevention is the stage of striving to avoid crises. During that time, practitioners uncover warning signs and take premeditated action to prevent the crisis; preparation implicates that the practitioners' endeavor either limits the period of the crisis, or reduces the influence of the crisis, or deters the crisis. In the response stage, it pursues to achieve a goal by lessening the negative impact of a crisis on the public, stakeholders, and organizations. Recovery is a part of the response, which organizations try to return to the stabilization stage as soon as possible. A revision includes "evaluation of the organization's

response in simulated and real crises, determining what it did right and what it did wrong during its crisis management performance” (Coombs, 2014, p.6).

Safeguarding an organization’s reputation is a critical outcome of SSCT, and the measures taken are based on identifying which of several grades of threat is caused by the crisis, with the highest being “the amount of damage a crisis could inflict on the organization’s reputation if no action is taken” (Coombs, 2007, p.166). Quantifying potential reputational damage is broken down into three categories: (1) initial crisis responsibility, (2) crisis history and (3) pre-crisis/prior relationship/reputation.

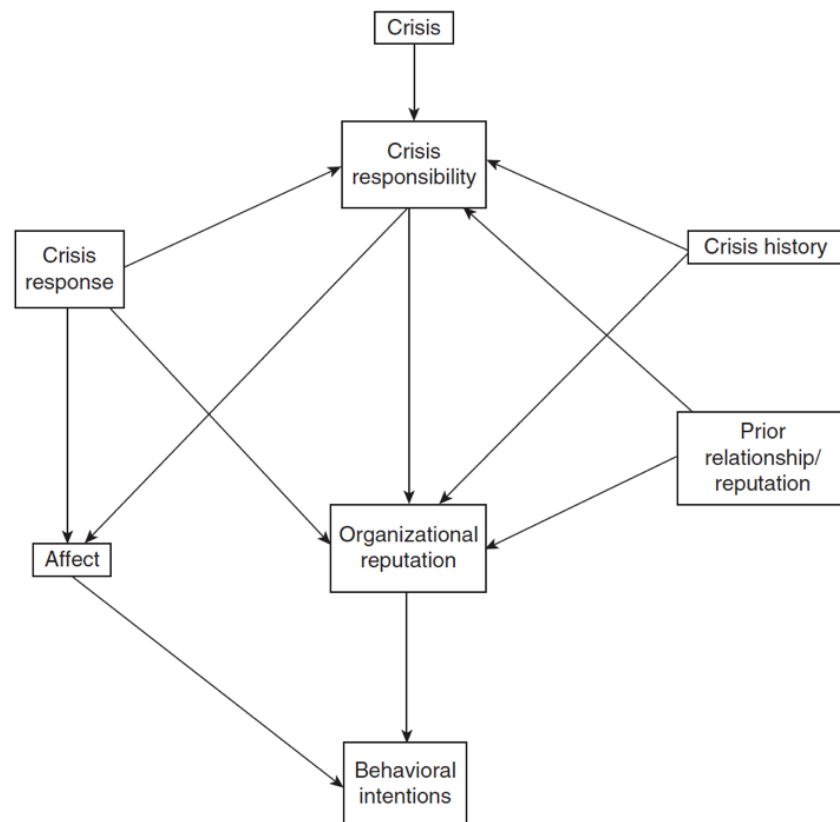


Figure 1 Situational crisis communication theory variables (Coombs, 2007)

The first of these, initial crisis responsibility, quantifies the extent to which responsibility for the crisis can be ascribed to the organization (Coombs, 1995). The greater the extent of

responsibility ascribed by stakeholders, the greater the impact on post-crisis reputation (Coombs, 1998, 2007).

The second, crisis history, is a quantification of similar crises which may have already occurred within the organization (Coombs, 2007), while the third, pre-crisis reputation, assesses the value placed on the name of the organization by stakeholders prior to the crisis, in particular, in regard to the quality of its communications (Coombs, 2007). Both crisis history and pre-crisis reputation have not only direct and indirect effects on post-crisis reputational damage, but also intensify the attribution of responsibility (Coombs, 2004a, 2007).

The SCCT crisis typology, by contrast, creates three ‘crisis clusters’ based on the extent to which stakeholders hold the organization in question responsible for the crisis: *the victim cluster*, the *accidental cluster*, and the *preventable cluster* (Coombs, 2004b, 2007; Coombs & Holladay, 2002). The first of these, the so-called ‘victim cluster,’ assesses this attribution of responsibility as very weak; for example, in cases in which the organization itself is regarded as a victim, including flood, fire, rumors, tampering with products, defamation, etc. The second, the ‘accidental cluster,’ covers such matters as an unintentional or unavoidable accident or damage to products caused by technical error. This crisis type requires relatively low attribution of crisis responsibility which is held by the stakeholders (Coombs, 2007). Lastly, the preventable cluster is the most serious in that it implies that the highest level of responsibility is attributed to the organization itself; for example, because it has done – or is perceived as having done – something which it knows to be dangerous or illegal such as human-error accidents, human-error product harm, and organizational misdeeds (Coombs, 2004b, 2007).

SCCT proposed that the more responsibility a stakeholder attributes to an organization, the higher the chance to threaten its reputation (Coombs, 2007). Attributed responsibility has

been stressed in order to repair the reputation posed by a crisis (Coombs, 2007, 2010) and it mediated the relationship between crisis response strategies and reputation. Coombs reemphasizes attribution of responsibility within SCCT as the key valuable (2015). A meta-analysis of SCCT research also found that attributed responsibility had a strong negative impact on reputation (Ma & Zhan, 2016). Furthermore, Roh's study discovered that a CEO's unethical comments led to the greater judgment of responsibility and counterfactual thinking processes, leading to reputation assessments (Roh, 2017).

Likewise, attribution of responsibility is a vital key in a situation of crisis. Based on the extent of the attributed responsibility (i.e., crisis type), SCCT matches crisis response strategies to deal with the situation of crisis effectively. In response to the previous researches, this study suggests SCCT's approach as a guideline to help understanding of the matched/mismatched crisis response strategies and expend it (Coombs, 2007).

II. 3 Crisis Severity

Crisis severity has been considered a key element in the SCCT since the model was first proposed by Coombs in 1995. Coombs and Holladay (2002) later defined it as "the amount of damage generated by a crisis including financial, human and environmental damage" (p.169) and underlined that the level of severity would alter the strategy undertaken to contain the adverse effects, including those on perception and attitude toward the organization. The more damaging these effects – for example, if the crisis has caused the death or injury of persons, or substantial damage to property, including environmental damage – the more the public is likely to ascribe responsibility to the organization itself, thus further damaging the public's perception, attitude and organizational reputation (Coombs, 1995; Coombs & Holladay, 2002) (see figure 2).

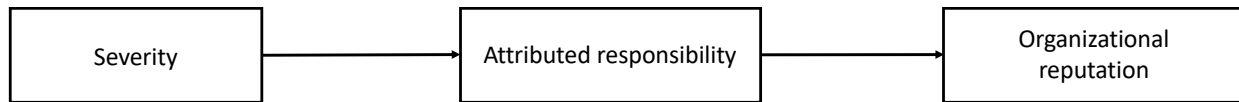


Figure 2 SCCT (Coombs & Holladay, 2002)

This relationship between crisis severity and the tendency to ascribe greater responsibility has been disputed by other studies and disregarded. Coombs (1998) concluded that individuals who were exposed to the less severity situation attributed greater responsibility to the organization than the more severity situation because people feel more sympathy when the severity is high. Besides, Lee (2004) found that severity does not have an impact on the public's judgment of organizational responsibility for the crisis, impression of the organization, sympathy, and trust toward the organization. Similar to these results, Park and Len-Ríos (2010) also discussed that the degree of crisis severity (i.e., high vs low) does not influence attributed crisis responsibility. Additionally, the impact of crisis severity on the three dimensions of crisis responsibility (i.e., intentionality, accountability, locality) was not significant in their experimental study (Zhou & Ki, 2018).

While the aforementioned studies were found lack of effectiveness of crisis severity, other studies claimed that crisis severity is positively related to attribution of responsibility and stakeholders' blame, and negatively related to organizational reputation. The study from Claeys and colleagues (2010) shows that the more severe the crisis is, the higher negative effects are on organizational reputation (Claeys et al., 2010). Jones and Davis (1965) argued that the higher crisis severity led to more attribution of responsibility to the organization. Also, the study from Isaacson (2012) supported that a more severe crisis severity leads to a more negative reputation in a university sports program condition. Furthermore, the most recent study, by Zhou and Ki (2018), maintains that crisis severity should continue to be regarded as a key variable because of the effect it has as an "intensifier" of reputational damage. For Zhou and Ki's study, it was

reinforced that crisis severity has a negative relationship with organizational reputation, whereas it has a positive relationship with crisis responsibility except when a preventable crisis occurs.

This is also supported by the defensive attribution theory in psychology. For Walster (1966), the more severe the event – or the more negative its consequences – the more likely people are to view it as controllable and thus ascribe greater responsibility to the person or group which carried it out or allowed it to happen. The present study extends these past findings on crisis severity and contributes to the theoretical development of crisis communication by providing a shred of empirical evidence.

II. 4 Matching or Mismatching A Crisis Response Strategy to Crisis Type

Crisis communicators have utilized SCCT guidelines to undo reputational damage post-crisis by matching a crisis response strategy with crisis type (Coombs, 2007). The prompt investigation leading to swift identification of crisis type and assessment of organizational responsibility is the key, as the strategies are chosen to minimize damage to the organization's reputation spring from this.

