



SCHOOL OF GRADUATE STUDIES AND RESEARCH

(SoGSaR)

2024/2025 ACADEMIC YEAR

FACULTY OF BUSINESS AND STRATEGIC COMMUNICATIONS

DEPARTMENT OF PUBLIC RELATIONS

LEVEL 500

Assessing the Effects of AI Usage in Crisis Communication Management in the PR

Industry: A Quantitative Study in Ghana

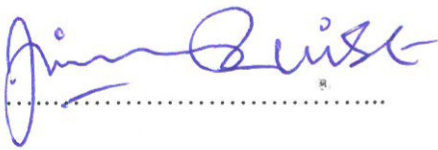
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DECLARATION

I, James Augustus Quist, declare that this thesis, except quotations and references contained in published works, which have all been identified and duly acknowledged, is entirely my original work, and it has not been submitted, either in part or whole, for another degree elsewhere. Therefore, I bear the responsibility for any shortcomings.



DATE: 15TH DECEMBER, 2025

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SUPERVISORS' DECLARATION

We, the undersigned supervisors, declare that we supervised the preparation and presentation of this work in accordance with the guidelines for the supervision of PhD theses as laid down by the University of Media, Arts and Communication (UniMAC).



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DEDICATION

This thesis is dedicated to the Almighty God for giving me the knowledge and understanding to undertake such insightful research. Also, I dedicate this thesis to my family.

ACKNOWLEDGEMENT

I am deeply grateful to the Almighty God for His grace, good health, wisdom, mercy, and understanding that sustained me throughout the conduct of this thesis. His unfailing guidance and strength have been my greatest source of inspiration from the beginning to the end of this academic journey.

My heartfelt appreciation goes to my supervisor, Rev. Odame Gyau for his exceptional guidance, patience, and dedication. His invaluable time, insightful feedback, and constructive criticism helped shape this research from conception to completion. I am truly thankful for his continuous support and encouragement throughout this process.

I also wish to express my sincere gratitude to my family and friends for their constant encouragement, prayers, and support. Your inspiration and belief in me provided the motivation I needed to persevere through every stage of this work. To all who contributed in diverse ways to the success of this study, I say a heartfelt thank you.

ABSTRACT

This study examined how artificial intelligence (AI) influences crisis communication effectiveness among public relations (PR) professionals in Ghana, and assessed the moderating role of perceived social presence. Guided by situational crisis communication theory (SCCT) and computer-mediated communication (CMC) theory, the study adopted a positivist philosophy, deductive approach, and quantitative cross-sectional survey design. Primary data were collected from PR practitioners using a structured questionnaire adapted from validated scales, and analysed using descriptive statistics, reliability tests, multiple regression, and Hayes' PROCESS macro.

The findings revealed a strong positive relationship between AI usage and crisis communication effectiveness. Organisations that frequently used AI tools, such as chatbots, automated messaging systems, and data-driven platforms, reported improved timeliness, message clarity, and stakeholder engagement during crises. The results further showed that perceived social presence significantly enhances crisis communication outcomes; stakeholders were more likely to view crisis responses as credible, trustworthy, and engaging when AI-mediated messages appeared warm, empathetic, and human-like. Additionally, perceived social presence was found to moderate the relationship between AI use and crisis communication effectiveness. AI tools yielded stronger positive outcomes when stakeholders perceived high levels of social presence, indicating that technological efficiency alone is insufficient without relational, human-like communication cues.

The study contributes to SCCT by demonstrating how AI can operationalize timely, consistent, and context-specific crisis responses, and extends CMC theory by highlighting social presence as a critical factor in AI-mediated interactions. Practically, the study recommends that organisations integrate AI into crisis communication while humanizing automated systems to enhance empathy, responsiveness, and trust. The research also calls for training PR professionals to balance technological tools with human oversight to maintain credibility during crises.

Despite its contributions, the study was limited to PR professionals in Ghana and relied on self-reported cross-sectional data. Future research should consider longitudinal designs, comparative studies across sectors or countries, and additional moderating variables such as organizational culture or crisis type. Overall, the study concludes that AI can significantly enhance crisis communication, but its effectiveness is maximised when combined with strong social presence cues.

Keywords: Artificial Intelligence, Crisis Communication, Public Relations, Perceived Social Presence, Communication Effectiveness, Situational Crisis Communication Theory, Computer-Mediated Communication, Ghana PR Industry.

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LIST OF ABBREVIATIONS

Abbreviation	Full Meaning
AI	Artificial Intelligence
PR	Public Relations
SCCT	Situational Crisis Communication Theory
CMC	Computer-Mediated Communication
SPSS	Statistical Package for the Social Sciences
NGO	Non-Governmental Organization
PROCESS Macro	Hayes' PROCESS computational tool for moderation/mediation analysis

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Artificial intelligence (AI) has evolved into one of the most influential technological advancements of the 21st century, offering transformative capabilities across various industries, including healthcare, finance, education, and increasingly, communication. At its core, AI refers to computer-based systems designed to perform tasks that typically require human intelligence, including learning, reasoning, problem-solving, and decision-making (Kenchakkanavar, 2023). Kaplan and Haenlein (2019) describe AI as a system's ability to interpret external data, learn from it, and use this knowledge to achieve specific goals through flexible adaptation. Similarly, Wamba-Taguimdje et al. (2020) conceptualize AI as a collection of computational techniques that allow machines to process data, detect patterns, make inferences, and improve their performance without direct human intervention. This technological evolution has given rise to various subfields, including machine learning, deep learning, natural language processing, and generative AI, all of which contribute to AI's growing relevance in professional domains.

In recent years, the PR industry has witnessed an increasing adoption of AI-based tools to support functions such as media monitoring, automated content generation, audience segmentation, and sentiment analysis. Generative language models such as ChatGPT and automated systems for real-time crisis response have been noted for their potential to deliver cost-effective, scalable, and time-sensitive communication (Xiao and Yu, 2025). These tools allow organizations to streamline

communication workflows and enhance efficiency in responding to large volumes of public engagement. Scholars like Jin et al. (2022) and Panda et al. (2019) suggest that the ability of AI to simulate cognitive and emotional aspects of communication is particularly useful in high-demand scenarios, such as managing corporate image and shaping stakeholder narratives.

