

Crisis Response, Reputation, and Loyalty in the Pertamina Scandal

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ABSTRACT

This study examines how crisis response strategy influences brand reputation, consumer sentiment, and customer loyalty during Pertamina's 2025 corporate scandal in Indonesia, with social media engagement tested as a moderating factor. Adopting a quantitative design, the study employed Partial Least Squares Structural Equation Modeling to analyze survey data from 112 respondents exposed to the crisis. The results show that accommodative strategies significantly enhance brand reputation and generate more positive consumer sentiment, both of which strongly predict customer loyalty. Although the moderating role of social media engagement was not statistically significant, conditional analysis suggests its influence on how stakeholders interpret and react to crisis messages. The study confirms that emotional and cognitive evaluations jointly shape loyalty outcomes in ethically charged crises. These findings highlight the importance of culturally sensitive crisis communication strategies and underscore the need to integrate digital engagement dynamics in public relations responses within collectivist and highly networked societies.

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1. Introduction

In early 2025, Pertamina, Indonesia's state-owned oil and gas enterprise, became the center of a nationwide scandal when it was exposed for adulterating subsidized petroleum with non-subsidized fuel. The controversy, extensively covered in both traditional and digital media, escalated into one of the most significant corporate corruption crises in recent Indonesian history. The impact was significant; not only did it involve management in unethical behavior, but it also aroused considerable public outrage about national resource mismanagement and the environmental repercussions of the malpractice. As the issue played out in real time across online platforms, the company's corporate reputation suffered significantly, undermining consumer trust and jeopardizing long-term brand loyalty.

The unfolding of this crisis highlights the crucial role of strategic crisis communication in managing public perception. Scholars in communication and public relations emphasize that effective crisis communication extends beyond damage control; it serves as a strategic function central to restoring stakeholder trust and sustaining corporate legitimacy (Coombs, 2007; Coombs & Holladay,

2012). This has also resulted in a shift in public relations responsibilities and digital competences, notably in terms of online engagement and platform-specific strategies (Permatasari et al., 2021).

Stakeholders want responsibility, timely response, and openness from organizations involved in ethical problems. This assumption is heightened by social media, which has become the primary platform for public discourse. Twitter, Instagram, and TikTok allow for quick and often emotionally charged public reactions, influencing narratives through hashtags, viral content, and influencer comments.

The transforming power of social media in crisis situations has been highlighted by earlier studies. According to Veil et al. (2011), social media platforms democratize crisis discourse by empowering public voices to affect company reputations. Jin et al. (2014) show that digitally connected audiences demand two-way communication and are less tolerant of ambiguous crisis answers. However, while the literature on Situational Crisis Communication Theory (SCCT) is extensive, few empirical studies investigate how crisis response strategies function in digitally active, collectivist societies like Indonesia. There is also limited empirical insight into how social media engagement interacts with official crisis responses to influence consumer sentiment and loyalty.

This study seeks to address these gaps by examining the interplay between crisis response strategy (CRS), brand reputation (BR), consumer sentiment (CS), and customer loyalty (CL), with social media engagement (SME) as a moderating variable. Building on Coombs' (2007) SCCT framework, this study analyzes whether accommodative strategies, including apology, corrective action, and transparency, lead to improved reputational and emotional outcomes for the organization. In addition, the study investigates whether public engagement on social media platforms amplifies or mitigates the effects of those strategies on reputation and sentiment.

The Pertamina case provides a timely and contextually relevant opportunity to assess these relationships. With over 213 million active internet users, Indonesia ranks among the world's largest and fastest-growing digital societies (We Are Social & Meltwater, 2024). Corporate crises frequently play out on social media in this environment, driven not only by institutional communication but also by digitally networked publics and online opinion leaders. Understanding how engagement dynamics shape crisis outcomes is increasingly important for both scholars and practitioners seeking to navigate this new terrain.

This study contributes to the growing body of literature in several keyways. First, it extends SCCT by incorporating social media engagement as a moderating construct within a structural model. Second, it presents empirical evidence from Indonesia, a region underrepresented in crisis communication research. Third, it applies Partial Least Squares Structural Equation Modeling (PLS-SEM), a robust statistical technique well-suited for complex and predictive communication models. Finally, it delivers practical recommendations for public relations professionals managing high-stakes crises in the digital age.