The different levels of organizational responsibility identified under SCCT provide the basis for choosing among the three clusters of response strategies for post-crisis communication with stakeholders. These three clusters are based around denying, diminishing and rebuilding strategies (Coombs, 2006).

For Coombs (2006), strategies based around denial are appropriate for crises for which the organization has, or takes, no responsibility (i.e., victim cluster). Among them are accusing the accuser (that is, 'turning the tables' on persons or groups who have themselves accused the organization of wrongdoing); and the 'crisis, what crisis?' approach of outright denial that there is anything amiss.

Diminishing strategies are useful if an organization wishes to admit its fault, but minimize responsibility (i.e., accidental cluster). For example, the organization can state that the crisis was the result of an accident for factors out of its control, as well as a modified version of the ‘crisis, what crisis’ by asserting that the damage is easily manageable.

Finally, organizations which accept a high level of responsibility (i.e., preventable cluster) for the crisis are inclined to implement rebuilding strategies, which may include compensation, whether financial or otherwise, public and private apology, requests for forgiveness and promises of reform (Coombs, 2007) (see table 1).

Table 1 Match between crisis types and crisis response strategies. Source: adapted from Coombs (2007), p.168, 170, 173

Crisis type	Crisis response strategies
Victim cluster	Deny strategies
Natural disaster	Attack the accuser
Rumor	Denial
Workplace violence	Scapegoat
Product tampering/Malevolence	
Accidental cluster	Diminish strategies
Challenges	Excuse
Technical-error accidents	Justification
Technical-error product harm	
Preventable cluster	Rebuild strategies
Human-error accidents	Compensation
Human-error product harm	Apology
Organizational misdeed with no injuries	
Organizational misdeed management misconduct	
Organizational misdeed with injuries	

Bradford and Garrett (1995) proposed the corporate communicative response model which empirically exemplify the effects of the association between a crisis situation and a crisis response strategy, indicated that crisis communicator must incorporate the appropriate crisis response strategies (CCS) with a crisis situation in order to protect an organization’s image.

Based on Bradford and Garrett's model, Huang (2006) further accentuated the importance of the crisis situation corresponding to a response strategy in a political context. Huang analyzed 1,221 news articles in political crisis cases and found that using a guideline is positively associated with media coverage of the crisis– in particular, denial in a commission situation, justification (i.e., diminish) in a standards situation, and concession (i.e., rebuild) in an agreement situation.

Additionally, Coombs and Holladay (1996)'s symbolic approach study showed that matched response strategies hold more positive organizational image compared to the mismatched response. Cleays and Cauberghe (2014)'s study supported this finding. Their research showed that a matching response strategy led to a more positive impact of their attitude of the organization compared to a mismatched in preventable crisis.

Recent research also referred that when a spokesperson used a matched crisis response strategy (i.e., rebuild), it significantly enhances stakeholder's organizational reputation as well as empathy toward the spokesperson (Crijns, Claes, Cauberghe, & Hudders, 2017). They additionally stressed the importance of selecting a matching response strategy. Likewise, previous studies (Bradford & Garrett, 1995; Cleays & Cauberghe, 2014; Coombs & Holladay, 1996; Huang, 2006) have been empirically proved that a matched response strategy is better than a mismatched response strategy to protect and repair the organizational image.

Cleays, Cauberghe and Vyncke (2010) found that a matching and a mismatching response strategy to the crisis type were not different in the impact of organizational reputation and protection. A recent study found that the combination of base and denial strategy (i.e., shifting-the-blame) was significantly more effective than the combination of base and rebuilding strategy, as opposed to the recommendation of SCCT (Kim & Sung, 2013). These studies demonstrated that the suggestion of SCCT is not always the best in every situation. Along the

same line, a meta-analysis revealed that the relation between a matched response strategy and reputation was weak (Ma & Zhan, 2016). Therefore, it should be worthy of investigating the SCCT's recommendation for the crisis communicator to expand and improve it.

As discussed above, some researchers have concluded that coordinating response strategies around crisis type is the most beneficial way (e.g., Bradford & Garrett, 1995; Cleays & Cauberghe, 2014; Coombs & Holladay, 1996; Crijns et al., 2017; Huang, 2006); others, however, believe that using a matched response strategy is not always optimal for protecting organizational reputation in crises (e.g., Claey's et al., 2010; Kim & Sung, 2013; Ma & Zhan, 2016) (see Table 2). These inconsistent findings may vary because of some moderating factors.

In response, the present study incorporates a different degree of crisis severity (high vs low) into SCCT to further illuminate the relationship between the principal aspect of crisis discussed above: crisis severity, crisis response strategies and organizational reputation.

II. 5 Organizational Reputation

Former studies have placed more emphasis on the understanding of the public's perception because it gives a sense of direction and helps build an effective communication strategy targeted for the various public (Kim, 2016; Kim, Kim, & Cameron, 2012). Perception is the process that when people are exposed by stimuli situations, they organize and interpret the stimuli into a 'meaningful' object (Lindsay & Norman, 1977; Pickens, 2005). Given the previous studies, the public's perception is closely related to the perception of the organization reputation, attitude and its credibility (Coombs, 1998; Coombs & Holladay, 1996; Pickens, 2005).

Fombrun and Van Riel (2004) stated that a reputation establishes through the information that stakeholders get. There are several ways that stakeholders get the information; interactions with an organization, mediated reports about an organization (e.g., news, social media,

advertising), and second-hand information (e.g., word of mouth) (Coombs, 2007). Coombs stated that stakeholders make the expectations about the organization from what they received and compare whether the organization meets their expectations or not. If it does not meet the expectation, an ‘expectation gap’ makes a challenge for the organization (Reichart, 2003).

Although different researchers have given slightly different definitions of organizational reputation, based on the longer term, its basic meaning is clear: the favorable or unfavorable perception of stakeholders. For Coombs (2013), it is “how positively or negatively stakeholders perceive an organization” (p. 271) while for Feldman, Bahamonde and Velasquez Bellido (2014), it is a “reflection of how (the organization) is regarded by its multiple stakeholders” (p. 54). It should be noted that this reputation can differ across the stakeholders, each of whom may have a different experience and thus a different perception of the organization. Hence, while some people might regard the reputation of a given organization as good, others might agree with equal validity regard it as bad (Bromley, 2000; Fombrun, 1996; Mahon, 2002; Prado, 2008).

Prior to any crisis occurring, it is vital that public relations departments create a robust organizational reputation across all the various stakeholders (Wilcox, Ault, Agee, & Cameron, 2000), given that it is extremely challenging to restore trust after a crisis (Coombs, 2010). The research from Kim, Avery and Lariscy (2011) highlighted that the principal objective of the crisis responses is repairing the organizational reputation. SCCT offers a manual for crisis communicators to set about restoring trust by crafting messages to the various public affected to begin implementing the process of mending reputational damage.

Coombs rationalized that behavioral intention is affected by organizational reputations (Coombs, 2007). Furthermore, SCCT shows that an increase in negative feelings leads to less supportive behavioral intentions such as saying nice things about the organization and

purchasing its service/products (Coombs, 2007; Siomkos & Kurtz, 1994). The meta-analysis study from Rudolph and researchers (2004) found that the emotional reactions directly effects on helping behavior (Rudolph, Roesch, Greitemeyer, & Weiner, 2004). Nevertheless, limited researches have been shown to support these arguments (Coombs & Holladay, 2004). In this sense, the recent research from the study of Claeys et al., (2010) and Kim (2016) put an emphasis on approaching the actual outcome – *organizational reputation*.

Given the important outcomes of crisis, to fill the aforementioned gaps in the literature and provide the empirical support, the present study extends these past findings on public's perception of the organizational reputation by proposing a model based on the different levels of crisis severity and crisis response strategies (match vs mismatch). The current study utilizes the preventable crisis cluster because the cluster requires the highest organizational responsibility and it has more impact on the crisis outcomes than other clusters (i.e., victim and accidental cluster) (Coombs, 2007).

II. 6 Hypotheses

Coombs and Holladay (2002) operationalized the crisis severity as the amount of damage caused by the crisis. This definition is organization-oriented. However, Claeys et al. (2010) suggested employing perceived crisis severity rather than the actual damage. This approach leads to more of an understanding of a stakeholder's perspective. Adopting the previous approach, this study uses *perceived crisis severity* for operationalization - stakeholder's assessment of the degree of a crisis, which takes effects further on organization reputation damage. In response, the present study will further illuminate the relationship among the three principal aspects of the crisis discussed above: crisis severity, crisis response strategies and organizational reputation.

The hypotheses below are therefore proposed, while Figure 3 summarizes the study's conceptual framework.