Despite AI's analytical and operational strengths, its role in interpersonal communication settings, particularly those requiring empathy, trust, and transparency, has become a subject of scholarly inquiry. Floridi and Cowls (2022) emphasize the need to understand how AI-mediated communication is perceived in contexts that require emotional intelligence, such as public apologies, reassurance messages, and real-time engagement during crises. Researchers have explored how the public evaluates AI-generated messages in terms of authenticity, credibility, and relational warmth. Yu and Zhao (2024) and Munnukka et al. (2022) argue that audience responses are shaped not only by the content of messages but also by their perceived source, specifically whether the communicator is a human or an AI system. This perception is often linked to a psychological construct known as social presence, which reflects the sense of human-like connection experienced during mediated communication. When applied to AI tools, social presence becomes an influential factor in determining how effectively these tools simulate human interaction in communication-intensive domains.

Crisis communication, as a specialized area within public relations, involves the deliberate and strategic dissemination of information to maintain or restore the reputation, trust, and stability of an organization during an unexpected or potentially damaging event. According to Coombs (2020), crisis communication relies on timely, accurate, and emotionally intelligent messaging to minimize uncertainty and protect relationships with key stakeholders. Traditionally, such

communication has been managed exclusively by human professionals who are trained to assess the nuances of audience reactions, cultural expectations, and situational contexts. However, the increasing capabilities of AI systems have introduced new dimensions to how crisis communication can be executed (Cheng et al., 2024). Tools powered by AI are now able to track emerging issues across multiple platforms, assess the emotional tone of public discourse, and generate responses that align with established communication frameworks such as the situational crisis communication theory.

In the evolving landscape of public relations, AI is thus not merely a technical tool but a cognitive and relational resource. It interacts with human expertise to shape how organizations manage communication under pressure. Scholars such as Cheng and Jiang (2020) suggest that the success of AI-driven crisis messages depends on how convincingly these technologies replicate human-like communication features such as empathy, concern, and responsibility. Moreover, as Kang and Kim (2022) point out, the effectiveness of AI communication in crisis contexts is closely tied to users' perceptions of social presence and interpersonal relevance. These frameworks position AI as an important variable that not only influences communication efficiency but also intersects with psychological and relational aspects of public engagement.

As AI becomes more deeply embedded in communication systems, understanding its influence on professional practices such as crisis communication becomes essential. Its capabilities extend beyond automation and efficiency to encompass strategic functions that have traditionally required human discretion, sensitivity, and trust-building (Wang, 2022). Within the domain of crisis communication in particular, AI's contribution lies in its ability to supplement decision-making processes with real-time data analysis and simulated relational interaction. The conceptual

connections between AI and crisis communication continue to evolve as technologies become more advanced and context-specific applications are explored through academic inquiry.

1.2 Problem Statement

Artificial intelligence has emerged as a transformative tool in crisis communication, providing organizations with timely and cost-effective solutions. In PR, where maintaining organizational reputation and public trust is critical, AI tools have the potential to enhance responsiveness, streamline communication, and support stakeholder engagement (Joshi, 2024; Coombs et al., 2014). However, the interpersonal and emotional nuances that are central to effective crisis communication may be compromised when human agents are replaced by AI systems (Cheng et al., 2024). While AI systems like ChatGPT and other conversational agents are increasingly being used to draft crisis responses, concerns remain about their ability to convey empathy, context sensitivity, and emotional intelligence. Floridi and Cowls (2022) argue that AI-generated content often lacks the emotional resonance needed in crisis contexts, where fear, anxiety, and uncertainty dominate stakeholder sentiment. Stakeholders expect not only accurate information but also compassion, transparency, and reassurance, qualities traditionally conveyed by human communicators (Jin, et al., 2022). This raises concerns about whether AI tools can truly fulfil the relational demands of crisis communication without diminishing message credibility or stakeholder satisfaction.

A growing body of research has examined AI's role in organizational communication. For instance, Xiao and Yu (2025) explored how ChatGPT-based crisis responses influenced stakeholder satisfaction and responsibility attribution, finding that perceived competence shaped stakeholder

judgments. However, they acknowledged a key limitation in their model, the exclusion of psychological and relational variables such as social presence and warmth. Their findings point to an incomplete understanding of how stakeholders perceive AI-mediated communication during crises, particularly when emotional and relational cues are critical to message effectiveness. Moreover, the majority of research on AI and crisis communication has been situated in Western and Asian contexts (Xiao and Yu, 2025), leaving a gap in understanding how these dynamics operate in African environments. In developing economies like Ghana, the integration of AI into communication processes is still in its infancy (Adu, 2024). Although some organizations have begun exploring digital transformation, contextual factors such as cultural norms, technological adoption rates, and digital literacy significantly shape how stakeholders receive and interpret AI-mediated communication (Sutherland, 2025). Ghanaian communication culture places a high value on interpersonal connection, emotional expressiveness, and trust. These socio-cultural dynamics may influence stakeholder receptiveness to AI tools in crisis scenarios, yet they remain underexplored in current literature.

The concept of perceived social presence, defined as the degree to which a communication partner is perceived as real, warm, and emotionally attuned in a mediated environment (Seymour et al., 2024), is particularly relevant in this context. Research has shown that a high sense of social presence enhances trust, message credibility, and relational satisfaction in digital communication (Kang and Kim, 2022; Munnukka et al., 2022). In the context of AI-mediated crisis communication, perceived social presence could be a key factor influencing how stakeholders assess the quality and credibility of organizational responses. Yet, few empirical studies have examined how this construct moderates the relationship between AI usage and crisis communication outcomes.

This study therefore seeks to fill this gap by empirically investigating how AI usage influences crisis communication outcomes in Ghana's PR industry and how perceived social presence moderates this relationship. By focusing on this moderating effect, the study responds to the call by Xiao and Yu (2025) for research that incorporates relational and psychosocial variables in AI communication models. This approach offers a more holistic understanding of how AI systems can be effectively deployed in crisis communication without compromising emotional authenticity or stakeholder trust.

The theoretical grounding of this research lies in the situational crisis communication theory (SCCT) developed by Coombs (2007), which emphasizes aligning crisis response strategies with the nature of the crisis and stakeholder expectations. While SCCT traditionally assumes that human agents deliver these responses, the increasing adoption of AI introduces a new dimension; how the medium of delivery, human versus machine, influences perceptions of organizational responsibility, credibility, and trustworthiness. By integrating constructs such as perceived social presence into the SCCT framework, this study seeks to provide a more contemporary and nuanced understanding of crisis communication in the digital age.

Additionally, this research draws from the theory of computer-mediated communication (CMC), which explores how technology affects the perceived relational closeness between communicators (Short et al., 1976; Walther, 2011). When applied to AI, this theory underscores the importance of designing systems that can emulate human warmth, responsiveness, and social awareness. Prior studies have shown that AI systems perceived as socially present are more likely to foster positive communication outcomes (Kang and Kim, 2022), even when the communicator is a non-human

agent. These insights support the importance of investigating perceived social presence as a critical moderator in the effectiveness of AI-mediated crisis messaging.

