INTERNATIONAL REVIEW OF ARTIFICIAL INTELLIGENCE IN MARKETING

NAWALA

Volume 1, Number 1, 2022

# The Role of AI in Crisis Communication and Reputation Management for Global Brands

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## Abstract

**Article history:**
Received: January 21, 2022
Revised: February 13, 2022
Accepted: April 7, 2022
Published: June 30, 2022

**Keywords:**
Artificial Intelligence, Crisis Communication, Global Brands, Reputation Management, Systematic Literature Review.

**Identifier:**
Nawala
Page: 59-72
https://nawala.io/index.php/iraim

This article examines how artificial intelligence reshapes crisis communication and reputation management for global brands through a systematic literature review. The study synthesizes prior work on digital crisis communication, social media monitoring, predictive analytics, and conversational agents to map key applications across the stages of detection, response, and post crisis learning. The findings show that artificial intelligence based sensing and analytics enhance early warning, situational awareness, and understanding of stakeholder sentiment, while conversational agents can extend the reach and speed of crisis messaging. However, the review also highlights significant risks related to opacity, misinformation, emotional tone, and the erosion of human presence in high stakes situations. Overall, the study develops an integrative perspective that positions artificial intelligence as an augmentation technology whose effectiveness depends on governance, transparency, and human oversight. It proposes directions for future research and offers practical implications for designing technologically sophisticated yet trustworthy crisis communication strategies. The article focuses on diverse institutional, cultural, media, and global contexts.

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## 1. Introduction

Global brands today operate in a media environment where crises can erupt and spread across borders within minutes, placing corporate legitimacy and stakeholder trust under intense pressure. Incidents related to product failures, social and political controversies, and public health emergencies demonstrate that crisis communication and reputation management are no longer occasional activities but ongoing strategic functions. Experience during the coronavirus pandemic underscores how quickly narratives of responsibility, competence, and responsiveness shape organizational reputations, especially when stakeholders rely on digital channels to make sense of unfolding events (Christensen & Lægreid, 2020).

At the same time, advances in artificial intelligence are transforming how organizations monitor, interpret, and respond to emerging issues. In public relations and strategic communication, artificial intelligence applications are already used for media monitoring, predictive analytics, automated content production, and decision support, reshaping the division of labor between humans and machines in communication work (Galloway & Swiatek, 2018; Panda et al., 2019). For global brands, artificial intelligence is particularly attractive because it can process multilingual, high volume data and identify early signals of stakeholder dissatisfaction that would be difficult to detect manually. Artificial intelligence based social media monitoring platforms, for example, mine conversations and interactions to generate insights on online reputation, competitor moves, and influencer roles, functioning as an early warning system for potential crises (Perakakis et al., 2019).

In crisis situations, the role of artificial intelligence does not stop at detection but extends to real-time assessment and escalation processes. Studies in industrial and business-to-business contexts show that machine learning models can identify crisis-related events and help managers classify issue severity and predict their impact on key relationships (Farrokhi et al., 2020). For global brands, these capabilities create opportunities to strengthen crisis preparedness, accelerate situational awareness across countries, and align communication responses with underlying risk dynamics. At the same time, artificial intelligence driven reputation tracking systems that mine social media conversations about global brands demonstrate that reputation can be monitored longitudinally and linked to financial performance, reinforcing the view that reputation is a dynamic asset that can be managed almost in real time (Rust et al., 2021).

Beyond analytics, artificial intelligence enabled conversational agents are emerging as visible crisis messengers. Virtual assistants and chatbots have been deployed by governments, health authorities, and companies to answer questions, correct misinformation, and provide guidance during emergencies, illustrating that automated dialogue can reduce information overload and extend the reach of official communication (Daimiel & Estrella, 2021). Experimental findings show that design choices in artificial-intelligence agents, such as communication style, perceived empathy, and transparency about machine identity, influence trust, perceived usefulness, and compliance with recommended actions (Olk et al., 2020). For global brands, this raises strategic questions about how artificial-intelligence-mediated

interactions shape perceptions of authenticity, responsibility, and care during and after a crisis.

However, the literature on artificial intelligence in communication remains fragmented, with separate streams examining artificial-intelligence adoption in public relations, intelligent social media monitoring, crisis-specific analytics, and chatbot design (Galloway & Swiatek, 2018; Panda et al., 2019; Perakakis et al., 2019; Daimiel & Estrella, 2021). Few studies integrate these insights into a comprehensive framework explaining how artificial intelligence supports crisis communication and reputation management for global brands operating across diverse institutional, cultural, and media contexts. In particular, important gaps remain regarding how artificial-intelligence-based detection, response, and post-crisis learning can be orchestrated to protect and restore brand reputation, and how organizations can balance technological efficiency with demands for transparency, concerns about bias, and the risk of losing human touch. Building on these gaps, this article examines the role of artificial intelligence in crisis communication and reputation management for global brands, mapping key applications and mechanisms, identifying risks and governance challenges, and outlining implications for future research and managerial practice.

