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THE FUNCTION OF AI IN CRISIS COMMUNICATION: AN ASSESSMENT OF EMERGING POSSIBILITIES AND ETHICAL DILEMMAS

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ABSTRACT: Artificial intelligence (AI) is increasingly used for quick, effective action during communication crises in the social world. Moreover, AI has been used to mine social media content to gauge public sentiments and attitudes, anticipate crises, and combat fake news by monitoring social media activity. The use of artificial intelligence raises concerns about privacy, transparency, accountability, and reliance, as AI relies heavily on automated prompts to act. Using a conceptual analysis based on the SCCT (Situational Crisis Communication Theory) and Excellence Theory, this paper explains why organisations adopt AI in managing communication crises. It also concludes that organisations should use artificial intelligence alongside appropriate ethical policies, supervision, and proper personnel training.

Keywords: Artificial Intelligence, Crisis Communication, Crisis Management, Ethical Challenges, Human Oversight

OVERVIEW OF ARTIFICIAL INTELLIGENCE IN CRISIS COMMUNICATIONS

Artificial Intelligence has developed into a transformative suite of tools that can replicate human cognition, moving from an idea (theoretical computer systems) to an increasingly real experience. The first incarnation of AI consisted of simple rule-based computer systems that allowed computers to operate according to predetermined parameters; today, "AI" involves machine learning algorithms, natural language processing, and neural networks that process large amounts of information (Cheng et al., 2024). Over the last 10 years, these systems have also shifted from passive tools for professional operators to independent agents that create content, predict trends/economic conditions, and interpret complex human behaviour.

As organisations become more digital and more reliant on data to establish their business environment, the growth of companies using AI technologies in the corporate framework has grown. The ability of advanced algorithms to work with unstructured data in real time has changed the existing baseline of how we conduct traditional workflows, and this allows us to begin using AI technologies to enhance the productivity of professional operators within the highly complex, high-risk organisational environment and the rapidly evolving global business environment (Schneider & Boman, 2025).

Crisis communication is a vital area of public relations, and it can help an organisation maintain a good reputation during crises (Cheng et al., 2025). Randomly generated crises include events such as a cyber-attack, a failed product, a natural disaster, and/or negative rumours circulated through social media (Hossain et al., 2025). For example, if a company's customer database was hacked, the company would need to respond immediately and address the situation promptly. By responding promptly and appropriately through effective crisis communication, the organisation conveys accurate information to the public and calms fears, allowing it to regain the trust of customers, investors, employees, and the general public.

AI has begun to be utilised by corporations that wish to communicate with their customer base. Smart software has been adopted by many corporate PR (Public Relations) teams to monitor social media activity, determine whether public comments are positive or negative, and send out press releases to media outlets as quickly as possible (Whims, 2024). Given the overwhelming number of items posted daily on online platforms, the AI solutions available to corporate managers in PR are significant. AI's ability to analyse historical patterns allows businesses to accurately predict how a given audience will respond to breaking news, enabling companies to develop a clear understanding of how to communicate with different audiences (e.g., sending a technical update to IT professionals while providing a simple, straightforward guide relating to safety to non-technical customers) (Rainer et al., 2024). Tools such as chatbots for automated customer service and digital brand tracking tools are increasingly necessary; they have transformed slow, reactive corporate messaging operations into rapid, strategic ones.

Akande and Oyana (2025) explained that, in emergencies, communication issues can arise from the time it takes organisations to communicate. If an organisation does not communicate, it increases the likelihood of rumours. During emergencies, stakeholders want to know what is going on immediately to be assured of their safety. If an organisation is slow to respond, it suggests that it is not in control of the situation. This perceived lack of control results in a loss of business credibility. Regaining control requires the organisation to incorporate technology into its response framework. This will enable organisations to rapidly scan many social media channels to identify threats and assist in deploying accurate messages to eliminate inaccuracies. It will also support an organisation in processing data at a high rate of speed (rapid data processing), converting multilingual data into English, and drafting documents, which provides human resource personnel with more time to deal with appropriate high-level strategic decisions.

This paper aims to critically review the growing functions of artificial intelligence (AI) in crisis communication by exploring emerging opportunities, applications and ethical implications. In particular, it seeks to demonstrate how AI can aid crisis detection, social media surveillance, crisis

forecasting, crisis response, crisis information sharing, and crisis Stakeholder engagement, while acknowledging issues of privacy, transparency, accountability, bias, and over-dependency. Through four mutually complementing theoretical lenses, i.e. Situational Crisis Communication Theory and Excellence Theory, the study will integrate strategic, managerial, technological and Stakeholder-centred perspectives into the deployment of AI within the crisis communication environment. First, it reviews relevant literature on the conception and empirical evidence for the role of AI in crisis management in the existing scholarship. Afterwards, it sheds light on emerging opportunities and ethical challenges, and concludes with an overview of pragmatic applications and potential guidance for future research on deploying AI effectively and ethically in practice.