While AI offers immense potential for improving efficiency in crisis communication, its effectiveness ultimately depends not only on technological capabilities but also on relational and emotional dynamics. There is a clear gap in the literature regarding how these dynamics unfold in developing country contexts such as Ghana, and how constructs like social presence influence stakeholder perceptions of AI-mediated crisis messages. This study therefore aims to provide contextually grounded insights that inform theory, practice, and policy by examining the interplay between AI usage, perceived social presence, and crisis communication outcomes.

1.3 Research Objectives

General Objective:

The general objective of the study is to investigate the influence of AI on crisis communication effectiveness in Ghana's PR industry. Specifically, the study seeks to examine the moderating role of perceived social presence in the relationship between AI usage and crisis communication outcomes.

Specific Objectives:

1. To examine the effects of AI usage on crisis communication outcomes in the public relations industry.
2. To assess the effect of perceived social presence on crisis communication effectiveness.

3. To determine how perceived social presence moderates the relationship between AI usage and crisis communication outcomes.

1.4 Research Questions

1. What is the effect of AI usage on crisis communication in the PR industry?
2. What is the effect of perceived social presence on crisis communication?
3. Does perceived social presence moderate the relationship between AI usage and crisis communication outcomes?

1.5 Significance of the study

This study is important because it explores how artificial intelligence is changing the way organizations manage communication during crises, especially in Ghana's public relations industry. As more PR professionals rely on AI tools for timely and efficient messaging, it becomes necessary to understand how these tools are received by stakeholders. Crisis communication often demands not just clear information but also trust, empathy, and a sense of human connection, qualities that may be difficult to achieve with AI alone.

By focusing on how people respond to AI-generated messages and the role of perceived social presence, the study contributes to existing theories like the SCCT and CMC. It also offers practical insights for PR professionals on how to use AI effectively without losing the human touch. In addition, the findings can help shape policies and guidelines for responsible AI use in communication, especially in culturally sensitive contexts like Ghana. The study also provides a

strong foundation for future research in this area, particularly in regions where digital transformation is still evolving.

1.6 Brief Methodology

To explore the influence of AI on crisis communication and the role of perceived social presence, this study will use a quantitative approach. The research is guided by the idea that social realities can be measured and explained using data, which makes a survey method appropriate. A structured questionnaire will be used to gather responses from public relations professionals working in different sectors across Ghana. These participants will be selected based on their availability and willingness to take part, which makes the sampling method both practical and accessible. Since the aim is to understand how these professionals currently use AI in communication during crises, the study will collect data at one point in time (cross sectional). The responses will be analysed using SPSS software, and a moderation analysis will be carried out to examine whether the sense of human-like presence affects how AI messages are received. This approach will help the study draw clear and reliable conclusions about how AI is shaping crisis communication in Ghana.

1.7 Scope of the Study

This study focuses on understanding how artificial intelligence is influencing crisis communication within Ghana's public relations industry. It specifically looks at how PR professionals are using AI tools to manage communication during crisis situations, and how the feeling of human-like presence, known as perceived social presence, affects this relationship. The research is limited to

public relations practitioners working in various organizations across Ghana, and the data collected will reflect their experiences and views on the role AI plays in crisis response. The study concentrates on communication outcomes such as how satisfied stakeholders feel, how credible they find the messages, and how much trust is built during a crisis. It does not cover the use of AI in other industries, nor does it examine its long-term impact on broader organizational performance outside the scope of crisis communication.

1.8 Organization of the Study

This study is organized into five main chapters. Chapter one introduces the research by providing the background to the study, the problem statement, research objectives, research questions, the significance, a brief overview of the methodology and scope. Chapter two presents a review of relevant literature, including theoretical foundations, key concepts, and findings from previous studies related to AI, crisis communication, and perceived social presence. Chapter three outlines the research methodology in detail, including the research design, population, sampling methods, data collection tools, and data analysis techniques. Chapter four presents the results of the data analysis and interprets the findings in relation to the research questions. Finally, chapter five discusses the key findings, draws conclusions, and provides recommendations for practice, policy, and future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the key concepts, theories, and existing research that provide a foundation for the study. It begins by defining the main constructs, AI, crisis communication, and perceived social presence, before discussing the theoretical frameworks that guide the study. These include the SCCT and the theory of CMC, both of which help explain how messages are interpreted in times of crisis, especially when delivered through AI-driven platforms. The chapter also presents an empirical review of relevant literature that explores how AI is being used in crisis communication, the role of perceived social presence, and how these elements interact. Finally, the conceptual framework for the study is shown, presenting the proposed relationships between the variables. Together, these sections provide a clear and structured understanding of the scholarly context in which the research is situated.

2.2 Concept Definition

2.2.1 Artificial Intelligence

Artificial intelligence has rapidly evolved into one of the most transformative technologies of the 21st century, influencing nearly every aspect of modern life and business. Broadly defined, AI refers to the capability of machines and computer programs to perform tasks that typically require human intelligence (Korteling et al., 2021). These tasks include learning, problem-solving, understanding natural language, recognizing patterns, and making decisions (Russell and Norvig, 1995). Unlike traditional software systems that follow predetermined instructions, AI systems are

often designed to adapt and improve based on the data they process. The origin of AI as a formal field can be traced back to the Dartmouth Conference in 1956, where scholars first introduced the term and explored how machines might simulate human reasoning (Haenlein and Kaplan, 2019). Over time, developments in subfields like machine learning, deep learning, computer vision, and natural language processing have pushed AI beyond theoretical curiosity into a practical tool used across various domains (Khan, 2025). The rise of AI has been marked by milestones such as IBM's Deep Blue defeating a world chess champion in 1997 and AlphaGo's 2016 victory against a world Go master-events that symbolized machines' growing ability to handle complex, strategic thinking (Stokel-Walker, 2024).

AI is now widely applied in areas such as healthcare, transportation, finance, manufacturing, and public services. In healthcare, for instance, AI systems assist doctors in diagnosing diseases through image recognition and support telemedicine platforms that serve remote communities (Haleem et al., 2021). In customer service and marketing, AI chatbots and recommendation engines personalize user experiences, answer queries instantly, and improve overall customer satisfaction (Goasduff, 2019; Islam et al., 2023). According to Vinuesa et al. (2020), AI has the potential to significantly support the achievement of global sustainable development goals by enhancing efficiency and decision-making in public policy and resource allocation.