The study is guided by the following questions:

1. How does Pertamina's crisis response strategy affect brand reputation and consumer sentiment?
2. How do brand reputation and consumer sentiment subsequently influence customer loyalty?
3. Does social media engagement moderate the relationship between crisis response strategy and both brand reputation and consumer sentiment?

Through the lens of these questions, the study models how digital-era crisis communication strategies influence customer loyalty in ethically charged corporate scandals. The insights gained are not only relevant for Indonesian state-owned enterprises but also offer broader implications for crisis management in digitally active societies across Southeast Asia and beyond.

SCCT, proposed by Coombs (2007), provides a foundational framework for understanding how organizational responses during crises influence stakeholder perceptions and outcomes. SCCT categorizes crises into clusters based on attribution of responsibility: victim, accidental, and

intentional. In ethical scandals such as the 2025 Pertamina case, organizations typically fall into the intentional or preventable cluster, wherein high responsibility is ascribed to the corporation. In such scenarios, Coombs and Holladay (2012) recommend accommodative response strategies—including apologies, corrective action, and compensation—as appropriate measures to mitigate reputational damage.

Empirical research has validated the predictive strength of SCCT across different crisis types. Kiambi and Shafer (2016) found that accommodative strategies were significantly more effective in restoring public trust during crises involving ethical violations. In Southeast Asian contexts, SCCT has been successfully applied to examine public responses to government-linked corporate crises (Wang, 2022), suggesting its cross-cultural applicability. However, scholars such as Guerber et al. (2020) caution that SCCT's effectiveness is also moderated by stakeholder expectations and cultural norms, including power distance and collectivism—factors prevalent in Indonesian society.

Crisis response strategies are the tactical expressions of an organization's accountability, designed to influence public judgment during and after a crisis (Coombs, 2021). These strategies can be defensive or accommodative in nature. Defensive responses seek to deny responsibility or shift blame, whereas accommodative responses focus on restoring legitimacy through acknowledgment, transparency, and remedial action. In the context of corporate corruption, defensive strategies are often perceived as insincere or manipulative, intensifying public backlash (Marcelino & Oliveira, 2021).

In recent years, researchers have explored how CRS influences consumer trust, particularly in digital environments. Baghi and Antonetti (2025) demonstrated that transparency and responsiveness in organizational messaging significantly improved perceived credibility and reduced crisis-induced skepticism. Studies from Indonesia (Harini et al., 2024) also reveal that local publics value humility, collective responsibility, and moral leadership during crises, reinforcing the need for culturally sensitive CRS frameworks.

Social media engagement refers to the degree to which stakeholders interact with brand content on digital platforms through likes, comments, shares, follows, and other forms of user-generated participation (Fletcher & Emmanuel-Stephen, 2018). In crisis communication, SME serves both as a feedback mechanism and a reputational amplifier. According to Schultz et al. (2011), engagement increases the visibility and emotional salience of organizational messages, allowing publics to co-create meaning during crises.

However, not every engagement is favorable. Negative engagement, such as outrage comments or unfriendly sharing, can exacerbate crises and erode brand equity. Zhang et al. (2018) emphasize the dual nature of engagement, proposing that its moderating effect in crisis contexts is determined by the emotional tone, platform affordances, and the public's perception of procedural justice. In collectivist settings, engagement might also reflect social solidarity and digital activism rather than individual brand loyalty (Scalvini, 2024). This complication needs a careful consideration of SME not just as a dependent variable, but also as a contextual moderator determining how CRS is interpreted and internalized.

Brand reputation is the cumulative assessment of a brand's trustworthiness, reliability, and social value, formed through sustained interactions and impressions (Fombrun, 1996). In crisis situations, brand reputation becomes fragile, as negative information often receives disproportionate attention and recall (Coombs, 2007). Scholars have long established that reputation serves as a buffer during crises—the so-called "halo effect"—but only when reinforced by credible response strategies (Keh & Xie, 2009).