METHODOLOGICAL REVIEW

This study uses a conceptual research design based on a narrative review of secondary literature on artificial intelligence (AI) and crisis communication. The literature search used the following keywords: artificial intelligence (AI), crisis communication, crisis management, social media, crisis prediction, misinformation, privacy, accountability, and human oversight. For this review, I considered academic literature published between 2015 and 2026, but I did not apply publication-year constraints to literature that provides a foundation for crisis communication theory. This review critically analysed and synthesised the selected literature to analyse current AI applications, opportunities, challenges and moral concerns, and to explore the ethical issues related to artificial intelligence and crisis communications. This research collected no primary data, relying solely on secondary sources to develop conceptual points on responsible AI use.

FUNCTIONS OF AI IN CRISIS COMMUNICATION

AI plays a very important role in crisis communication, allowing organisations to transmit vital information efficiently and consistently across channels. This also helps minimise delays in crisis communication, ensuring that the public relies on factual organisational messages and limiting the proliferation of rumours (Eriksson, 2018). Banasik and Pikiewicz (2023) also suggest that an AI tool can optimise crisis management processes through communication and by processing information quickly. Although speed is a major factor in both opinions, there remains insight into a disadvantage, as efficient distribution does not necessarily translate into effective crisis communication. AI systems have speed on their side when broadcasting messages; however, poorly planned or erroneous messages can, in fact, aggravate a crisis rather than solve it. This is a communicative advantage, not an informative benefit, as accuracy requires careful thought before being translated, which can only be delivered by a person.

Implementing real-time social media monitoring through AI signals a shift away from traditional crisis management toward a more “proactive” posture on brand and organisational image. AI can quickly examine the information produced, using natural language processing, to determine whether discontent about a company or brand is building (Odubola et al., 2025). Through this identification, public relations can respond to false claims before they gain momentum (Hong et al., 2025). The tension lies between the mechanical function of data collection and the operational function of strategy, where one emphasises the speed of automation, and the other emphasises automated responses and seamless strategic adaptation. In that an automated sentiment metric

cannot fully interpret culturally nuanced context, the automation of threats still depends on a human interpretation which, when delivered, requires empathy and appropriate response.

AI-backed chatbots and predictive analytics are another area in which AI could improve organisational preparedness and resilience. AI chat boxes, Bhuiyan (2025) suggests, will "have the capability to handle thousands of customer queries simultaneously with minimal delay, decreasing the burden on customer service agents and delivering information much faster during an event like a flight cancellation, or during a spread of a particular virus or illness" (p. 27). AI-powered predictive analytics could use historical and even real-time data to predict public responses and facilitate tailored disaster responses (Karinshak et al., 2025). While both applications can improve decision-making and response speed, predictions depend on input data quality (historical/real-time), changing human behaviour, and algorithms that may not reflect real-world complexities. Therefore, even AI needs to defer to organisations to apply their expertise to interpreting predictions and developing responses.

Organisations can defend against false information in a crisis with AI solutions that detect these threats and generate automated content. According to Harika et al. (2024), AI algorithms can quickly assess the authenticity of an unknown narrative, helping communication teams reduce the chance that false stories go viral. For example, in a public health setting, Alboji (2025) shows how AI can detect medical misinformation and increase efficiency in drafting or disseminating official updates. This combination enables faster myth-busting and quicker drafting. Yet these automated AI systems cannot detect satire or subtle nuances in human communication, making them susceptible to more subtle falsifications. AI processes increase information velocity but are not yet adept at verifying accuracy on their own.

THE NEW OPPORTUNITIES AND POTENTIAL OF ARTIFICIAL INTELLIGENCE IN CRISIS COMMUNICATION

AI helps with decision-making in crisis situations and early warnings based on data. "The sheer scale and complexity of data required to deliver evidence-based insights when they are needed most can often be tackled with the help of artificial intelligence". Reichstein et al. (2025) suggest machine learning can help generate data-driven predictions based on historical flood or disease events, so entities can prepare a timely course of action and avoid the negative consequences of delayed decision-making. Similarly, Comes (2024) shows the value of AI in assessing large datasets of satellite photos, meteorology, and sensors to find precursors of crises before they happen, and the combination shows how adopting AI might strengthen readiness, cut response times, and limit potential costs. But again, as these insights depend on reliable, up-to-date data, it would be advisable that AI guides but does not replace the expert assessment of decision-makers and leaders.