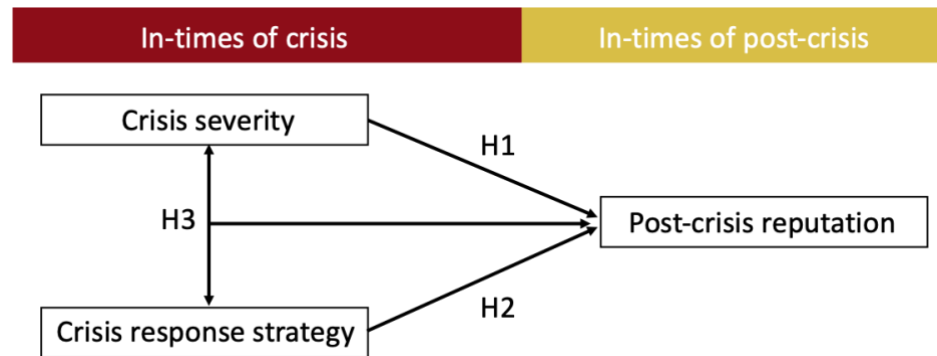


Figure 3 Conceptual Framework

Even though there are studies that crisis severity does not influence the ascribed responsibility (Coombs, 1998; Lee, 2004; Park & Len-Ríos, 2010; Zhou & Ki, 2018), other researchers (Claeys et al., 2010; Isaacson, 2012; Jones & Davis, 1965; Zhou & Ki, 2018) have claimed that crisis severity has a significant effect on the ascription of responsibility for a crisis and thus on the post-crisis perception of organizational reputation (Claeys et al., 2010; Coombs & Holladay, 1996; Isaacson, 2012; Lee, 2004; Zhou & Ki, 2018). Besides, given that crisis severity is outside an organization's control, its influence can be direct or indirect to the reputation. Thus, the effect of crisis severity on reputation needs to be further studied. In order to provide empirical support, it leads to the following hypothesis:

H1. The low crisis severity leads to a more positive organizational reputation than where crisis severity is high.

The suggestion formulated in the SCCT that each crisis type is matched by an ideal crisis response strategy has been widely taken up by crisis communicators. As previously mentioned, research has shown that a matched crisis response strategy has a positive impact on restoring

organizational reputation better than a mismatched crisis response strategy (Bradford & Garrett, 1995; Cleays & Cauberghe, 2014; Coombs & Holladay, 1996; Crijns et al., 2017; Huang, 2006).

The present study predicts that this ‘matching’ strategy does indeed have a better outcome regarding post-crisis organizational reputation as compared to the ‘mismatching’ one. More empirical evidence is required to support this claim; thus, the present research aims to assess whether the same holds true in regard to the choice of a matched or mismatched crisis response strategy, leading to the following hypothesis:

H2. A matched crisis response strategy leads to a more positive organizational reputation than a mismatched crisis response strategy.

In cognitive information processing, people are more sensitive to the negative issue namely, ‘negative bias’ (Slovic, 1993, 1997). According to Slovic, the more negative things are framed, the more associated an individual will be to process the information. Along the same lines, people tend to absorb the situation when it is ‘negative and unexpected’ and trigger casual attribution processing (Weiner, 1986). Also, people more tend to respond ‘strongly,’ to be more ‘attentive,’ and to give more ‘weight to negative elements of the environment’ (Hibbing, Smith, & Alford, 2014). Therefore, the different levels of severity (low vs high) inflict varying amounts of information processing and impact on organizational reputation, leading to the final two hypotheses:

H3a. Where crisis severity is high, a matched crisis response strategy leads to a more positive organizational reputation than a mismatched crisis response strategy.

H3b. Where crisis severity is low, choosing a matched or mismatched crisis response strategy has no impact on organizational reputation.

Table 2 Literature review

Study	Study Purpose	Method	Relevant Findings
Claeys, A. S., Cauberghe, V., & Vyncke, P. (2010). Restoring reputations in times of crisis: An experimental study of the Situational Crisis Communication Theory and the moderating effects of locus of control. <i>Public Relations Review</i> , 36(3), 256-262.	To provide the empirical evidence of the impact of crisis type and crisis response strategies on perceptions of corporate reputation.	An experimental study, N=316, a 3 (crisis type: victim crisis, accidental crisis, preventable crisis) x 3 (crisis response: deny strategy, diminish strategy, rebuild strategy).	<ul style="list-style-type: none"> ▪ A matching and a mismatching response strategy to the crisis type were not different in the impact of organizational reputation and protection. ▪ Crisis severity had a positive association with the perceptions of the organization's reputation.
Claeys, A. S., & Cauberghe, V. (2014). What makes crisis response strategies work? The impact of crisis involvement and message framing. <i>Journal of Business Research</i> , 67(2), 182–189.	To test the impact of crisis involvement and message framing on the effect of crisis response strategies on post-crisis attitude toward an organization.	An experimental study, N=274, a 2 (crisis response strategy: match vs mismatch) x 2 (crisis involvement: low vs high) x 2 (message framing: emotional vs rational) between-subjects factorial design.	<ul style="list-style-type: none"> ▪ The matched crisis responses strategies to the crisis type increased the attitude toward the organization in the case of high crisis involvement or rational framing of crisis communication.
Coombs, W. T., & Holladay, S. J. (1996). Communication and attributions in a crisis: An experimental study in crisis communication. <i>Journal of public relations research</i> , 8(4), 279-295.	To reveal the association between crisis type, organization performance history, crisis response and the image of an organization.	An experimental study, N=116.	<ul style="list-style-type: none"> ▪ The matched crisis response strategy to crisis type had a positive impact on the image of an organization.

Table 2 Literature review (*Continued*)

Coombs, W. T., & Holladay, S. J. (2002). Helping crisis managers protect reputational assets: Initial tests of the situational crisis communication theory. <i>Management Communication Quarterly</i> , 16(2), 165–186.	To attempt to articulate and test a situational theory of crisis communication.	An experimental study, N=130.	<ul style="list-style-type: none"> ▪ Crisis responsibility and organizational reputation are negatively correlated across the three crisis clusters; in the victim, $r = -.51$ ($p < .01$); in the accidental crisis, $r = -.32$ ($p < .01$); in the preventable cluster, $r = -.46$ ($p < .01$).
Crijns, H., Claeys, A. S., Cauberghe, V., & Hudders, L. (2017). Who says what during crises? A study about the interplay between gender similarity with the spokesperson and crisis response strategy. <i>Journal of Business Research</i> , 79, 143-151.	To examine the importance of gender similarity between an organizational spokesperson and stakeholders and the crisis response strategy. Role of the crisis response strategy used.	A 2 (gender match: similar vs dissimilar) x 2 (crisis response strategy: rebuild vs deny) between-subjects quasi-experimental design.	<ul style="list-style-type: none"> ▪ Based on the SCCT, if the spokesperson used an appropriate crisis response strategy, it increased organizational reputation as well as stakeholders' empathy toward the spokesperson.
Huang, Y. H. (2006). Crisis situations, communication strategies, and media coverage: A multicase study revisiting the communicative response model. <i>Communication research</i> , 33(3), 180-205.	To examine the relationships among crisis situations, crisis response strategies, and media coverage.	Comparative case study (1,220 news articles).	<ul style="list-style-type: none"> ▪ Based on the Communicative Response Model, the use of denial in a commission situation, justification in a standards situation, and concession in an agreement situation led to positive media coverage.

Table 2 Literature review (Continued)

Isaacson, T. E. (2012). <i>Evaluating the crisis response strategies of a university basketball program: How do reactions differ based on apologies, crisis severity, and team identification</i> (Doctoral dissertation). Michigan State University, Communication.	To assess the reputational threat to a university sports program by differing crisis response strategies and crisis severity.	A 2x2x2 experimental design.	<ul style="list-style-type: none"> ▪ The more severe crisis, the less supportive behavioral reaction occurred in a university sports program context.
Kim, S., & Sung, K. H. (2014). Revisiting the effectiveness of base crisis response strategies in comparison of reputation management crisis responses. <i>Journal of Public Relations Research</i> , 26(1), 62-78.	To test the relative effectiveness of the base crisis response and reputation management crisis response strategies.	A 2 (victim, preventable crisis) x 5 (base crisis-response, denial reputation management crisis-response, rebuilding reputation management crisis-response, the combination of the base and denial reputation management crisis-response strategies, the combination of the base and rebuilding reputation management crisis response strategies), N=242.	<ul style="list-style-type: none"> ▪ In a preventable crisis, the combination of base and rebuilding strategies was less effective than the combination of base and denial strategies.
Lee, B. K. (2004). Audience-oriented approach to crisis communication: A study of Hong Kong consumers' evaluation of an organizational crisis. <i>Communication research</i> , 31(5), 600-618.	To investigate the responses of consumers to information about an organizational crisis.	A 2 (causal attribution: internal and external) x 6 (crisis response: shifting the blame, minimization, no comment, apology, compensation, and corrective action) x 2 (crisis severity: severe and extremely severe) between-subject experimental design.	<ul style="list-style-type: none"> ▪ There was no significant effect of crisis severity on attitude (judgment, impression, sympathy, mistrust) toward the organization.