Consumer sentiment, by contrast, refers to the emotional and cognitive reactions of stakeholders during and after crisis events (Kim et al., 2009). While reputation is relatively stable, sentiment is more immediate and volatile, often shaped by media exposure, peer opinion, and message framing. Positive consumer sentiment during crises is associated with higher forgiveness, stronger advocacy, and greater willingness to return to the brand (Waseem & Kamal, 2024; Ali et al., 2023).

Brand reputation and consumer sentiment work together to mediate the relationship between CRS and behavioral outcomes like loyalty. Understanding their roles in tandem enables more thorough modeling of post-crisis public behavior.

Customer loyalty, broadly defined as a consumer's intention to repurchase, recommend, and maintain a relationship with a brand, is often tested during crises. Loyalty is not merely a function of satisfaction but also of emotional attachment, perceived integrity, and corporate empathy (Oliver, 1999). In ethically sensitive crises, loyal customers may become disillusioned if the organization's response is poor, but they may also function as defenders if they believe the response is genuine (Karatepe, 2006).

Digital communication channels make the loyalty equation more difficult to understand. Peers, influencers, and content algorithms can all have an impact on client loyalty as crisis narratives spread throughout social media. This makes the road from sentiment to loyalty nonlinear, necessitating active listening and adaptive messaging on the part of enterprises (Dwivedi et al., 2020). Thus, preserving loyalty in a crisis is about more than just retention; it is about relationship repair and re-engagement.

While SCCT has been widely applied in Western contexts, its operationalization in Southeast Asian digital environments remains underexplored. Most studies focus on Western crisis archetypes and overlook the socio-cultural dynamics of digitally mediated crises in countries like Indonesia. Moreover, few studies test SME as a moderating construct within crisis communication models using advanced techniques such as PLS-SEM.

This study addresses these gaps by empirically modeling the relationships among CRS, BR, CS, and CL while testing the moderating influence of SME (Figure 1). The study enriches the SCCT framework by situating it within a dynamic, collectivist, and highly digitalized public sphere. By doing so, it offers both theoretical refinement and practical guidance for crisis communication strategies tailored to the complexities of social media-driven engagement in Indonesia and similar contexts.

2. Method

This study employed a quantitative research design using PLS-SEM to examine the structural relationships among five constructs: crisis response strategy (CRS), brand reputation (BR), consumer sentiment (CS), customer loyalty (CL), and social media engagement (SME) as a moderating variable. The study aimed to identify the mechanisms through which an organization's response to a high-profile crisis influences emotional and behavioral public outcomes in a digitally active society. PLS-SEM was selected due to its predictive capability, robustness in handling small to medium sample sizes, and suitability for complex models with multiple constructs and indicators (Hair et al., 2022). The similar analytical methodology has been used successfully in recent Indonesian studies on public perception and behavior during crises (Wibhisono & Salamah, 2022), highlighting its applicability to this model.

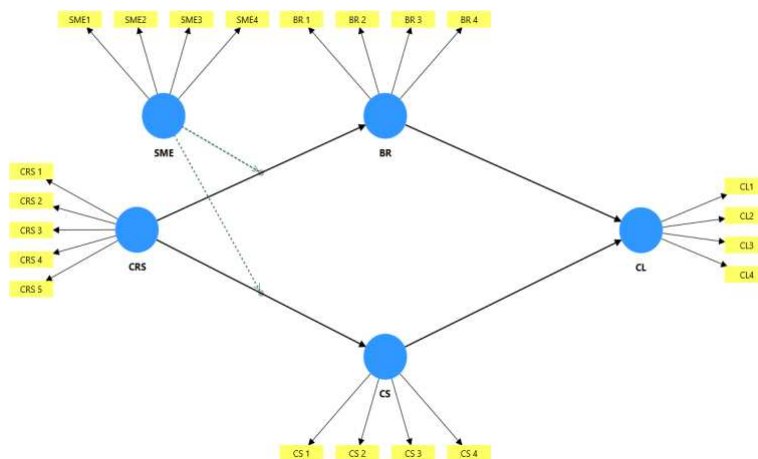


Fig. 1. PLS-SEM Model (Source: Authors' Model, SmartPLS4)

The survey instrument was developed in Bahasa Indonesia and structured into seven sections: (1) demographic information, (2) exposure to the Pertamina crisis, (3) crisis response strategy, (4) brand reputation, (5) consumer sentiment, (6) customer loyalty, and (7) social media engagement. All constructs were measured reflectively using multiple indicators adapted from previously validated instruments.