AI can also be a powerful tool for building crisis communication and engagement in new ways and offering customised stakeholder engagement. Panda and Upadhyay (2025) note that AI can segment a wide range of stakeholders in large audiences, tailoring communication to each group's unique information needs. For instance, in the case of a data breach, technical support needs to know the exact facts about the incident and what security precautions to take. Customers need

explicit recommendations on what to do, and shareholders require information about the financial impact of the security incident. Customised communication of the facts can increase message relevance and minimise confusion, further strengthening stakeholder engagement and communications. Nevertheless, automatic audience segmentation can still miss nuances within each segment or reinforce incorrect assumptions about the needs of specific stakeholder groups. Thus, although AI enables crisis-type-based personalised communication at scale, human judgement remains needed to support accurate, appropriate, and tailored messages for each stakeholder's requirements.

AI is also used to individualise crisis communication tailored to the diverse needs of different stakeholders. A key feature identified in Neog et al. (2024) is the acknowledgement that different stakeholder segments need different forms of information to feel informed and protected during a crisis. According to Yue et al. (2024), AI can partition audiences and craft targeted messages for large audiences. Their findings collectively indicate that personalised information leads to higher relevance and less confusion, and that such personalisation increases user engagement. Yet automated segmentation may oversimplify the needs of people within specific groups or rely on inappropriate and misleading assumptions about their situation.

ETHICAL ISSUES AND CHALLENGES POSED BY AI IN CRISIS COMMUNICATION

Privacy concerns and data security breaches inherent in using AI in crisis communication can damage public trust, as well as organisational and individual standing. According to Nguyen and Hekman (2024), using AI to manage a crisis effectively can lead to the collection of public and private data. This is risky, as organisations might collect excessive/irrelevant personal information. Collecting data in such large amounts may increase the risk of unauthorised access/data breaches, and a compromise will likely amplify a crisis instead of mitigating the response. These issues clearly highlight a trade-off in employing adequate data needed to use AI for crisis communication while safeguarding people’s privacy rights as much as possible. Organisations need to ensure that, when using AI in crisis management, they implement appropriate data security and protection measures, along with ethical principles.

The risks associated with the use of AI in crisis communication are primarily that an AI system could transmit data and generate messages that are biased. For instance, as Radanliev (2025) notes, an AI system may perpetuate historical data’s bias and generate messages that are less accessible and less reflective of specific vulnerable or minority groups during crisis periods. The risk of perpetuating biases is of paramount importance. Besides, an AI system might not be able to distinguish between real and fake information and may process unverified gossip in online information channels (Asif & Gouqing, 2024). If the AI disseminates erroneous information in the aftermath of a crisis, a human operator will not be able to stop the dissemination of this information, even if the algorithm has detected it. Thus, although it could speed up the transmission of information, the speed will accelerate the dissemination of biased or false information if the underlying data are tainted.

AI-powered crisis communication can also create challenges in terms of transparency and explainability of decision-making. For example, some AI technologies are complex and thus

difficult for users or other relevant parties to understand the rationale behind AI decision-making (Al-Raeei, 2024). This lack of transparency can complicate accountability when AI generates false safety warnings or undesirable crisis messages, because organisations may rely on AI-generated messages and be held responsible if the message proves wrong. This could in turn increase uncertainty and challenge the public's confidence, since the public and other stakeholders trust the organisation and hold it accountable for the information provided. Although AI-supported systems can enable prompt, swift responses in crisis management, reduced explainability underscores the need for organisational responsibility, transparency, and human involvement in the AI's decision-making process.

Overuse of AI in crisis communication could automate human thought processes and reduce the empathy expected during a crisis. For example, Nuortimo et al. (2024) note that although artificial intelligence can process information quickly, it does not have human emotions and, as such, may fail to disseminate information effectively. Goswami et al. (2025) highlight that crises typically involve complex emotions, cultural sentiments and ethical considerations, which are difficult to reflect within autonomous programmes. In other words, there is a conflict between the efficiency offered by AI and the more subjective qualities of human interaction in crises. Automated communications, for example, to people who have lost a loved one, might sound cold and tactless. Accordingly, AI can act as an adjunct, complementing our crisis response. But human guidance remains necessary to maintain emotional sincerity, ethical decision-making, authenticity and overall public confidence.

THEORETICAL LENS FOR EXPLAINING AI AND CRISIS COMMUNICATION

Based on Situational Crisis Communication Theory (SCCT) (Coombs, 2007), an organisation's choice of crisis communication strategies depends on variables related to the severity and nature of the crisis, as well as how much the organisation is perceived as responsible for it. Moreover, a new field on AI in crisis management stated that AI may facilitate the crisis assessment process by analysing the public's reactions and understanding the perspectives of different stakeholders (Koritarov & Dimitrakieva, 2024; Kronewald & Rademacher, 2026). For instance, in the case of a product recall, AI may provide information about an increase in customers' dissatisfaction, and communication managers consider corresponding responses, which can range from providing an apology to developing appropriate rectification strategies. In spite of the provision of valuable insights in the assessment stage, AI cannot decide on the most efficient strategy because, in the end, human managers need to integrate knowledge of a particular context along with ethical judgement in order to facilitate decision-making during crisis management.