Table 2 Literature review (*Continued*)

Ma, L., & Zhan, M. (2016). Effects of attributed responsibility and response strategies on organizational reputation: A meta-analysis of situational crisis communication theory research. <i>Journal of Public Relations Research</i> , 28(2), 102-119.	To explain the mixed findings and reveal average correlations among attributed responsibility, matched crisis response strategies and reputation.	A meta-analysis of 35 investigations from 24 studies published between January 1990 and March 2015.	<ul style="list-style-type: none"> ▪ The relation between a matched response strategy and reputation was a weak $r = 0.23$, 95% CI= (0.17, 0.29) ▪ Attributed responsibility was strongly associated with reputation at $r = -0.54$, 95% CI = (-.63, -.44).
Sheldon, C. A., & Sallot, L. M. (2008). Image repair in politics: Testing effects of communication strategy and performance history in a faux pas. <i>Journal of Public Relations Research</i> , 21(1), 25-50.	To test the effects of crisis communication strategy and performance history in conjunction with a politician's faux pas.	A 3x2 factorial experiment: crisis communication strategy (mortification, bolstering, and corrective action) and performance history (positive and negative) in conjunction with a politician's faux pas.	<ul style="list-style-type: none"> ▪ Evaluations of the politician's reputation had more positive in the mortification condition than in both the bolstering and corrective action conditions.
Zhou, Z., & Ki, E. J. (2018). Does severity matter? An investigation of crisis severity from defensive attribution theory perspective. <i>Public Relations Review</i> , 44(4), 610-618.	To reinvestigate the impact of crisis severity on crisis responsibility across different crisis types.	A 2 (crisis severity: high vs low) x 3 (crisis type: victim, accidental, preventable) between-subject experiment, N=274.	<ul style="list-style-type: none"> ▪ Increasing crisis severity led to worse organizational reputation regardless of crisis type.

III. Method

III.1 Pre-Tests

Two pre-tests were conducted for three purposes. First, pre-tests were held to serve as an initial manipulation check to see the crisis type (preventable cluster), crisis severity (low vs high) and crisis response strategies (match vs mismatch) as needed in the different stimuli messages. Second, the pre-tests checked whether the news articles are all easy to read, understandable, and believable for the readers. Lastly, the pre-tests served for checking technical issues.

III.1.1 Pre-test 1

Forty-one respondents participated to check the effectiveness of the manipulations of the crisis responses strategies and crisis severity. The respondents were recruited using a convenient sample. The pretest used a between-subjects design. All the manipulations were successful ($M_{\text{high severity}} = 6.45$, $SD = 1.61$ vs $M_{\text{low severity}} = 5.79$, $SD = 1.63$, $t(39) = -2.32$, $p < 0.05$; $M_{\text{match}} = 4.71$, $SD = 1.61$ vs $M_{\text{mismatch}} = 2.6$, $SD = 1.63$, $t(39) = -2.11$, $p < 0.01$; Crisis type, $M = 4.93$, $SD = 0.80$). Even though all the manipulations were well above the significant level, the stimuli were further revised in order to make it easy to read and believable for the readers. The material for the low severity was modified from VOCs (Volatile Organic Compounds) to fragrance in order to see the wider gap between the level of low and high severity. The revised version of stimuli was shorter and more believable to the participants.

III.1.2 Pre-test 2

The second pre-test was conducted to check for the manipulations and technical issues since the researcher hasn't used Qualtrics and Amazon Mechanical Turk (Mturk) before. The

researcher created the survey link using Qualtrics and posted on an online panel company Mturk for a more representative sample of the United States rather than using a student sample. All respondents ($N=121$) were incentivized \$0.5 and the average time per assignment was 5 minutes 43 seconds.

The first analysis measured the amount of the participants who perceived that the organization took responsibility for the crisis. The results showed that for the matched response strategy condition (cf. rebuild strategy), the respondents perceived that the organization took more responsibility for the crisis than the mismatched response strategy condition (cf. deny strategy) ($M_{\text{match}} = 5.20$, $SD = 1.39$ vs $M_{\text{mismatch}} = 2.87$, $SD = 1.87$; $t(119) = -7.79$, $p < 0.01$).

The respondents rated the attributions of responsibility (blame, accountability and locality) to determine the crisis type (i.e., preventable cluster) and if the crisis response strategies (match vs mismatch) are offered based on the crisis type. The results showed that participants felt the crisis was preventable by the company and caused by the inside factor of the company. Also, they felt that the blame for the crisis lied on the company ($M_{\text{responsibility}} = 5.43$, $SD = 1.16$) and therefore the crisis type assured as a preventable cluster.

Lastly, the effectiveness of the manipulation of the crisis severity was analyzed. The results showed that respondents had a higher rating ($M = 5.22$, $SD = 1.9$) for the high severity condition than the low severity condition ($M = 2.17$, $SD = 1.27$; $t(119) = -10.43$, $p < 0.01$). Thus, the severity was successfully manipulated. The current study adapted all stimuli for the main study on the basis of these results.

III.2 Study Design and Stimuli

After the pre-tests were finished, the main study was conducted. This study uses a 2 (crisis severity: low vs high) x 2 (crisis response strategy: match vs mismatch) between-subjects

experimental factorial design to investigate the hypotheses. Four fictitious scenarios manipulated crisis severity and crisis response strategies (see Table 3).

Table 3 Experimental design: 2 (crisis severity) \times 2 (match vs mismatch) between-subjects factorial design

<i>Condition 1</i>	<i>Condition 2</i>	<i>Condition 3</i>	<i>Condition 4</i>
High crisis severity Matched crisis response strategy	High crisis severity Mismatched crisis response strategy	Low crisis severity Matched crisis response strategy	Low crisis severity Mismatched crisis response strategy

Turk and researchers (2012) recommended using real organizations in messages to increase “the ecological validity” (p. 578) of the experimental study and to measure the pre-crisis organizational reputation (Turk, Jin, Stewart, Kim, & Hipple, 2012). This study followed the recommendation and used a real organization named “Procter & Gamble (P&G),” and its brand “Always,” which grabbed 38.35% of market share in the sanitary pads and napkins market in the U.S in 2018 (NHCS, 2018). Although there are various sanitary pad brands in America, “Always” has been leading the sanitary pads market from 2011 to 2018 compared to other brands consisting only a small portion of the market share; with the second largest market shared brand holding only 14% - ‘Kotex’ (e.g., Stayfree:10%; Carefree 7%) (NHCS, 2018).

The fictitious scenario, which was told in a news article, depicted the product-sanitary pads that contain harmful chemicals. In the news story, the crisis was presented as a preventable crisis, which was explicated in the stimulus by stating that the organization caused the incident during its manufacturing process. Besides, the articles described that the organization knowingly overlooked the manufacturing process by not checking the materials and regulations regularly. Participants were notified what the purpose of the study is and debriefed after the experiment; the participants were informed that the article was made up for the study.

The current study manipulates different levels of crisis severity (high vs low) by controlling different types of chemical materials (radon vs fragrance). In order to set the clear baseline, the level of allowable exceed level of each material was controlled (e.g., either chemical exceeding the permissible level or not). For the high severity scenario, the product was shown to surpass the maximum permitted level of the chemical “radon,” a radioactive substance, which is considered a health hazard and frequent cause of lung cancer. In reality, the chemical “radon” was actually detected in sanitary pads in South Korea, and it became a huge issue among Korean female consumers in 2018 (NSSC, 2018). For the less severe severity scenario, the product contained permissible levels of the chemical “fragrance,” which is frequently used in making cosmetics, soaps and shampoos. The effect of long-term exposure can increase the chances of having irritation and embryonic development problems.

The scenarios manipulated crisis response strategies in line with the approach of Claeys and Cauberghe (2014). In the news article for the matched crisis response strategy situation, the company fully admits the accusations, apologizes to the public, takes responsibility, and recalls/refunds the products (i.e., rebuild strategy). In the news article for the mismatched crisis response strategy situation, the company denies the accusations, using a scapegoat strategy- *blames an entity outside of the organization*, does not take full responsibility and refuses to give refunds (i.e., denial strategy) (see Appendix C, D, E, F).

The four news articles were similar in length and structure. Some of the statements were derived from the real newspaper articles from Korea (e.g., Korea JoonAng Daily; Aju Business Daily) in order to match the real conditions.

III.3 Participants

Since the current study utilizes the U.S feminine products as part of the stimuli and the sanitary pads are used by only females, 301 female participants who use disposable sanitary pads/napkins and residents of the United States over the age of 18 were recruited using Amazon Mechanical Turk. Comprehension and screening questions were asked. The subjects who did not answer correctly to the questions, were excluded from this study. Since males are dissociated with the women's sanitary pads, males were excluded. A sample of 289 participants remained for data analysis. The current study randomly divided the participants across the four experimental conditions.

Participants were an average age of 38.8 years ($SD = 11.25$; range = 20-69 years). In terms of ethnicity, the participants consisted of white (78.2%), Black or African American (10.7%), Asian or Pacific Islander (5.5%), Hispanic or Latino (3.5%), Native American or Native Indian (0.7%), others (1.4%). The participants' educational level varied, with 48.1% holding a bachelor's degree, 30.4% holding a high school degree or below, 17% holding a master's degree, 2.1% holding a doctorate, and the remaining having others (see Table 4). The participants across the four experimental conditions were distributed relatively even; high severity/matched condition ($n=68$), high severity/mismatched condition($n=73$), low severity/matched condition($n=77$), low severity/mismatched condition($n=71$) (see Table 5). Each participant received \$0.50 for completing the survey.