Crisis response strategy (CRS) was assessed using five items derived from Coombs and Holladay (2012), reflecting organizational transparency, apology, corrective action, and perceived responsiveness. Brand reputation (BR) was measured using four items adapted from Fombrun et al. (2000), capturing perceptions of credibility, trustworthiness, and integrity. Consumer sentiment (CS) was evaluated with four items adapted from Kim et al. (2009), reflecting emotional reactions and cognitive judgments toward the brand.

Customer loyalty (CL) was measured using four items adapted from Oliver (1999) and recent applications in the Indonesian context (Kristanto et al., 2022), focusing on intention to repurchase, recommend, and remain loyal to the brand. Social media engagement (SME) was captured using four items based on Fletcher and Emmanuel-Stephen (2018), representing active and passive engagement behaviors such as liking, commenting, sharing, and following brand-related content online. All items employed a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

This study employed purposive sampling targeting Indonesian citizens aged 18 and above who were aware of Pertamina's 2025 corruption crisis and had interacted with content related to the incident on social media. The questionnaire was administered via Google Forms and distributed through social media platforms such as Instagram, Twitter, WhatsApp, and Facebook. The data collection period spanned two weeks in early 2025.

A total of 112 responses were used for analysis. While modest in size, the sample meets the minimum requirements for PLS-SEM analysis, which recommends 10 observations per indicator or structural path (Hair et al., 2022). Additionally, the model structure included a maximum of two predictors per endogenous construct, which aligns with minimum sample guidelines for adequate statistical power in PLS-SEM.

Respondents were diverse in age, gender, occupation, and educational background, with a majority aged between 18 and 34 years. The sample reflected a digital-native demographic profile highly representative of Indonesia's active social media users, thus fitting the study's context.

The data were analyzed using SmartPLS 4.1.1.2 software (Ringle et al., 2024). A two-stage analysis strategy was employed, in line with Hair et al. (2022): measurement model evaluation and structural model testing.

First, the measurement model was assessed for reliability and validity. Internal consistency reliability was tested using Cronbach's alpha and Composite Reliability (CR), with acceptable thresholds set at 0.70. Convergent validity was assessed using the Average Variance Extracted (AVE), requiring values above 0.50. Indicator reliability was confirmed through outer loadings (>0.70). Discriminant validity was examined using the Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio, with HTMT values <0.90 considered acceptable.

Second, the structural model was evaluated through path coefficients (β), coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Bootstrapping with 5,000 resamples was conducted to test the significance of hypothesized direct, indirect, and moderating relationships. To assess the interaction effects of SME on the relationship between CRS and both BR and CS, interaction terms were generated within SmartPLS using the two-stage approach.

Model fit indices, including the Standardized Root Mean Square Residual (SRMR) and Normed Fit Index (NFI), were also reported to evaluate overall model adequacy. An SRMR value below 0.10 and an NFI above 0.70 were used as thresholds for acceptable fit (Henseler et al., 2016).

This rigorous analytic approach allowed us both confirmatory testing of the hypotheses and exploratory insight into the subtle consequences of social media interaction during a high-profile public crisis.

3. Results and Discussion

This section presents the findings from the PLS-SEM analysis conducted using SmartPLS 4.1.1.2. Following the two-stage approach (Hair et al., 2022), the results are structured into (1) measurement model assessment, (2) structural model evaluation, and (3) model fit. The final sample size (N=112) was deemed appropriate for the complexity of the model and the bootstrapping procedure with 5,000 subsamples.

To evaluate the reflective constructs' reliability and validity, we examined internal consistency, convergent validity, and discriminant validity.

Internal consistency was established using Cronbach's Alpha and Composite Reliability (CR). All constructs exceeded the 0.70 threshold, with CR values ranging from 0.813 (SME) to 0.949 (CS), indicating robust consistency across indicators. Table 1 summarizes these reliability values.