The Excellence Theory, which can be attributed to James E. Grunig and Linda A. Grunig, promotes the notion that communication ought to be two-way and symmetrical, involving mutual understanding between organisations and stakeholders as opposed to mere transmission of information from one direction only (Grunig & Grunig, 2008). One area that this theory appears to resonate with is the notion of AI-supported communication during a crisis. For instance, stakeholders are able to access AI-based tools like chatbots for interaction. Andersson (2024) observes that the latter "can help respond to multiple questions simultaneously during events such as an outbreak of disease or a plane crash" and address the public's queries promptly. However,

interactivity at a high frequency does not equate to mutual understanding, true dialogue, nor empathic considerations.

The two theories adopted, Situational Crisis Communication Theory (SCCT) and Excellence Theory, both address how organisations communicate during a crisis but differ in their emphasis and focus. SCCT is more concerned with what organisations should do to respond to a crisis. It examines the type of crisis, the level of responsibility placed on the organisation, and the form the response should take to protect the organisation. Excellence Theory focuses on how organisations should build and maintain relationships with stakeholders through two-way, symmetric communication, with mutual understanding and balanced attention to the organisation's and stakeholders' interests as key elements. Both theories agree on the necessity of strategic, responsive, and stakeholder-focused communication, but SCCT is more crisis-response and reputation-focused, whereas Excellence Theory is more communication-process and relationship-focused. Together, the two theories offer a broader viewpoint from which to study organisational crisis management and stakeholder communication.

THE ROAD AHEAD AND BEST PRACTICES OF ETHICAL AI-DRIVEN COMMUNICATION CRISIS

As organisations strive to harness the power of AI for every possible capability without inviting disastrous ethical ramifications, they will require well-defined governance structures and robust compliance protocols. No company can afford to deploy unmanned communications systems during a critical corporate crisis, where a mistake in crisis communication can have legal repercussions (Zhao et al., 2025). If developed effectively, these organisational structures will outline how data is collected, how it is utilised, and the procedure for information storage. Furthermore, organisations need to be highly compliant in this area to be well integrated with global privacy laws such as the GDPR (General Data Protection Regulation), as well as to be on top of the latest AI compliance guidelines.

Human and transparent AI should also be used during crises. AI is great at filtering data and drafting statements; however, people should screen all AI communications before publishing them. For example, an organisation's communications manager should approve an AI-generated emergency broadcast generated by AI before it is issued. This enables humans to catch mistakes, protect reputation, and establish clear accountability for all communications during a crisis (Mujtaba, 2025).

Germinder and Capizzo (2025) explained that organisations need ongoing training so employees can effectively use AI during crises. Staff must understand the benefits and constraints of AI tools and applications, even before an emergency occurs. One way to implement ongoing training is for organisational representatives and employees to run a simulated crisis event, using the applications to analyse incoming data and prepare emergency communications. Such simulated crises enable organisational staff to recognise potential pitfalls, build skills with these applications, and become familiar and comfortable. Ongoing preparation and training with AI applications allow communications departments to use these tools without trepidation during

actual events, while enabling quick, accurate, sensitive, timely, and thoughtful communications for a target audience.

In future, AI may combine different media types, ranging from images, video, sound, and text, simultaneously (Liu et al., 2025). For instance, after a flood in a particular area, AI could use data from satellite imagery, weather reports, and distress calls to better inform people in danger. It can communicate directly and individually with people via email, social networks, mobile applications and so on, sending personalised updates to specific groups. Privacy concerns may still exist, and society needs to use AI fairly for organisations to maintain credibility and for people to trust it and gain a real advantage.

Conclusion

While AI offers many benefits for enhancing crisis communication through advanced data processing, situational awareness, early detection, timely intervention, customised messaging, and stakeholder engagement, it also raises ethical concerns about privacy, algorithmic bias, misinformation, transparency, accountability, and overreliance on automated systems. AI may complement, but not replace, human intuition, contextualisation, ethical deliberation, and empathy. The study is limited by its conceptual design and reliance on prior research, which does not allow us to assess stakeholders' and organisations' experiences with AI-assisted crisis communication. Future research could use empirical designs to assess AI effectiveness in different crisis scenarios and how to use the technology while minimising risks, such as by maintaining adequate human oversight and fostering trust.

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