Table 4 Population versus sample comparison.¹

		Population (in thousands) ¹		Sample	
		Frequency	Percent	Frequency	Percent
Age	20-29	22,149	18.0	75	26.0
	30-39	21,215	17.0	95	32.9
	40-49	20,492	17.0	69	23.9
	50-59	22,406	18.0	34	11.8
	60 or older	37,618	30.0	16	5.5
Total		123,880	100.0	289	100.0
Education	High school degree or below	42,834	38.0	88	30.4
	A bachelor's degree	23,497	21.0	139	48.1
	A master's degree	11,129	10.0	49	17.0
	A doctorate degree	2,991	3.0	6	2.1
	Others	31,192	28.0	7	2.4
Total		111,643	100.0	289	100.0
Ethnicity	White	125,368	65.0	226	78.2
	Black or African American	22,408	12.0	10	3.5
	Asian or Pacific Islander	9,970	5.0	31	10.7
	Hispanic or Latino	28,454	15.0	2	0.7
	Native American or Native Indian	2,009	1.0	16	5.5
	others	4,290	2.0	4	1.4
Total		192,503	100.0	289	100.0

Table 5 The number of participants across the four experimental conditions

	High Severity	Low severity
A matched crisis response strategy	68	77
A mismatched crisis response strategy	73	71

¹ United States Census Bureau (2017). 2017 National Population Projections Datasets. Retrieved from <https://www.census.gov/data/datasets/2017/demo/popproj/2017-popproj.html>

III.4 Measurement

The questionnaire gathered the data to assess the relations among crisis severity, crisis response strategies and post-crisis organizational reputation. Moreover, the data allowed an examination of the intensifying impact of crisis severity and crisis responses strategies on post-crisis organizational reputation.

III.4.1 Organizational reputation

The eight items for the organizational reputation were measured with the combination of the reputation scale from the work of Feldman et al. (2014), Coombs (1998), and Coombs and Holladay (1996)'s scale of credibility using a 7-point Likert-type scale (1–absolutely disagree, 7–absolutely agree). Questions include “I believe what the company says,” “This company is a socially responsible company” (This company contributes actively and voluntarily to the social improvement, economic and the environmental of society); “This company is a company that has good products” (This company stands behind its products and services with good price and good quality that meet consumer); “This company is a company that relates well with consumers (customer orientation)” (This company treats customers courteously, communicates with them and takes care of their safety and health); “This company is a company that generate positive feelings in people” (This company generates respect, admiration esteem and confidence); “This company is a company with leadership and innovation” (This company is recognized, has excellent leadership, is innovative, and seeks constant overcoming); “This company is an ethical company” (This company is a company with values that obeys the laws, transparent and respects people and the environment); “This company is a company that practices social responsibility” (This company supports good causes that benefits society and environment)(see Appendix H).

III.4.2 Comprehension check

In order to check the participants' comprehension, three questions were asked after participants read the news article, "What is the name of the company and brand accused in the preceding article?" "What is the crisis presented in the preceding article?" (Brown & Ki, 2013) and "What was the leading causes of the issues in the preceding article?" (see Appendix G-1 & G-2). Twelve participants with incorrect responses to the three questions were excluded from the sample.

III.4.3 Demographic

Age, ethnicity, education, regularly used sanitary pad brands, purchasing location, important factors and switching brands information were collected (see Appendix A).

III.5 Procedure

Data was collected and used by Amazon Mechanical Turk as per its privacy agreement. On the first page, participants received information regarding the purpose of the study and were asked to fill out an informed consent form.

Once completing the first page, the Qualtrics-link for the survey was embedded and the participants were guided to click on the link. The participants were asked their age, ethnicity, education and the brand name of the sanitary product(s) that they currently use. Then, all participants were randomly assigned to one of the four treatments and each participant read one stimulus. After reading the scenario, in order to check their comprehension of the preceding article, three comprehension checks were asked. Twelve participants were excluded from the sample due to the incorrect answers. The participants filled in a questionnaire containing measures of the dependent variables. Once they had finished the survey, the screen displayed the purpose of the study and debriefed of the articles in the experiment; the participants were

informed that the article was made up for the study. Also, a ‘thank you’ message was noted. The total average time required for this survey was approximately 5 minutes 47 seconds.

III.6 Analysis

This study conducted an independent sample *t*-test to check for the manipulation of the independent variables. For the correlations between an eight-items organizational reputation, the reliability analysis was conducted. The hypothesized relations between crisis severity and post-crisis organization reputation was used by a univariate two-way ANOVA (general linear model). The hypothesized relationships between crisis response strategies (match vs mismatch) and post-crisis organizational reputation were tested with a univariate two-way ANOVA (general linear model). Moreover, a univariate two-way ANOVA (general linear model) and a simple main effect test were used to test the interaction effects between crisis severity (high vs low), crisis response strategies (high vs low) and post-crisis organizational reputation. Variables were considered significant when the *p-value* is lower than .05.

IV. Results

IV.1 Manipulation Checks for Independent Variables

IV.1.1 Crisis severity

Participants (N=289) were exposed to various conditions and were expected to react differently to those conditions. The crisis severity was measured by rating the degree to which they perceive the level of severity of the incident on a one-item 7-point Likert-type scale. The question was adopted and modified from previous studies (Claeys et al., 2010; Zhou & Ki, 2018). The question was “The outcome caused by this incident affects me severely” (see Appendix H).

In order to check for manipulation of crisis severity, an independent sample *t*-test was employed. The results confirmed the effective manipulation of crisis severity. The crisis severity was higher for respondents in the high crisis severity condition than for those in the low crisis severity condition ($M_{\text{high severity}} = 4.94$, $SD = 2.07$ vs $M_{\text{low severity}} = 2.08$, $SD = 1.28$; $t(287) = -14.23$, $p < 0.01$).

IV.1.2 Crisis response strategies (match vs mismatch)

Previous research (Claeys & Cauberghe, 2014; Coombs, 2007) suggested that in order to check the crisis responses strategies as manipulation, the amount of responsibility organizations take was proposed. That is to the degree of “I felt the organization took responsibility for the crisis.” A one-item 7-point Likert-type scale ranging from 1 (absolutely disagree) to 7 (absolutely agree) was used (see Appendix H). Matched crisis response strategies were expected to have a higher responsibility and *vice versa*.

An independent sample *t*-test of the mean scores for the condition of matched crisis response strategy (i.e., rebuild) ($M_{\text{match}} = 5.32$, $SD = 1.47$) versus the mismatched condition (i.e., denial) ($M_{\text{mismatch}} = 2.97$, $SD = 1.86$) showed a significant difference ($t(287) = -11.95$, $p < 0.01$).

IV.1.3 Crisis type

The scenarios for the current study utilized a preventable crisis type. To ensure that the crisis type is a preventable cluster, a three-item 7-point Likert-type scale of Griffin, Babin and Darden (1992), and Brown and Ki (2013) measured individuals' attributions of responsibility to the organization in crisis (Coombs, 2007; Coombs & Holladay, 2002). A one-item measured the blame and responsibility of the organization; the others measured accountability and locality. Three items were: (1) "The blame for the crisis lies with the organization, not the circumstances," (2) "The crisis was preventable by the organization," and (3) "The crisis was caused by a problem inside the organization" (see Appendix H).

The results showed that the attributions of responsibility of the organization for the crisis were high ($M = 5.5$, $SD = 1.36$) and thus the crisis type was a preventable crisis.

IV.2 Reliability Checks for Dependent Variable

IV.2.1 Organizational reputation

The reliability analysis was conducted using an eight-item scale for the organizational reputation. The scale had a Cronbach's alpha of .95, which was well above the acceptable reliability of .70.

IV.3 Tests of Hypotheses

A univariate two-way ANOVA (general linear model) was used for the hypotheses of the main effects of crisis severity *H1* and crisis response strategies *H2* on post-crisis organizational

reputation, and the interaction effects of crisis severity and crisis response strategies predicted in *H3* (see Table 6).

Table 6 Univariate Analysis for Reputation by crisis severity and crisis response strategy

Source	SS	df	MS	F	p
Crisis severity	202.34	1	202.34	214.65	.000
Crisis response strategy	74.47	1	74.47	79.01	.000
Crisis severity x crisis response strategy	58.36	1	48.36	61.91	.000

Two main effects occurred. Both crisis severity ($F(1, 288) = 214.65, p < 0.01$) and crisis response strategies ($F(1, 288) = 79.01, p < 0.01$) had a significant main effect on organizational reputation. The results showed that the low crisis severity led to a more positive organizational reputation ($M_{\text{low}} = 4.91, SD = 0.83$) than where crisis severity was high ($M_{\text{high}} = 3.21, SD = 1.46$; $t(287) = 12.34, p < 0.01$), in support of *H1*. The organizational reputation was higher in the case of a matched crisis response strategy ($M_{\text{match}} = 4.61, SD = 1.13$) as compared to a mismatched crisis response strategy ($M_{\text{mismatch}} = 3.55, SD = 1.55$; $t(287) = -6.62, p < 0.01$). These results supported *H2* (see Table 7).

Table 7 Mean and Standard Deviation of Organizational Reputation

Severity	Strategy	Mean	SD
Low	Mismatched	4.86	.62
	Matched	4.97	.99
	Total	4.92	.83
High	Mismatched	2.28	1.04
	Matched	4.20	1.15
	Total	3.21	1.46
Total	Mismatched	3.55	1.55
	Matched	4.61	1.13
	Total	4.08	1.45

An interaction effect appeared between crisis severity and crisis response strategy on organizational reputation ($F(1, 285) = 61.91, p < 0.01$) (see Table 8). In order to look at this interaction effect more in detail, a simple main effect test was conducted. The simple main effect

test showed that under the high severity condition, the organizational reputation generated greater organizational reputation in the case of a matched crisis response strategy ($M_{\text{match}} = 4.20$, $SD = 1.15$) as compared to a mismatched crisis response strategy ($M_{\text{mismatch}} = 2.28$, $SD = 1.04$; $F(1, 285) = 137.10$, $p < 0.01$), supporting *H3a*. However, in the low severity condition, there was no difference between crisis severity and crisis response strategy (see Table 7). These results supported *H3b*, too (see Table 8, Figure 4).