In the communication field, particularly in public relations, AI is becoming a valuable asset for managing stakeholder relations, monitoring public sentiment, and responding to media narratives in real time (Pinto and Bhadra, 2024). Natural language processing (NLP) allows organizations to detect and analyse tone and emotion in messages, while generative AI models like ChatGPT can produce immediate and coherent responses during crises or high-pressure situations (Guzman and

Lewis, 2020; Floridi and Cowls, 2022). These tools can be programmed to respond 24/7, ensuring that public concerns are addressed swiftly and consistently.

Despite its advantages, AI introduces complex challenges, especially when applied in contexts that require human empathy and ethical sensitivity. Scholars have raised concerns about the inability of machines to genuinely convey compassion, moral judgment, or nuanced emotional understanding, qualities that are essential in crisis communication (Cheng et al., 2024). Additionally, several high-profile cases have highlighted the risks associated with AI, including biases in algorithms, invasion of privacy, misinformation, and system failures. For example, Microsoft's AI chatbot Tay had to be removed from Twitter after it began producing offensive content, revealing the dangers of poorly monitored machine learning systems (McGregor, 2016; Mohammed, 2025). Similarly, the fatal crash involving Tesla's Autopilot system raised serious concerns about the reliability of AI in high-stakes environments (Morby, 2016).

Ethical concerns have further extended to AI's misuse in fraudulent activities, such as deepfake technology and AI-generated impersonations used in cybercrime (Stupp, 2019). These cases underscore the importance of building responsible and transparent AI systems, especially in fields like public relations where reputation, trust, and social responsibility are critical. In developing contexts such as Ghana, the integration of AI into communication practices is still emerging (Sarfo et al., 2024). Although digital transformation is gaining traction, challenges such as digital literacy, cultural communication norms, and infrastructural readiness affect how AI tools are adopted and perceived. This makes the exploration of AI's role in crisis communication particularly relevant.

2.2.2 Crisis Communication

Crisis communication refers to the process of sharing accurate and timely information during a crisis to help manage the situation and reduce its negative impact. It plays a key role in how organizations protect their reputation, maintain public trust, and guide stakeholders through uncertain or disruptive events (Coombs, 2007; Alexander, 2014). At its core, crisis communication is about more than just passing on facts, it involves managing perceptions, offering reassurance, and responding to the emotional needs of the audience (Coombs, 2006). A crisis is typically unexpected, high-stakes, and time-sensitive, which places significant pressure on organizations to respond quickly and appropriately. Scholars have defined crisis communication in several ways. Coombs (2007) sees it as the collection, processing, and dissemination of information required to address a crisis situation, while Fearn-Banks (2011) defines it more broadly as a dialogue between an organization and its publics before, during, and after a crisis (Ryschka et al., 2016). These definitions emphasize the importance of consistent engagement and clear messaging across all stages of a crisis.

The crisis communication process usually unfolds in three phases: pre-crisis, crisis response, and post-crisis (Coombs, 2020). In the pre-crisis phase, organizations focus on identifying potential threats, preparing communication plans, and building relationships with stakeholders. During the crisis itself, the priority shifts to issuing accurate updates, showing empathy, and clarifying the organization's actions. The post-crisis phase involves reputation repair, evaluation of the communication strategy, and implementation of lessons learnt (Kanjanda, 2024). Throughout all these phases, clarity, consistency, and credibility are essential.

One key development in the study of crisis communication is the role of sentiment analysis. In today's digital era, people often express their feelings about a crisis online through platforms like Twitter, Facebook, and news forums. Tools that analyse public sentiment can help organizations understand how people are reacting in real time and adjust their messaging accordingly (Mirbabaie et al., 2020). For example, if sentiment analysis reveals that the public is feeling fearful or angry, an organization might respond with a message that shows empathy and outlines specific actions being taken to resolve the issue (Gruda and Ojo, 2022). These tools not only help tailor communication but also aid in early detection of emerging concerns.

Effective crisis communication depends heavily on certain core qualities, especially transparency, empathy, and timeliness (Austin and Jin, 2015). Studies show that people are more likely to trust and support organizations that acknowledge responsibility, explain what is being done, and express genuine concern for those affected (Seeger et al., 2019). When communication lacks warmth or appears overly defensive, it can backfire and worsen public sentiment, regardless of how accurate the information may be. The SCCT developed by Coombs (2007) provides a useful framework for understanding how different types of crises require different responses. SCCT suggests that organizations should consider the degree of responsibility the public assigns to them and tailor their response strategy accordingly. For example, if an organization is seen as responsible for the crisis (like a data breach caused by negligence), a full apology and corrective action are appropriate. But in cases where the crisis is seen as beyond the organization's control (like a natural disaster), simply providing updates and showing support may be enough (Coombs, 2014). This theory highlights the importance of aligning communication strategies with stakeholder expectations.

Another influential model is Benoit's (1995) image restoration theory, which outlines strategies such as denial, shifting blame, reducing offensiveness, corrective action, and mortification (Benoit et al., 1997). These strategies are used to rebuild an organization's image during or after a crisis. However, not every crisis needs a full-scale reputation repair; in many situations, offering clear instructions and reassurance can be just as effective (Cheng, 2018). More recently, digital platforms and social media have significantly changed how crises unfold and how communication is handled. Social media allows information to spread rapidly, meaning that a small issue can quickly escalate if not addressed properly. At the same time, it gives organizations tools to respond in real time, directly engage with stakeholders, and monitor public feedback (Liu et al., 2016). This shift has made crisis communication more interactive, fast-paced, and transparent.

The introduction of artificial intelligence (AI) into crisis communication adds a new dimension. AI-powered tools like chatbots, natural language processing, and automated sentiment analysis are now being used to monitor conversations, draft messages, and respond to inquiries at scale (Guzman and Lewis, 2020). While these tools offer speed and efficiency, scholars have raised concerns about whether they can convey empathy and build trust, qualities that are central to effective crisis communication (Guo, 2024). The relationship between crisis communication and variables like stakeholder trust, message credibility, and organizational reputation has been well established in the literature. According to Kim et al. (2004), stakeholder trust acts as both a prerequisite and an outcome of effective crisis communication. When stakeholders trust an organization, they are more likely to believe its messages and support its recovery efforts. Conversely, if trust has been eroded before the crisis, even well-crafted responses may fall flat.

Despite the growing research, crisis communication remains a relatively young field compared to other areas of communication (An et al., 2010). However, researchers are increasingly moving toward more empirical approaches, using data to understand how people actually respond to different types of crisis messages and channels. This shift is helping to build a more nuanced and evidence-based understanding of what works, and what does not in crisis communication. Crisis communication is a critical function that goes beyond information delivery. It involves managing public perception, building emotional connections, and navigating stakeholder expectations (Diers-Lawson, 2019). As organizations continue to face new and complex challenges, from reputational threats to natural disasters and digital disruptions, crisis communication strategies must evolve, especially in how they balance technological efficiency with human sensitivity.