Table 1. Construct Reliability and Validity (source: Authors' analysis)

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Crisis Response Strategy (CRS)	0.864	0.901	0.646
Brand Reputation (BR)	0.856	0.904	0.703
Consumer Sentiment (CS)	0.928	0.949	0.824
Customer Loyalty (CL)	0.888	0.924	0.752
Social Media Engagement (SME)	0.739	0.813	0.526

Convergent validity was supported by all AVE values exceeding the 0.50 minimum threshold (Fornell & Larcker, 1981). Outer loadings were above 0.70 for most indicators, with SME items slightly lower (0.63–0.69) but retained due to acceptable CR and AVE levels.

Discriminant validity was assessed using the Fornell-Larcker criterion and the HTMT ratio. In all cases, the square root of AVE for each construct was greater than its correlations with other constructs, and HTMT values were below 0.90, confirming discriminant validity across constructs.

The structural model was evaluated through the analysis of path coefficients, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). All hypotheses were tested through a bootstrapping procedure with 5,000 resamples.

All direct hypotheses (H1–H4) were supported. Crisis response strategy (CRS) had a significant positive influence on both brand reputation (BR: $\beta = 0.669$, $t = 8.09$, $p < 0.001$) and consumer sentiment (CS: $\beta = 0.609$, $t = 7.74$, $p < 0.001$). In turn, both BR and CS significantly predicted customer loyalty (BR \rightarrow CL: $\beta = 0.337$, $p = 0.005$; CS \rightarrow CL: $\beta = 0.515$, $p < 0.001$).

Moderation hypotheses (H5 and H6) were not statistically significant. SME showed no significant moderating effect on the paths from CRS to BR ($\beta = -0.212$, $p = 0.201$) or CRS to CS ($\beta = 0.149$, $p = 0.147$). These results are summarized in Table 2.

Table 2. Path Coefficients and Hypothesis Testing (source: Authors' analysis)

Hypothesis	Path	β	t-value	p-value	Result
H1	CRS \rightarrow BR	0.669	8.09	<.001	Supported

H2	CRS → CS	0.609	7.74	<.001	Supported
H3	BR → CL	0.337	2.79	0.005	Supported
H4	CS → CL	0.515	4.09	<.001	Supported
H5	SME × CRS → BR	-0.212	1.28	0.201	Not Supported
H6	SME × CRS → CS	0.149	1.45	0.147	Not Supported

Despite non-significant moderation, conditional effects reveal nuanced interaction patterns. At high SME (+1 SD), the effect of CRS on CS was amplified ($\beta = 0.725$, $t = 9.22$), whereas the effect of CRS on BR was diminished ($\beta = 0.563$, $t = 5.41$). Conversely, at low SME (-1 SD), the effect of CRS on BR was stronger ($\beta = 0.775$, $t = 4.88$), but weaker on CS ($\beta = 0.492$, $t = 3.64$). This suggests that high engagement may enhance emotional responses but complicate perceptions of reputation (Table 3).

Table 3. Conditional Direct Effects at SME Levels (source: Authors' analysis)

SME Level	CRS → BR	t-value	CRS → CS	t-value
High (+1 SD)	0.563	5.41	0.725	9.22
Mean	0.669	8.09	0.609	7.74
Low (-1 SD)	0.775	4.88	0.492	3.64

R² values indicate moderate explanatory power for BR (R² = 0.395) and CS (R² = 0.366), and substantial explanatory power for CL (R² = 0.597) (Table 4). This suggests that the model accounts for a meaningful portion of variance in key dependent constructs.

Table 4. R-squared and Explanatory Power (source: Authors' analysis)

Endogenous Variable	R ²	Interpretation
BR	0.395	Moderate explanatory power
CS	0.366	Moderate explanatory power
CL	0.597	Substantial explanatory power

Effect sizes show medium effects of CRS on both BR ($f^2 = 0.239$) and CS ($f^2 = 0.201$). CS had a strong effect on CL ($f^2 = 0.352$), while BR's effect was small to medium ($f^2 = 0.122$), as shown in Table 5.