Table 8 Simple Main Effects Results

		CI 95%			
		<i>SE</i>	<i>p</i>	<i>lower</i>	<i>upper</i>
High severity					
A matched crisis response strategy	A mismatched crisis response strategy	.164	.000	1.594	2.238
Low severity					
A matched crisis response strategy	A mismatched crisis response strategy	.160	.466	-.198	.431

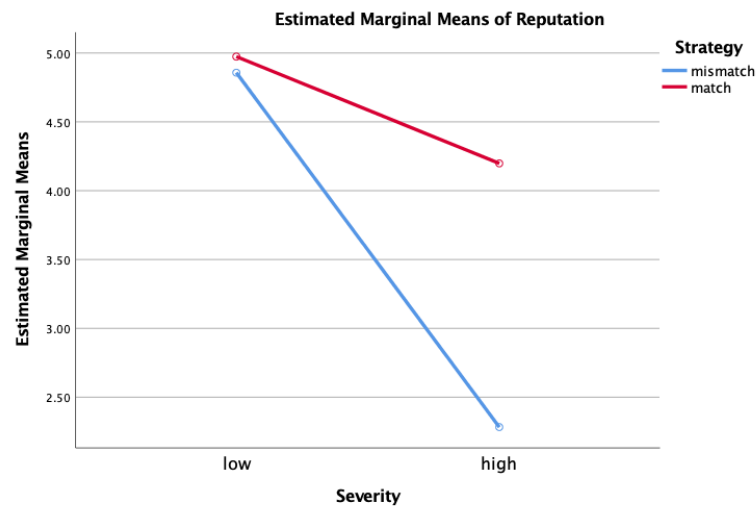


Figure 4 Interaction between crisis severity and crisis response strategy on post-crisis organizational reputation

V. Discussion

This study has theoretical implications for SCCT (2007) corporate crisis response strategies model and the practical approach in general.

The primary goal of this study was to continue the discussion of crisis severity and the efficacy of matching crisis response strategies to crisis types on organizational reputation within the SCCT (Coombs, 2007). Organizational reputation is a valuable outcome from the long-term relationship with its stakeholders. No one will agree that negative reputation is better than positive. Thus, protecting organizational reputation from the crisis should be the priority to maintain the relationship with its stakeholders. SCCT instructs the base guidelines for crisis communicator for understanding which crisis response strategies are suitable given the crisis types (Coombs, 1995). Based on SCCT, this study attempted to test the key assumptions within SCCT and refine to further SCCT.

This study brings to light the pivotal role of crisis severity, depending on whether a crisis response strategy matches the crisis type or not. In such cases, the matched crisis response strategy may not be the best when the crisis severity is low. The first hypothesis tests the influence of high crisis severity versus low crisis severity on organizational reputation. The results of this study contribute to the varying findings of crisis severity among the literature. Former research overlooked the importance of crisis severity because of the inconsistent findings and little empirical evidence (Coombs, 2007). However, the recent studies argue that the higher crisis severity led to a lower rating for the organizational reputation (Claeys et al., 2010; Zhou & Ki, 2018).

This study provides evidence that crisis severity influences organizational reputation in certain situations. That is, the organization's reputation is more affected as the severity increases. As the crisis increases, the stakeholders may feel more threatened and associated with the crisis because they are more triggered by causal attribution processing (Weiner, 1986). By Ki and Zhou (2018), based on the findings that reveal the proposition of crisis severity effectiveness, this study argues that the link between crisis severity and stakeholders' perception of reputation toward the organization should be reevaluated within the SCCT in the field of crisis communication.

SCCT guides crisis communicators to choose the matched crisis response strategies depending on the crisis type (Coombs, 2007; Coombs & Holladay, 2002). There was a main effect of crisis response strategies on organizational reputation. Specifically, the results illustrated that an organization acquired a higher reputation among its stakeholders when it employs a matched crisis responses strategy to the crisis type (i.e., preventable crisis). Consequently, the results show that an organization using the rebuild crisis response strategy creates a higher reputation than an organization using denial crisis response strategy in the preventable cluster, based on the guidelines of the SCCT (Coombs, 2007). Especially, given the case of the preventable crisis, which knowingly placed the stakeholders at risk, or neglecting the law or violations, or not doing anything to prevent the incident, the stakeholders may feel more upset and this could lead to more attribution of responsibility to the organization. As recommended by SCCT, lowering the attribution of responsibility by using a rebuilding strategy may be more appropriate to protect reputation compared to utilizing a denial strategy.

It should be noted that the results of the study showed that there was an interaction effect between crisis severity and crisis response strategy on the post-crisis organizational reputation. A

matched crisis response strategy led to a more positive organization reputation as posed by the SCCT. However, from the results of the current study, using a matched crisis response strategy may only be useful when the crisis severity is high. The results explained that the organizational reputation does not differ whether a matched crisis response strategy was used or not, in the case of low severity. A severe crisis may trigger the stakeholder's interest, consuming the information thoroughly because the stakeholders may feel more vulnerable to the accidents. On the other hand, if the severity of a crisis is low, it is less likely to impact the stakeholder which leads them to have little interest in the organization's response.

The findings of this study can elucidate why some past researches argued that a matched crisis response strategy led to a more positive organizational reputations than a mismatched crisis response strategy (Coombs, 2004, 2007; Coombs & Holladay, 1996, 2002; Huang, 2006), while other research reported the opposite (Claeys et al., 2010; Grappi & Romani, 2015; Kim & Sung, 2014).

V.1 Theoretical and Methodological Implications

Crisis severity was introduced in Coombs's pioneering study in 1995, and it has been undervalued because of inconsistent findings in the relationship between crisis severity and the outcomes of the crisis (e.g., reputation, behavior intention, attitude, etc.) (Coombs, 2007). However, more recently, crisis communication researchers additionally addressed the importance of crisis severity with the crisis (Cleay et al., 2010; Zhou & Ki, 2018). Along the same lines, the results of the study advocate that crisis severity should be reevaluated within the SCCT and the guidelines from the SCCT. This result complied with Zhou and Ki's study (2018) that the greater crisis severity brings, the higher negative perception of the organizational reputation.

However, it should indicate that the operationalize definition of Zhou and Ki (2018)'s study and the current research was different. Since the operationalize definition of crisis severity was different across the literature in crisis communication, this could be the reason for inconsistent findings of the importance of crisis severity in the past researches.

Also, the vital proposition of SCCT was partially supported. The guidelines of SCCT recommend matching the crisis response strategy with the crisis type. Organizational reputation was better protected by matching a response strategy to the crisis type as compared to the mismatched response strategy in the case of high severity, but when the crisis severity is low, there was no difference between the matched and mismatched crisis response strategies. The SCCT guidelines may only be practical if an organization uses a matched crisis response strategy when crisis severity is high.

One additional point should be made about the association between crisis severity and organizational reputation. SCCT offered the recommendation that severity is considered as part of *the crisis responsibility adjusting process*. Nonetheless, this study proposes that crisis severity should be regarded as not only as a crisis responsibility process but also a direct factor that can affect reputation itself significantly (see Figure 5).

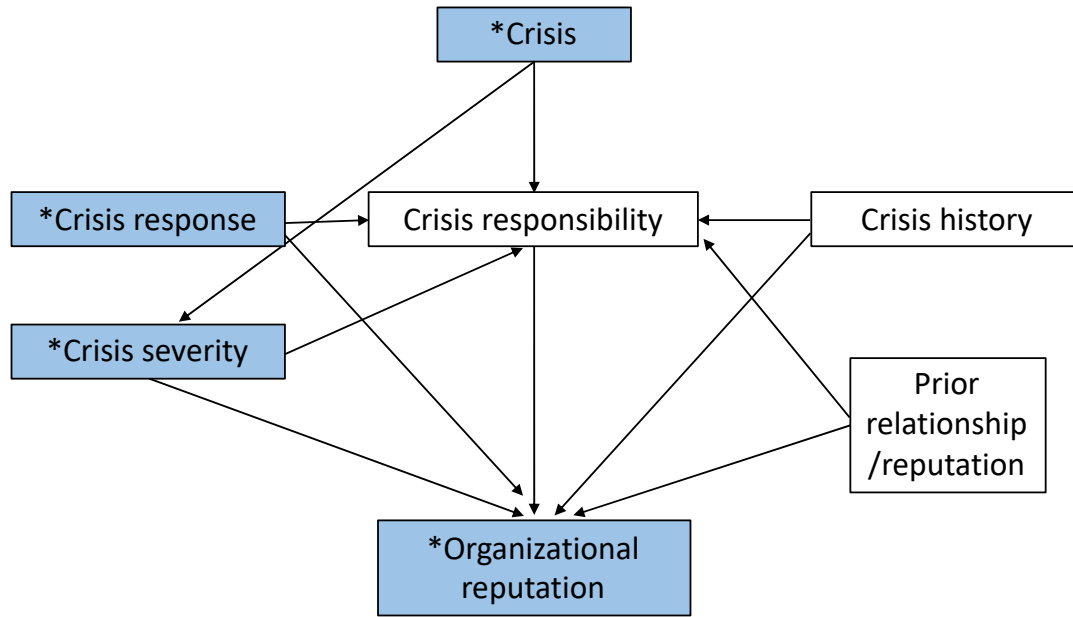


Figure 5 Proposed model of SCCT variables (*tested variables in this study)

V.2 Practical Implications

The study suggests that the impact of crisis severity on the formation of organizational reputation may depend on whether it employs a matching versus mismatching crisis response strategy to the crisis type. Some scholars have contradictory results on the effectiveness of crisis severity and matching crisis response strategy to the crisis type. Kim and Sung (2014)'s study found that denial strategy was more effective than rebuilding strategy in a preventable cluster. The findings of this study may look different from Kim and Sung's findings, but this should be the subject of further studies.