2.2.3 Perceived Social Presence

Perceived social presence refers to the extent to which individuals feel that they are in the company of a real, human-like other during communication, even when that interaction takes place through technology. Originally conceptualized by Short et al. (1976), social presence is defined as the degree of salience of the other person in a mediated communication and the consequent salience of the interpersonal relationship. It is the feeling that someone is really there in a virtual or digital conversation. Over time, researchers have expanded this concept beyond just communication technologies. It now applies to how people engage with a range of digital platforms, from online classrooms and social media to chatbots and AI interfaces. In this broader sense, perceived social presence captures the warmth, intimacy, and emotional engagement that people feel when communicating in mediated environments (Lowenthal et al., 2017; Etemad-Sajadi, 2016).

One of the core ideas behind social presence is that not all communication media are equally rich. Some allow for facial expressions, voice tone, and body language, features that help people feel connected. Others rely only on text, which can feel distant or impersonal if not carefully crafted. Researchers like Fulk et al. (1987) have noted that the more cues a medium can carry, such as empathy, emotion, and personality, the higher its perceived social presence. In digital interactions, this perception matters greatly. For instance, Oh et al. (2016) found that when a message feels warm and personal, people are more likely to trust the source, feel satisfied, and engage positively. Similarly, Gefen and Straub (2004) showed that perceived social presence in online shopping environments significantly boosts trust and customer satisfaction. These findings underline the fact that people do not only pay attention to the content of messages, they also assess how emotionally connected the interaction feels.

In the field of education, social presence has become especially important in online learning environments. Garrison et al. (2000), in their Community of Inquiry (CoI) framework, emphasized social presence as one of the three essential elements that support meaningful learning online (Maddrell et al., 2020). According to this model, students who feel a stronger sense of presence are more likely to engage with others, express their ideas confidently, and build a sense of belonging in the virtual classroom. The same logic applies in professional communication, especially during crises. Crisis communication is not only about sharing accurate information, it is also about showing empathy, reducing anxiety, and maintaining public trust. When a crisis hits, people look to organizations for guidance, reassurance, and transparency. If the communication feels cold, scripted, or robotic, it may fail to reassure or may even damage trust (Coombs, 2014; Van Der Meer and Verhoeven, 2013). But when messages are perceived as socially present, when

they feel human, responsive, and emotionally attuned, audiences are more likely to stay calm and trust the source.

This is particularly important with the growing use of AI in communication. Technologies such as chatbots, virtual agents, and automated responses are now used to manage interactions at scale. However, these tools often lack the relational cues that people rely on to feel connected. Without warmth, empathy, or a sense of responsiveness, AI-generated messages can feel impersonal and inadequate, especially in sensitive contexts like crisis management (Guzman and Lewis, 2020). To address this, researchers have explored how perceived social presence can be built into AI systems. Chaves and Gerosa (2021) found that when chatbots use emotionally expressive language, like, ‘I am here to help’ or ‘that must be frustrating’, users are more likely to perceive them as friendly and human-like. This perception, in turn, increases message acceptance and trust. Similarly, that users who experienced higher levels of perceived social presence in AI communication reported greater satisfaction and found the messages more credible (Hsieh et al., 2021).

As organizations increasingly turn to AI and digital platforms to manage stakeholder communication, particularly during crises, it becomes crucial to understand the role of perceived social presence (Chen et al., 2024). It is not just a technical consideration, but a psychological experience that shapes how people respond. Whether it is in public relations, healthcare, education, or e-commerce, perceived social presence influences critical outcomes like trust, message credibility, emotional engagement, and relationship strength. Perceived social presence captures how human a digital interaction feels. It helps determine whether people feel seen, heard, and respected in mediated environments. Understanding how to design communication that feels

present, empathetic, and real is essential for any organization aiming to use AI and technology effectively in today's digital world (Gkinko et al., 2022).

2.3 Theoretical Framework

2.3.1 Situational Crisis Communication Theory (SCCT)

Situational crisis communication theory (SCCT), developed by Timothy Coombs in the mid-1990s, offers a structured, evidence-based framework to help organizations respond to crises in ways that protect their reputations and restore public trust (Coombs, 2007). Before SCCT, much of the crisis communication literature relied on descriptive case studies that lacked a clear theoretical foundation. Coombs sought to address this gap by creating a model grounded in attribution theory, a psychological theory that explores how individuals assign blame or responsibility for events, especially those that are unexpected or negative (Weiner, 1985; Coombs, 2004). SCCT is the idea that people evaluate crises based on their perception of the organization's responsibility for the event. When stakeholders believe an organization caused or could have prevented a crisis, they are more likely to hold it accountable. SCCT categorizes crises into three main types; victim, accidental, and preventable (Coombs and Holladay, 2002; Coombs, 2007). Victim crises, like natural disasters, tampering, or rumours, carry low responsibility, as the organization is seen as a fellow victim. Accidental crises involve unintended errors, such as technical failures, and are associated with moderate responsibility. Preventable crises, including fraud, negligence, or misconduct, are high-responsibility events that can severely damage an organization's reputation if not handled properly (Bartman, 2018).

To match the perceived level of responsibility, SCCT offers a range of crisis response strategies. These strategies fall into three broad categories: denial, diminish, and rebuild (Coombs, 2007). Denial strategies seek to remove any connection between the organization and the crisis (denial or scapegoating). Diminish strategies aim to reduce perceived responsibility or minimize the damage (justification or excuse). Rebuild strategies, which are most appropriate for high-responsibility crises, involve accepting responsibility and offering apologies or compensation. Beyond these, SCCT also emphasizes the importance of providing instructing information, guidance that helps stakeholders protect themselves, and adjusting information, which addresses stakeholders' emotional needs (Sturges, 1994; Coombs, 2015).

SCCT has a predictive capacity. By evaluating the type of crisis and the organization's history or prior reputation, communicators can tailor responses that are more likely to be accepted by stakeholders (Coombs, 2007). The theory also accounts for three contextual factors that shape public perception; initial crisis responsibility, crisis history, and prior relationship reputation. For example, if an organization has a poor track record of handling stakeholder relationships or has faced similar crises in the past, people may be more inclined to attribute blame, even in less severe situations (Coombs, 2004).