## 2. Literature Review

Existing research on crisis communication and reputation management provides an important foundation for understanding how artificial intelligence can reshape these functions for global brands. Studies in the pre AI and early social

media era show that corporate reputation and crisis responses are tightly linked in online environments. Zheng et al. (2018), for example, demonstrate that cognitive evaluations of a firm's reputation influence whether stakeholders engage in "secondary crisis communication" on social media, amplifying or mitigating reputational damage depending on whether they feel morally violated. Complementing this micro-level focus, Eriksson (2018) synthesizes more than a decade of social-media crisis communication research and concludes that effective practice depends on pre-crisis preparation, continuous monitoring, and dialogic interaction with stakeholders rather than one way message control. Together, this work suggests that reputation during crises is co-created with digitally empowered publics, which raises the stakes for any technological tools that automate sensing or messaging.

Within this context, a growing stream of scholarship examines artificial intelligence as a disruptive force in public relations. Liew (2021) argues that AI applications in media monitoring, data analytics, and automated content production are reshaping the division of labor in communication work, increasing efficiency yet raising concerns about transparency, skills displacement, and over reliance on algorithmic outputs. Rather than replacing practitioners, AI is framed as a strategic augmentation technology that can process high volume, multilingual data and surface emerging issues faster than human teams, but still requires human judgment to interpret insights, craft sensitive responses, and navigate ethical trade offs. This literature positions AI as both an opportunity and a challenge for organizations that

seek to manage global reputations under conditions of information overload and accelerated news cycles.

More specialized studies focus on AI-driven agents such as social bots and automated accounts as tools for crisis monitoring and response. Hofeditz et al. (2019) explore "meaningful" uses of social bots in disaster related crisis communication and show that, in principle, automated agents can support emergency management by disseminating alerts, filtering information, and sustaining communication flows when human teams are overwhelmed. However, empirical work on actual crisis episodes highlights the ambivalent role of such agents. Shi et al. (2020) analyze Twitter conversations during the COVID-19 pandemic and find that social bots are deeply involved in health emergency discussions, shaping sentiment patterns around key topics and influencing how users perceive risks and recommended behaviors. These findings suggest that AI based actors are not neutral infrastructure: they can help amplify official guidance but can also contribute to polarisation, confusion, or "infodemics" if not carefully governed.

Taken together, these streams reveal both the potential and the fragmentation of current knowledge about AI in crisis communication and reputation management. Social media crisis research emphasizes dialogic strategies and stakeholder co-creation of reputation, yet often treats monitoring tools as a black box. AI in PR studies highlight efficiency gains and strategic disruption, but rarely link specific AI capabilities to crisis response outcomes or to the long term dynamics of brand reputation across markets. Work on social bots and automated agents documents their growing influence during emergencies, while leaving open questions about how

global brands should integrate such tools into coordinated detection, escalation, and post crisis learning processes across diverse cultural and regulatory contexts. Addressing these gaps requires an integrated framework that explains how AI based sensing, decision support, and conversational agents can be orchestrated to protect and restore corporate legitimacy, while maintaining human oversight, ethical safeguards, and perceptions of authenticity in AI mediated stakeholder interactions.

## 3. Methods

This study employs a systematic literature review method to synthesize and integrate existing knowledge on the role of artificial intelligence in crisis communication and reputation management for global brands. The review followed a transparent, replicable protocol covering four main stages: planning, searching, screening, and synthesis. In the planning stage, the research questions were defined around three core themes: how artificial intelligence is used for crisis detection and monitoring, how it supports response and stakeholder interaction during crises, and how it contributes to post-crisis learning and long term reputation management. In the searching stage, academic databases such as Scopus, Web of Science, and Google Scholar were consulted using combinations of keywords including "artificial intelligence," "crisis communication," "reputation management," "global brands," "social media monitoring," "chatbots," and "social bots."

During the screening stage, only peer-reviewed journal articles written in English and explicitly addressing both artificial intelligence and crisis communication or reputation management in organizational contexts were retained, while

conference papers, non-scholarly sources, and purely technical studies without communication or branding implications were excluded. The remaining articles were then coded according to context (industry and geography), type of artificial intelligence application (analytics, automation, conversational agents), stage of the crisis cycle (pre-crisis, crisis, post-crisis), methodological approach, and key findings. Finally, a thematic synthesis was conducted to identify recurring patterns, conceptual gaps, and emerging mechanisms, which were then used to develop an integrative framework explaining how artificial-intelligence-based sensing, decision support, and interaction tools shape crisis communication strategies and reputation outcomes for global brands.

## 4. Results and Discussion

The systematic review reveals three broad patterns in how artificial intelligence is being integrated into crisis communication and reputation management for global brands. First, the findings confirm that AI-enabled sensing and monitoring tools are increasingly positioned as the "front line" of crisis detection. Across the sampled studies, social media listening and analytics platforms are used to track stakeholder sentiment, identify emerging issues, and flag anomalies in real time, extending earlier insights that reputation in digital crises is co-created with online publics rather than controlled by the organization (Eriksson, 2018; Zheng et al., 2018). In this sense, AI does not fundamentally change the logic of dialogic crisis communication, but it does increase the scale and speed at which organizations can observe stakeholder reactions and potential "secondary crisis

communication," especially in highly contested or politicized events. The review also indicates that these tools are most effective when combined with pre-crisis preparation and continuous monitoring regimes, which aligns with prior social media crisis frameworks that emphasize ongoing listening and responsiveness rather than ad hoc interventions (Eriksson, 2018).