Nevertheless, this study suggests that it would be more effective and safer for crisis communicators that an organization should adopt a matched crisis response strategy in the preventable cluster regardless of the degree of a crisis. For the high severity condition, the organization should be aware that protection of the organizational reputation using a rebuilding strategy may be limited. Hence, this study recommends that the organization should further offer

an action plan to prevent a recurrence of such a crisis beyond the rebuilding strategy but this effectiveness should be further investigated. For the low severity condition, no matter how low the severity is, the organization should prepare and prevent a second or even third crisis using a rebuilding crisis response strategy. Previous studies revealed that rebuilding reputation takes nearly three and one-half years (Gaines-Ross, 2008). For long-term effectiveness, the communication efforts to rebuild the relationship between the organization and its public will be disclosed, and the public may eventually perceive it as a favorable organization.

The ultimate goal of crisis communication is to prevent the crisis, maintain the relations between the organization and its public, and restore reputation (Coombs, 2010). Since crisis severity cannot be controlled by the organization, it affects the organizational reputation directly or indirectly. Therefore, it is important for crisis communicators to build and maintain good relationships with the public, which will help them prevent any crisis. Additionally, crisis communicators should have various channels to communicate with the public so that they can be used in times of crisis as well.

VI. Conclusion

The study significantly contributes to the current knowledge of crisis communication for several reasons. First, the study reiterates the need for the importance of crisis severity. This variable has been least discussed as compared to crisis responsibility, crisis response strategy, crisis type, prior reputation and crisis history (Zhou & Ki, 2018). Second, the results of this study also illustrate that crisis communicators should use the crisis response strategy based on the guidelines of the SCCT under certain conditions (i.e., high crisis severity). The crisis communicators should consider the levels of crisis severity and apply the best crisis response strategy. Third, this study tests the SCCT's recommendation for the crisis response strategy to the crisis type. Matching the crisis response strategy in the preventable cluster is highly essential in the case of high crisis severity, but not in the case of low crisis severity. These findings have implications for situational crisis communication theory, which did not sufficiently consider the impact of a crisis severity on the organizational reputations in the past. This is a meaningful implication for the field of crisis communication theoretically and practically.

VI.1 Limitations and Suggestions for Future Research

Although this study devotes meaningful implication, it is limited by some factors. First, this study only measures the reputation in times of post-crisis. If an organization holds a good reputation before the crisis, it is more likely to regain or protect that reputation in post-crisis than one that does not have such a reputation (Lyon & Cameron, 2004). It could be possible that the prior reputation generated an effect on the evaluation of post reputation in this study. Thus, future research should consider the effectiveness of prior reputation as well.

Second, the study only focuses on the match-mismatched between a crisis type and a crisis response strategy in the preventable crisis – a *rebuilding* and *denial* strategy. Future research should consider replicating these propositions by applying these strategies to different crisis types. Also, there are different types of crisis (e.g., organizational misdeed with no injuries, organizational misdeed with injuries, etc.) in the preventable cluster. Therefore, the results of this study should not be a full representation of the preventable cluster.

Third, this study measures the organizational reputation after exposure to the stimuli. However, organizational reputation is a multidimensional construct and accumulates over time (Fombrun, Gardberg, & Sever, 2000). Future studies should examine the organizational reputation of employing different constructs in different crisis scenarios.

Fourth, the crisis severity is also a multidimensional construct. This study only utilized one question to measure the perceived crisis severity. Future studies should employ multiple questions to items this concept in different aspects. Also, it would be beneficial to develop an explication of this concept in the field of crisis communication.

Fifth, even though previous research has scrutinized the match between a crisis type and a *single* crisis response strategy, it is recommended that using a combination of response strategies increase effectiveness of restoring organizational reputation (Coombs, 2007). A combination of different crisis response strategies should be considered in a future study.

Finally, this study uses only one organization (P&G) and its products (sanitary pads). It may be hasty to generalize the findings of this study to organizational crises of different types. Future research should consider different types of organizations (e.g., nonprofit organizations, charity, political organizations etc.), products and in different cultural context.

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APPENDIX A: SURVEY QUESTION PART I

Instruction

Please select the answer that best represents your response to each question and directly write down the answer.

1. How old are you?

I'm _____ years old

2. What is your ethnicity?

2.1. White

2.2. Hispanic or Latino

2.3. Black or African American

2.4. Native American or American Indian

2.5. Asian/Pacific Islander

2.6. Other

3. What is the highest degree or level of school you have completed?

*If you are currently enrolled in school, please indicate the highest degree you have received

3.1. Less than a high school diploma

3.2. High school degree or equivalent

3.3. Bachelor's degree (e.g., BA, BS)

3.4. Master's degree (e.g., MA, MS, MEd)

3.5. Doctorate (e.g., PhD, EdD)

3.6. Other

4. Which sanitary napkin brand do you use regularly?

4.1. Always

4.2. Kotex

4.3. Stayfree

4.4. Carefree

- 4.5. Playtex
 - 4.6. Maxithins
 - 4.7. SOFY
 - 4.8. Other ()
5. Where do you buy the sanitary napkins from?
- 5.1. Supermarket
 - 5.2. Online
 - 5.3. Other ()
6. When choosing Sanitary Napkins, which of the following factors is most important to you?
- 6.1. Product quality
 - 6.2. Price
 - 6.3. Brand
 - 6.4. Packaging
 - 6.5. Friend's recommendation
 - 6.6. Sales person's recommendation
 - 6.7. Availability
 - 6.8. Other ()
7. How often do you switch brands?
- 7.1. Once a month
 - 7.2. Every 2-3 months
 - 7.3. 2-3 times per year
 - 7.4. Never

APPENDIX B: SURVEY QUESTION PART II

1. Have you used/or heard about Procter & Gamble's "Always"?
 - a. YES
 - b. NO (Skip the part II and go to part III)
2. We would like you to tell us, according to the following scale, how much you agree with the following statements about **P&G's "Always."**

Please answer the following questions by choosing the number that best represents your opinion. All the questions in this survey are rated by 7-point scales. The 7 points should be interpreted as the following:

Absolutely Disagree	Disagree very much	Somewhat Disagree	Neutral	Somewhat Agree	Agree very much	Absolutely Agree
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>

1. I believe what the company says.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
----------	----------	----------	----------	----------	----------	----------

2. THIS COMPANY IS A SOCIALLY RESPONSIBLE COMPANY

This company contributes actively and voluntarily to the social improvement, economic and the environmental of society

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
----------	----------	----------	----------	----------	----------	----------

3. THIS COMPANY IS A COMPANY THAT HAS GOOD PRODUCTS

This company stands behind its products and services with good price and good quality that meet consumer

1	2	3	4	5	6	7
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4. THIS COMPANY IS A COMPANY THAT RELATED WELL WITH CONSUMERS (CUSTOMER ORIENTATION)

This company treats customers courteously, communicates with them and takes care of their safety and health

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
----------	----------	----------	----------	----------	----------	----------

5. THIS COMPANY IS A COMPANY THAT GENERATES POSITIVE FEELINGS IN PEOPLE

This company generates respect, admiration esteem and confidence

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
----------	----------	----------	----------	----------	----------	----------

6. THIS COMPANY IS A COMPANY WITH LEADERSHIP

This company is recognized, has excellent leadership, is innovative, and seeks constant overcoming

1 2 3 4 5 6 7

7. THIS COMPANY IS AN ETHICAL COMPANY

This company is a company with values that obey the laws, transparent and respects people and the environment

1 2 3 4 5 6 7

8. THIS COMPANY IS A COMPANY THAT PRACTICES SOCIAL RESPONSIBILITY

This company supports good causes that benefit society and the environment.

1 2 3 4 5 6 7

APPENDIX C: STIMULUS 1 PART III

[High Severity + Matched Strategy]

Radioactive P&G's "Always" sanitary pads: High "Radon" levels detected in major U.S sanitary pad company

On Thursday, March 14, CNN reported that "Always" sanitary pads from a domestic manufacturer in Colorado emitted an excessive amount of radon, a radioactive chemical substance linked to **cancer** and a **health hazard**. The U.S Food and Drug Administration (FDA) concluded that "Always" contained more than **30 times of the regulatory limit** which could **cause cancer**.

The FDA discovered "monazite powder" in the absorbent layer of sanitary pads. What makes monazite problematic is that it contains radon, which produces harmful gases. Radon is a radioactive, colorless, odorless, tasteless gas which is considered a health hazard. According to the U.S. Environmental Protection Agency, radon is the second most frequent cause of lung cancer, after cigarette smoking.