Despite its utility, SCCT has limitations. One common critique is its heavy focus on reputation management, which can sometimes overshadow ethical considerations or stakeholder well-being (Avery et al., 2010). The theory also tends to treat communication as largely one-directional, assuming that organizations broadcast messages while stakeholders simply receive them. In today's digital and interactive communication environment, particularly on social media, stakeholders are not passive. They actively shape the narrative by responding, commenting, and

sharing content, often in real time (Utz et al., 2013). This dynamic, participatory nature of communication is not fully accounted for in the original SCCT framework. Furthermore, SCCT was initially developed in the context of human-to-human communication through traditional media. As artificial intelligence becomes more involved in organizational communication, particularly through tools like chatbots, automated emails, and virtual agents, SCCT faces new challenges (Whims, 2024). AI-generated messages may struggle to convey emotional depth, empathy, or sincerity, qualities that SCCT identifies as crucial in high-responsibility crises. In such cases, the perceived social presence of the communicator becomes a critical variable.

As organizations increasingly rely on AI to handle real-time communication, especially during crises, understanding how these responses are perceived becomes essential. SCCT provides a theoretical foundation to evaluate whether AI-mediated messages can align with the appropriate crisis response strategies (Whims, 2024). For instance, if a crisis falls into the preventable category, stakeholders expect responses that demonstrate high accountability and empathy. If an AI chatbot delivers the message in a way that feels cold or impersonal, it may fail to meet these expectations, damaging trust and credibility.

Perceived social presence, the feeling that there is a real, caring person behind the message is a moderator in the study. Research has shown that AI tools are more effective in crisis communication when they use language that mimics human warmth and emotional understanding (Guzman and Lewis, 2020). SCCT, combined with insights from computer-mediated communication, helps assess whether AI responses fulfill not just informational needs, but emotional and relational ones too. SCCT remains a foundational theory for crisis communication because it offers practical, research-based strategies tailored to different crisis situations (Coombs,

2022). In this study, it is particularly valuable for analysing how organizations can use AI tools in ways that are consistent with stakeholders' expectations for responsibility and care.

2.3.2 Computer-Mediated Communication (CMC)

Computer-mediated communication (CMC), encompasses all forms of human interaction through digital platforms, ranging from email and instant messaging to social media, video calls, and AI-powered chatbots (Metz, 1994). Since its emergence in the 1970s, CMC has transformed the way people communicate, collaborate, and form relationships across physical and cultural boundaries. Early research in CMC focused on the limited nature of digital exchanges. Scholars noted that messages transmitted over CMC channels often lack cues such as facial expressions, tone of voice, and body language, reducing the sense of social connection (Short et al., 1976; Daft and Lengel, 1984). In response, the social information processing (SIP) theory emerged, arguing that users adapt over time by generating alternative cues, such as emoticons or carefully crafted language, to convey emotion and build relationships (Walther, 1992). Walther's hyper-personal communication model (1996) took this idea further by demonstrating that CMC can sometimes produce deeper intimacy than face-to-face interaction. This happens because users can carefully construct messages, manage impressions, and idealize their communication partners, a phenomenon that reveals both strength and nuance in digital interactions (Sumner and Ramirez, 2017). CMC removes geographic barriers, allowing individuals and organizations to connect instantly (Barnes and Geller, 1994). It also enables thoughtful and controlled messaging, reducing impulsive or emotionally driven errors. Anonymity or semi-anonymity, where appropriate, can help some users feel comfortable sharing experiences or opinions they might withhold in person.

However, CMC has its downsides, misinterpretation is common without vocal or visual cues, tone can be mistaken, and intentions misread (Kruger et al., 2005). Emotional detachment is also a risk: users may feel isolated or disengaged when interactions feel impersonal or delayed. In group environments, responses might skew toward the disengaged due to a lack of accountability or visual presence (Sutskova et al., 2023).

These qualities make CMC deeply relevant to the variables in this study; AI, crisis communication, and perceived social presence. In contexts where AI automates messages, such as chatbots addressing stakeholders during a crisis, CMC frameworks help us understand both benefits and risks. On one hand, AI can leverage digital advantage to respond quickly, consistently, and at scale (Aakula et al., 2024). On the other hand, if messages feel programmed or cold, stakeholders may not feel understood or valued, weakening trust. This is where perceived social presence becomes critical. CMC research shows that while digital media may initially feel impersonal, they can still foster emotional engagement when users perceive warmth, personality, and responsiveness in messages (Mason and Carr, 2022). For instance, typing indicators, empathetic phrasing, and adaptive response timing all enhance perceived presence, even in AI interactions.

In crisis communication specifically, these nuances are vital. Organizations need to provide accurate, timely updates while preserving credibility. Yet without the human touch, without social presence, automated messages risk feeling hollow or robotic. If a chatbot can express empathy and sincerity convincingly, stakeholder responses are likely to be more positive (Pompe, 2023). But if AI messages lack these cues, they may fall flat at critical moments. By integrating CMC theory into this research, the study recognizes that the medium shapes the message as much as the content does. This complements SCCT, which focuses on matching response strategies to crisis types.

CMC adds depth, reminding us that how a message is delivered, through a human voice, AI voice, or chatbot, affects how it is received. Perceived social presence then emerges as the bridge, helping AI-driven crisis communication align with both SCCT principles and stakeholder expectations. Computer-mediated communication theory helps explain why and how AI-based crisis messages succeed or fail (Asif and Gouqing, 2024). It highlights the fine line between efficiency and empathy, between digital advantage and emotional authenticity. As AI continues to play a larger role in crisis communication, CMC provides the theoretical tools we need to understand, refine, and apply these technologies responsibly.

2.4 Empirical Review

2.4.1 Impact of AI Usage on Crisis Communication

In crisis situations, rapid and clear communication can be the difference between calm restoration and escalating panic. While traditional crisis communication relies heavily on human spokespeople, recent studies suggest that AI, particularly advanced chat bots, can meaningfully enhance both the speed and quality of response (Dwivedi et al., 2023; Stieglitz et al., 2022). One of the most notable contributions in this area comes from Xiao and Yu (2025), who conducted vignette experiments and follow-up interviews to assess Chat GPT's performance in simulated crisis scenarios. Their results show that when AI chat bots are perceived as competent, either in delivering instructive guidance or adjusting to emotional context, they outperform human actors in stakeholder satisfaction and in reducing attributions of organizational responsibility. Specifically, high-competence AI responses were found to increase satisfaction and perceived credibility across crisis types, demonstrating AI's ability to operationalize components of SCCT with notable effectiveness.