Table 5. Effect Size (f^2) (source: Authors' analysis)

Relationship	f^2	Interpretation
CRS → BR	0.239	Medium
CRS → CS	0.201	Medium
BR → CL	0.122	Small to Medium
CS → CL	0.352	Large

Significant mediation was found in the pathway CRS → BR → CL ($\beta = 0.225$, $t = 2.70$, $p = 0.007$), confirming brand reputation as a mediating mechanism. Moderated mediation effects involving SME were not significant (Table 6).

Table 6. Effect Size (f^2) (source: Authors' analysis)

Path	Indirect Effect (β)	t-value	p-value	Result
CRS → BR → CL	0.225	2.70	0.007	Significant
SME × CRS → BR → CL	-0.036	0.96	0.337	Not Significant
SME × CRS → CS → CL	0.060	1.45	0.147	Not Significant

The model met acceptable thresholds on key fit indices. The saturated model yielded an SRMR of 0.083, and estimated model SRMR was 0.105, both near acceptable limits. The Normed Fit Index (NFI) stood at 0.792, above the recommended minimum of 0.70 (Henseler et al., 2016), indicating acceptable model fit (Table 7).

Table 7. Model Fit (source: Authors' analysis)

Index	Value	Threshold	Interpretation
SRMR (Saturated)	0.083	< 0.08	Near-threshold
SRMR (Estimated)	0.105	< 0.10	Acceptable fit
NFI	0.792	> 0.70	Acceptable

This study investigated the structural relationships between crisis response strategy (CRS), brand reputation (BR), consumer sentiment (CS), and customer loyalty (CL) in the context of Pertamina's 2025 corporate scandal. By employing PLS-SEM, the analysis also tested the moderating role of social media engagement (SME). The results offer theoretical insights and practical implications for crisis communication in digitally active, collectivist societies such as Indonesia.

The findings support the key tenets of SCCT, particularly the efficacy of accommodative strategies in producing favorable stakeholder responses. Consistent with Coombs and Holladay (2012), crisis response strategies that emphasize transparency, responsibility, and corrective action have a major impact on brand reputation and customer attitudes. These findings are consistent with earlier research, which has shown that crisis response congruence between public expectations and corporate messaging increases perceived credibility and emotional trust (Baghi & Antonetti, 2025; Kiambi & Shafer, 2016).

Importantly, the data revealed that both brand reputation and consumer sentiment act as significant predictors of customer loyalty. This supports the view that loyalty is not simply a by-product of message acceptance, but a more complex outcome shaped by affective (sentiment) and cognitive (reputation) evaluations. This dual-path model enhances the explanatory power of SCCT by highlighting how emotional resonance (Kim et al., 2009) and reputational integrity (Fombrun, 1996; Keh & Xie, 2009) jointly influence post-crisis behavior.

Although SME did not result in statistically significant moderating effects, the conditional effects analysis revealed subtle, context-dependent interactions. Higher levels of social media participation were found to magnify the impact of crisis response strategies on consumer sentiment while, paradoxically, diminishing the influence on brand reputation. This finding supports Zhang et al.'s (2018) argument that engagement during crises can be a double-edged sword, as it can mobilize empathy and solidarity while also intensifying scrutiny and skepticism, particularly in ethically charged scandals where digital publics are more emotionally reactive.

These results contribute to ongoing scholarly discussions about the dynamic and dialectical role of social media engagement in crisis settings (Scalvini, 2024; Tsiotsou, 2021). Rather than serving merely as a communication channel, SME shapes how crisis narratives are framed, disseminated, and contested. Consequently, this study underscores the need for future models of SCCT to accommodate the ambivalent nature of digital participation—particularly in collectivist cultures where public discourse is infused with communal norms and moral expectations.

Furthermore, the significant indirect effect of CRS on CL via BR confirms the mediating function of organizational reputation, reinforcing its role as a reputational buffer during crises (Coombs, 2007). This pathway illustrates how reputational repair serves as a mechanism through which crisis response strategies influence behavioral loyalty, offering a more layered understanding of how stakeholders reconstruct trust in the aftermath of corporate misconduct.

The results provide several strategic insights for public relations practitioners managing crisis responses in the digital age. First, transparency and timely response must be prioritized in cases involving ethical violations. Stakeholders in collectivist societies such as Indonesia expect organizations not only to acknowledge fault but also to display humility, remorse, and restorative action—in line with cultural values of harmony and moral leadership (Harini et al., 2024).