This was no accident — "Always" promoted the pads and tampons as containing "Zeolite" minerals which can remove the odor caused by bacteria. The promotional material did not mention that the negative ion powder was monazite.

P&G bought the powder from the local supplier and CNN found that P&G did not inspect its manufacturing process for the past 9 months. Moreover, the sanitary pad maker said P&G's "Always" has not performed a "radiation-safe test" for a year, leading the cause of this issue.

P&G chief brand officer Marc Pritchard has fully admitted its fault: "We sincerely apologize for the mistake that was made during the manufacturing process. As soon as we found the defect, we stopped the sanitary production line, and recalled over 900,000 of the problematic sanitary pads and tampons from the market. We deeply regret that this occurred, and we are focused on changing our product. Nothing is more important than the safety of our customers and we will take any responsibility regarding this incident."

APPENDIX D: STIMULUS 2 PART III

[High Severity + Mismatched strategy]

Radioactive P&G's "Always" sanitary pads: High "Radon" levels detected in major U.S sanitary pad company

On Thursday, March 14, CNN reported that "Always" sanitary pads from a domestic manufacturer in Colorado emitted an excessive amount of radon, a radioactive chemical substance linked to **cancer** and a **health hazard**. The U.S Food and Drug Administration (FDA) concluded that "Always" contained more than **30 times of the regulatory limit** which could **cause cancer**.

The FDA discovered "monazite powder" in the absorbent layer of sanitary pads. What makes monazite problematic is that it contains radon, which produces harmful gases. Radon is a radioactive, colorless, odorless, tasteless gas which is considered a health hazard. According to the U.S. Environmental Protection Agency, radon is the second most frequent cause of lung cancer, after cigarette smoking.

This was no accident — "Always" promoted the pads and tampons as containing "Zeolite" minerals which can remove the odor caused by bacteria. The promotional material did not mention that the negative ion powder was monazite.

P&G bought the powder from the local supplier and CNN found that P&G did not inspect its manufacturing process for the past 9 months. Moreover, the sanitary pad maker said P&G's "Always" has not performed a "radiation-safe test" for a year, leading the cause of this issue.

P&G chief brand officer Marc Pritchard said that "We find this regrettable situation and feel sympathy for those that have been affected, however, we would have to say this is not our liability. If the local supplier did not distribute the powder, the possibility of the sanitary pads containing "monazite powder" would have been low. This was not something that we could control so the local supplier should take responsibility regarding this issue. However, we will make sure that such an incident does not occur in the future. The safety of our customer is P&G's first priority".

The P&G's "Always" refused to recall the pads and tampons to consumers and they also refused to further comment on the issue.

APPENDIX E: STIMULUS 3 PART III

[Low Severity + Matched Strategy]

Fragrance in P&G's "Always" sanitary pads: Fragrance noticed in major U.S sanitary pad company

On Thursday, March 14, P&G reported that a trace amount of fragrance was noticed in P&G's "Always" sanitary pads from a domestic manufacturer in Colorado. However, the detected level of fragrance in P&G's sanitary pads **was practically negligible and even the smell disappeared in a few minutes.**

P&G stopped its manufacture processing to see if they contain any other chemicals. From its self-inspection, the company did not find any other chemicals, but they found that they used a fragrance that was a month outdated than the recommended date. It might have caused such odor, but **nothing is harmful.** An expert said most sanitary brands use odor neutralizers and fragrances to eliminate the odor.

P&G bought a powder that contained fragrances from a local supplier and found that "Always" did not inspect its manufacturing process for last month, causing this issue.

Also, the company reported that they have already recalled 89% of the pads in the market and they're going to recall all of the 800 remaining pads on the sellers' shelves in a week.

P&G chief brand officer Marc Pritchard has fully admitted its fault: "We apologize for not performing the inspection last month. However, we were lucky to find it. We already took another step forward and opened a 24-hour hotline for customers who have concerns regarding the fragrance. The hotline will provide accurate information as support. Nothing is more important than the safety of our customers and we will focus on changing our product."

APPENDIX F: STIMULUS 4 PART III

[Low Severity + Mismatched Strategy]

Fragrance in P&G's "Always" sanitary pads: fragrance noticed in major U.S sanitary pad company

On Thursday, Feb 14, P&G reported that a trace amount of fragrance was noticed in P&G's "Always" sanitary pads from a domestic manufacturer in Colorado. However, the detected level of fragrance in P&G's sanitary pads **was practically negligible and even the smell disappeared in a few minutes.**

P&G stopped its manufacture processing to see if they contain any other chemicals. From its self-inspection, the company did not find any other chemicals, but they found that they used a fragrance that was a month outdated than the recommended date. It might have caused such odor, but **nothing is harmful.** An expert said most sanitary brands use odor neutralizers and fragrances to eliminate the odor.

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P&G chief brand officer Marc Pritchard said that "We find this regrettable situation and feel sympathy for those that have been affected, however, we would have to say this is not our liability. If the local supplier did not distribute the powder, the possibility of the sanitary pads containing fragrances would have been low. This was not something that we could control so the local supplier should take responsibility regarding this issue. However, we will make sure that such an incident does not occur in the future. The safety of our customer is P&G's first priority".

The P&G's "Always" refused to further comment on the issue.

APPENDIX G-1: SURVEY QUESTION PART IV

1. What is the name of the company and brand accused in the preceding article?
 - a. Samsung, Galaxy
 - b. P &G, Always
 - c. Toyota, Camry
 - d. Chipotle Mexican Grill

2. What is the crisis presented in the preceding article?
 - a. Breakdown on machine
 - b. Workplace violence in sanitary pads factory
 - c. Food poisoning
 - d. Harmful chemicals in sanitary pads

3. What was the leading causes of the issues in the preceding article?
 - a. Detected “Norovirus” in contaminated food and neglecting a “regular inspection”
 - b. Detected “Radon” in sanitary pads and neglecting a “radiation safe test”
 - c. Detected “Uranium” in contaminated water and neglecting a “regular inspection”
 - d. Detected “Formaldehyde” in sanitary pads and neglecting a “chemical detection test”

APPENDIX G-2: SURVEY QUESTION PART IV

4. What is the name of the company and brand accused in the preceding article?
 - a. Samsung, Galaxy
 - b. P &G, Always
 - c. Toyota, Camry
 - d. Chipotle Mexican Grill

5. What is the crisis presented in the preceding article?
 - a. Breakdown on machine
 - b. Workplace violence in sanitary pads factory
 - c. Food poisoning
 - d. Harmful chemicals in sanitary pads

6. What was the leading causes of the issues in the preceding article?
 - a. Detected “Norovirus” in contaminated food and neglecting a “regular inspection”
 - b. Detected “Fragrance” in sanitary pads and neglecting a “chemical detection test”
 - c. Detected “Uranium” in contaminated water and neglecting a “regular inspection”
 - d. Detected “Radon” in sanitary pads and neglecting a “radiation safe test”

APPENDIX H: SURVEY QUESTION PART V

Please answer the following questions by choosing the number that best represents your opinion.

Measure – Crisis Severity

1. The outcome caused by this incident affects me severely

Not at all severe						Very Severe
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>

All the questions in this survey are rated by 7-point scales. The 7 points should be interpreted as the following:

Absolutely Disagree	Disagree very much	Somewhat Disagree	Neutral	Somewhat Agree	Agree very much	Absolutely Agree
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>

Measure – Crisis Response Strategy (Match Vs Mismatch)

2. I felt the organization took responsibility for the crisis

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
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Measure – Crisis Type (Attribution of Crisis Responsibility)

Blame and responsibility

3. The blame for the crisis lies with the organization, not the circumstances

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
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Accountability

4. The crisis was preventable by the organization

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
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Locality

5. The crisis was caused by a problem inside the organization

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
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Organizational reputation

6. I believe what the company says.

1 2 3 4 5 6 7

Please answer the following questions by choosing the number that best represents your opinion. All the questions in this survey are rated by 7-point scales. The 7 points should be interpreted as the following:

Absolutely Disagree	Disagree very much	Somewhat Disagree	Neutral	Somewhat Agree	Agree very much	Absolutely Agree
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>

9. THIS COMPANY IS A SOCIALLY RESPONSIBLE COMPANY

This company contributes actively and voluntarily to the social improvement, economic and the environmental of society

1 2 3 4 5 6 7

10. THIS COMPANY IS A COMPANY THAT HAS GOOD PRODUCTS

This company stands behind its products and services with good price and good quality that meet consumer

1 2 3 4 5 6 7

11. THIS COMPANY IS A COMPANY THAT RELATED WELL WITH CONSUMERS (CUSTOMER ORIENTATION)

This company treats customers courteously, communicates with them and takes care of their safety and health

1 2 3 4 5 6 7

12. THIS COMPANY IS A COMPANY THAT GENERATES POSITIVE FEELINGS IN PEOPLE

This company generates respect, admiration esteem and confidence

1 2 3 4 5 6 7

13. THIS COMPANY IS A COMPANY WITH LEADERSHIP

This company is recognized, has excellent leadership, is innovative, and seeks constant overcoming

1 2 3 4 5 6 7

14. THIS COMPANY IS AN ETHICAL COMPANY

This company is a company with values that obey the laws, transparent and respects people and the environment

1 2 3 4 5 6 7

15. THIS COMPANY IS A COMPANY THAT PRACTICES SOCIAL RESPONSIBILITY

This company supports good causes that benefit society and the environment.

1 2 3 4 5 6 7