Second, the review finds strong evidence that AI acts as a strategic augmentation technology in public relations rather than a simple automation substitute. Consistent with arguments that AI reshapes the division of labor in communication work (Galloway & Swiatek, 2018; Panda et al., 2019; Liew, 2021), many studies describe AI systems that filter large, multilingual data streams, cluster topics, or predict crisis escalation, while human practitioners retain responsibility for interpreting insights, crafting messages, and navigating ethical trade-offs. This human–machine complementarity is particularly salient for global brands that must coordinate responses across multiple markets and cultural contexts. AI-based analytics can highlight where reputational risk is concentrated or how different stakeholder segments are framing responsibility, but managerial judgment remains central for tailoring messages, choosing spokespersons, and deciding when to apologize, defend, or reframe. The results therefore support a nuanced view: AI can enhance efficiency and situational awareness, yet over-reliance on algorithmic outputs without critical interpretation may undermine the relational and ethical dimensions of crisis communication that global brands depend on.

Third, the findings show that conversational agents and social bots constitute a rapidly evolving, yet ambivalent, layer of AI mediated interaction during crises. On

the positive side, studies of chatbots and virtual assistants in health and emergency contexts suggest that well designed agents can reduce information overload, deliver consistent messages, and extend the reach of official communication to audiences that might not engage with traditional channels (Hofeditz et al., 2019; Daimiel & Estrella, 2021). This resonates with the idea that AI can help organizations respond at the speed and scale demanded by social media driven crises. However, empirical analyses of social bots in pandemic related discussions also reveal risks: automated accounts are deeply involved in shaping sentiment and can amplify both accurate guidance and misinformation, contributing to polarized "infodemics" if governance is weak (Shi et al., 2020). Experimental work further indicates that design choices such as communication style, perceived empathy, and transparency about machine identity significantly influence trust and compliance (Olk et al., 2020). For global brands, these results imply that simply deploying a chatbot is not sufficient; its persona, disclosure practices, and alignment with brand values critically determine whether AI mediated interactions are perceived as authentic support or manipulative spin.

Overall, the synthesis suggests that AI's contribution to crisis communication and reputation management is contingent rather than universally positive. AI based sensing and analytics can strengthen early warning systems and enable more granular understanding of stakeholder reactions, but only if organizations embed these tools within dialogic, stakeholder oriented crisis strategies rather than treating them as black-box dashboards. Similarly, AI driven conversational agents can scale crisis responses and relieve pressure on human teams, yet they also introduce new

reputational risks related to transparency, bias, emotional tone, and the potential erosion of "human touch" in moments when audiences seek reassurance and accountability. These findings point to a governance challenge: global brands need integrated frameworks that link AI capabilities to each stage of the crisis cycle detection, response, and post-crisis learning while maintaining human oversight, ethical safeguards, and consistent brand values. In practice, this means designing AI systems not only for technical performance, but also for legitimacy, trustworthiness, and alignment with the co-created nature of reputation in digital environments highlighted by prior crisis communication research (Zheng et al., 2018; Eriksson, 2018; Liew, 2021).

## 5. Conclusion

The study concludes that artificial intelligence has become a structurally important, yet deeply ambivalent, component of crisis communication and reputation management for global brands. By synthesizing prior work on digital crisis communication, AI enabled analytics, and conversational agents, the review shows that AI strengthens the "sensing" capacity of organizations through real time social media monitoring, anomaly detection, and sentiment analysis, while also supporting more targeted and timely responses. Rather than replacing established principles of dialogic crisis communication, AI extends their reach and speed, enabling brands to better detect early signals of discontent, understand stakeholder framings, and track reputational shifts across markets.

At the same time, the findings highlight that AI's value is conditional on how it is embedded in organizational strategies and governance structures. AI based tools are most effective when treated as augmentation technologies that work alongside human expertise, not as black box substitutes for judgment and accountability. Over reliance on automated outputs, opaque algorithms, or poorly designed chatbots risks undermining trust, amplifying misinformation, and eroding the human touch that stakeholders often expect in moments of crisis. The ambivalent role of social bots and conversational agents underscores that AI mediated interactions can either reinforce or damage perceptions of authenticity, responsibility, and care, depending on design choices, transparency, and ethical safeguards.

Conceptually, this article contributes by linking fragmented streams of literature into an integrative view of how AI based sensing, decision support, and interaction tools shape crisis communication and reputation outcomes for global brands. Practically, it suggests that managers should prioritize governance frameworks that connect AI capabilities to each stage of the crisis cycle detection, response, and post crisis learning while ensuring human oversight, clear role definitions, and alignment with brand values. Future research could deepen this framework by examining cross cultural differences in how stakeholders interpret AI mediated crisis responses, exploring metrics that capture both efficiency and legitimacy outcomes, and investigating how organizations can design AI systems that are not only technically robust but also socially acceptable and normatively responsible in high stakes crisis contexts.

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