Second, the finding that consumer sentiment strongly influences customer loyalty implies that crisis messaging must go beyond rational appeals. Organizations should invest in emotionally resonant storytelling that conveys empathy and commitment, thereby reducing audience cynicism and promoting relational repair.

Third, the role of social media engagement as a conditional influence highlights the need for brands to proactively manage digital narratives during crises. This includes monitoring platform-specific discourses, engaging influencers or community figures, and curating interactions that support constructive dialogue. Although SME did not act as a statistically significant moderator, its observed interaction patterns indicate that strategic engagement may shape public sentiment trajectories, particularly during high-visibility crises.

Fourth, customer loyalty is vulnerable at times of perceived betrayal. Even long-standing brand relationships might be strained if crisis communication fails to meet stakeholder expectations. As a result, firms should see crises not as dangers to their reputation, but as opportunities to reinforce their principles, integrity, and social responsibility through ongoing, two-way communication.

In summary, these findings highlight the importance of integrated crisis communication strategies that connect institutional responses with digital engagement patterns and cultural expectations.

While this study contributes to the advancement of crisis communication research in digital contexts, several limitations must be acknowledged. First, the relatively modest sample size ($N = 112$), although sufficient for PLS-SEM analysis, may limit the generalizability of the findings across broader populations or different industries. Future studies should incorporate larger, more diverse samples to improve external validity.

Second, the study relied on self-reported survey data, which may introduce social desirability or recall bias. Respondents' perceptions of crisis communication strategies and emotional responses may not always align with their actual behaviors or real-time reactions on digital platforms.

Third, the construct of social media engagement (SME) was measured through aggregated self-perceptions of engagement rather than platform-specific metrics. This approach may obscure the nuanced ways in which engagement types (e.g., liking vs. commenting) influence public interpretation of crisis messages.

Fourth, the study focused exclusively on one crisis event, Pertamina's 2025 corruption scandal, which, while highly relevant, may involve contextual variables not applicable to other types of crises such as product failures, cybersecurity breaches, or natural disasters.

These limitations suggest several avenues for future research. Subsequent studies should employ larger and more diverse samples and undertake cross-industry or cross-national comparisons to test whether the model holds across different sectors and cultural settings. Future work could also complement survey data with digital-trace evidence, refine typologies of social media engagement (for example by distinguishing passive engagement (likes, views) from active engagement (comments, shares), and organic from paid interactions), and adopt longitudinal designs that capture changes in sentiment, reputation, and loyalty over time, including the role of algorithmic amplification

on platforms such as TikTok or X (Twitter). Despite these limitations, the present study makes a significant contribution by connecting SCCT, digital engagement, and customer loyalty in a real-world Southeast Asian crisis scenario and by setting out a platform for more granular, culturally grounded, and platform-sensitive crisis communication research in the digital age.

4. Conclusion

This study examined how crisis response strategy (CRS) shapes brand reputation (BR), consumer sentiment (CS), and customer loyalty (CL) in the wake of Pertamina's 2025 corporate scandal, with social media engagement (SME) tested as a moderating variable. Using PLS-SEM, this study shows that accommodative crisis responses characterized by transparency, apology, and corrective action significantly improve brand reputation and generate more positive consumer sentiment. Both BR and CS, in turn, strongly predict customer loyalty, confirming that cognitive and emotional evaluations jointly mediate the effects of crisis communication on post-crisis behavioral outcomes in a digitally active, collectivist society.

Theoretically, this study extends SCCT by integrating sentiment and social media engagement into a structural model that captures the interplay between institutional responses and digital participation in an under-represented Southeast Asian context. Although SME did not exert statistically significant moderating effects, conditional analyses reveal that higher engagement amplifies emotional reactions while complicating reputational judgments, underscoring the ambivalent role of digital publics. Practically, the findings suggest that crisis communication for ethically charged scandals should prioritize transparent, timely, and culturally attuned responses that speak to both sentiment and reputation, while organizations actively monitor and curate social media conversations to protect loyalty. Future research can build on this model by testing it across different crisis types, industries, and countries, and by combining survey data with digital-trace measures of engagement and sentiment.

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