Moreover, AI-driven tools offer proactive advantages. Predictive analytics, powered by deep learning models such as LSTM and CNN, can detect early signals of emergencies, whether based on social media patterns, emergency call data, or other sources, thus enabling organizations to act before situations fully unfold (Aboualola et al., 2023; Farrokhi et al., 2020). Chat bots, on the other hand, are capable of delivering immediate responses to public queries, improving public perception, limiting the spread of misinformation, and maintaining control of narrative in real time (Cheng and Jiang, 2022; Wong, 2021). Translation is another area where AI significantly enhances crisis communication. Automated, AI-driven translation tools ensure that vital instructions reach diverse linguistic groups, an essential feature during emergencies like natural disasters or public health crises (Dempere, 2023). AI's capacity to simultaneously translate and disseminate information to multilingual audiences helps organizations meet both ethical and practical demands during crises (Chen et al., 2024).

Nonetheless, empirical research has also highlighted challenges. Xiao and Yu (2025) found that while AI is often viewed as efficient and competent, it may sometimes be perceived as emotionally distant, a condition that can reduce message warmth and credibility in some contexts. In response, ethical scholars like Srinivasan (2024) argue that transparency and algorithmic fairness are just as crucial as technical skill; AI systems perceived as biased or opaque risk undermining trust and authenticity. These ethical dimensions suggest that the effectiveness of AI in crisis communication depends not only on the accuracy of its messaging but also on its perceived moral integrity.

Taken together, this body of evidence supports the idea that AI usage can significantly enhance crisis communication, especially when messages are delivered accurately, promptly, and guided by ethical transparency. When aligned with SCCT's principles, especially during the instructing

and adjusting phases, AI offers speed and consistency without sacrificing stakeholder satisfaction. In many scenarios, this leads to increased credibility and reduced reputational harm, making it a viable and impactful crisis response tool. These findings lead to the establishment of hypothesis 1.

H1: AI usage has a significant positive effect on crisis communication effectiveness.

Both empirical evidence and theoretical models, including SCCT and computer-mediated communication, suggest that AI improves key outcomes such as stakeholder satisfaction, message credibility, and timely delivery (Ehlers 2021; Xu et al., 2025). Provided that the AI system is well-designed, competent, transparent, and perceived as ethically sound, its integration into crisis communication is not only practical but also academically justified within the literature.

2.4.2 Influence of Perceived Social Presence on Effectiveness of Crisis Communication

Research increasingly shows that the sense of human connection, or perceived social presence, plays a crucial role in how people receive and respond to crisis messages (Park et al., 2014; Huang et al., 2023). When communication feels personal, empathetic, and emotionally attuned, audiences are more likely to trust, accept, and respond positively to the information conveyed (Singh et al., 2024). Recent empirical studies support this connection. For example, a cross-sectional survey conducted during the COVID-19 pandemic among 505 Chinese social media users found that higher levels of social presence significantly predicted users' risk perception, consistency in opinion climate perception, and most importantly, their intention to share crisis information (Guo et al., 2023). This suggests that when people feel more socially present through digital platforms,

they become more engaged with crisis information, a response mechanism critical to effective crisis communication.

In corporate crisis contexts, the tone and style of discourse also matter. A study of 770 corporate crisis announcements and nearly a million Weibo user comments found that strategies framed in a humanized tone, one that conveyed warmth and relational closeness, generated significantly more positive public sentiment and supportive behaviours than cold, impersonal language (Zhang et al., 2023). These findings reinforce the idea that social presence fuels trust and favourable audience behaviour even during tense situations.

Other investigations into social media crisis communication echo similar themes. Scholars highlight that fast, transparent, and empathetic messaging, hallmarks of high social presence, enhances public trust and reputation recovery (Trigunadi, 2025). A study focusing on millennials and Gen Z users also found that credible, relational communication on social media during crises positively influenced trust, perceived credibility, and overall effectiveness (Golway, 2017). Theoretical models in crisis communication further support these empirical insights. SCCT emphasizes aligning response strategies, such as instructing and adjusting information, with stakeholder expectations for empathy and accountability (Coombs, 2007). Yet SCCT traditionally assumes human delivery, the introduction of perceived social presence helps fill the gap by explaining how digital or AI-mediated communication can still meet these emotional and relational expectations.

Similarly, CM frameworks stress that media richness and social presence shape how messages are interpreted. Richer cues, whether through tone, personalization, or responsive engagement, enhance perceived warmth and trust, even in mediated settings. Together, the theoretical and

empirical evidence suggests a clear pathway, greater perceived social presence enhances key crisis communication outcomes (such as trust, satisfaction, credibility, and message acceptance). When stakeholders feel that messages are delivered by a caring, responsive, real communicator, they are more likely to perceive the organization as trustworthy and capable, even during high-stakes crises.

Thus, the literature supports the formulation of the second hypothesis,

H2: Perceived social presence has a significant positive effect on crisis communication effectiveness.

This hypothesis builds on empirical findings demonstrating that emotional tone, relational cues, and perceived personality in messaging drive engagement and trust, as well as on theoretical arguments from SCCT and CMC that emphasize the psychological and interpersonal dimensions of crisis response.

2.4.3 The Moderating Role of Perceived Social Presence in AI-Mediated Crisis Communication

Recent research shows that although AI can enhance crisis responses with speed and consistency, its true effectiveness depends heavily on how human or emotionally authentic it feels to stakeholders (Chen et al., 2024). Perceived social presence, our feeling that a real, caring person is communicating, has emerged as a crucial factor that shapes whether AI-driven messaging resonates positively or comes across as cold and distant (Phan et al., 2025). Studies in AI-mediated communication confirm this interplay. For instance, a systematic exploration that compared human spokespeople with virtual influencers found that when digital communicators appeared more

human-like, both visually and psychologically, audiences showed greater acceptance of crisis messaging and even retained more favourable views of a brand after a crisis (Olbermann and Nagl, 2025). This evidence suggests that AI systems, when imbued with warmth and relatability, can exert similar effects to human messengers in maintaining trust at critical moments.

In related educational contexts, research demonstrates that students who perceive higher social presence in AI teaching assistants not only develop more positive expectations toward these tools but also report stronger intentions to rely on them (Kim et al., 2022). These findings parallel crisis communication scenarios, if stakeholders sense a human connection in AI messaging, rather than merely a machine-like delivery, they are more likely to view instructions as credible, comforting, and trustworthy. The literature also underscores how perceived social presence functions as a moderator in technology-mediated interactions. In experiments involving chatbots in customer service or information-seeking scenarios, perceived social presence boosted satisfaction and credibility, even when AI responses were functionally identical to those delivered by basic automation (Chandra et al., 2022). This pattern implies that it is not only what AI says during a crisis, but also how it says it that makes the difference, shaping whether efficiency translates into satisfaction or alienation.

Theoretically, this moderating role aligns with CMC and social presence frameworks, which argue that relational nuance, such as personal tone, empathetic phrasing, or responsive timing, can bridge the gap between digital intermediaries and human expectations (Short et al., 1976; Baruah, 2024). Combined with SCCT, which emphasizes matching crisis responses to stakeholder expectations, we can see how AI can supply the cognitive and operational elements effectively, providing instructive or adjusting information, but whether these messages resonate depends on emotional

authenticity delivered through perceived presence. Combining rapid AI-generated notifications with empathetic, personalized language achieved better engagement and public reassurance than those relying on cold, templated messages (Patil, 2024). Similarly, an SSRN review on AI-enabled crisis tools emphasized that without human-centered design and clear relational cues, automated systems risk losing impact, regardless of technical performance (Nwabueze and Abiodun, 2025).

These findings support a critical insight, the positive impact of AI on crisis communication is significantly conditioned by how socially present that AI feels. Perceived social presence strengthens or weakens AI's effectiveness in building trust, credibility, and stakeholder satisfaction during crises.

The study therefore hypothesizes that;

H3: Perceived social presence moderates the relationship between AI usage and crisis communication effectiveness.

By aligning empirical studies with SCCT and CMC theory, the study suggests both theoretical and practical support, AI can execute core crisis response functions efficiently, but only when stakeholders feel engaged, respected, and emotionally supported does it truly enhance communication outcomes.

2.5 Conceptual Framework

A conceptual framework shows how the main variables in a study are expected to relate to each other. It helps to guide the research by providing a clear picture of what is being studied and how

the variables are connected (Bass et al., 2001). The framework suggests that the use of AI can improve crisis communication by making it faster, more accurate, and responsive. It also considers perceived social presence as an important factor that influences how people respond to AI-generated messages. When people feel a strong sense of human-like presence in the communication, they are more likely to trust and accept the message. Therefore, perceived social presence is included as a moderating variable that can strengthen the effect of AI on crisis communication.

Figure 1: Conceptual Framework

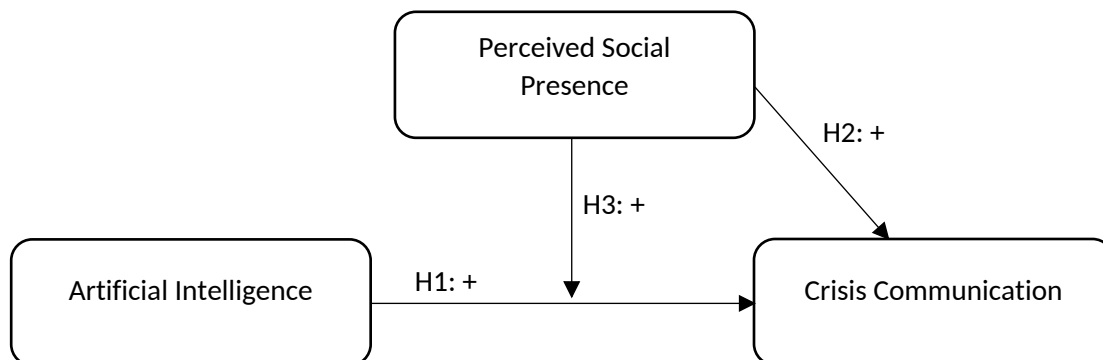


Figure 1: Conceptual Framework (Authors' own construct, 2025)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methods and procedures adopted to achieve the objectives of the study. It explains the research philosophy, approach, design, population, sampling techniques, data collection methods, and the analytical tools used. These methodological choices are aligned with the study's aim to examine how AI influences crisis communication in the PR sector in Ghana, as well as to explore the moderating role of perceived social presence.

3.2 Research Philosophy

This study is grounded in a positivist research philosophy, which is appropriate for research that seeks to measure and test relationships between variables using empirical evidence. Positivism is based on the belief that reality exists independently of human perceptions and can be observed and measured objectively (Ali, 2024). This perspective fits well with the purpose of the study, which is to examine how AI usage influences crisis communication and how perceived social presence moderates this relationship. These concepts can be clearly defined, quantified, and analysed, making a positivist approach the most suitable choice. Under positivism, knowledge is derived from observable facts and patterns rather than subjective interpretations. The philosophy emphasizes the use of quantitative methods to collect numerical data and apply statistical techniques to test hypotheses (Park et al., 2020). This aligns with the current study, where hypotheses about the relationships between AI usage, perceived social presence, and crisis

communication outcomes will be tested using data collected from public relations professionals. The goal is to explain and predict outcomes based on measurable variables, which is a core principle of positivism. Positivism also supports the idea that findings from a representative sample can be generalized to a wider population. This is relevant to the present research because the results are expected to provide insights not only into the Ghanaian context but also into similar organizational settings. Moreover, the approach follows a deductive reasoning process, starting from established theories such as SCCT and using empirical data to confirm or challenge these theoretical assumptions (Saunders et al., 2016).

3.3 Research Approach

This study adopts a deductive research approach, which is widely used in quantitative research where hypotheses are formulated from existing theories and then tested with empirical data. Deduction follows a top-down logic, starting from broad theoretical frameworks and moving towards specific observations. This makes it especially suitable for studies that aim to explain relationships between variables and test whether theoretical predictions hold true in a particular context (Haque, 2022). The choice of a deductive approach is appropriate because this research is grounded in well-established theories, SCCT and literature on CMC. These theories provide the foundation for identifying the variables of interest and predicting how they interact. Based on these theoretical insights, the study develops three hypotheses. The first hypothesis suggests that AI usage positively influences the effectiveness of crisis communication. The second proposes that perceived social presence enhances communication outcomes. The third considers that perceived

social presence may also act as a moderator, shaping how AI impacts crisis communication effectiveness.

Using a deductive approach allows the study to test these predictions systematically by collecting data, analysing it statistically, and determining whether the results support or challenge the theoretical assumptions. This method is particularly valuable in contributing to theory, as it either confirms what is already known or provides new evidence that refines existing frameworks (Saunders et al., 2016). Moreover, deduction ensures a clear and logical research process, beginning with theory, followed by hypothesis development, data collection, and statistical testing. This structured approach enhances the reliability and validity of the findings because it minimizes researcher bias and focuses on measurable evidence. It also strengthens the study's ability to generalize results beyond the sample, making the conclusions more robust. The deductive approach fits this study because it links theory with practice, allowing the researcher to test how AI usage and perceived social presence influence crisis communication in a real-world setting. By applying this approach, the research not only builds on established knowledge but also has the potential to expand it with new empirical insights.

3.4 Research Design

This study employs a quantitative cross-sectional survey design to investigate how AI usage influences crisis communication and the role of perceived social presence in this relationship. A cross-sectional survey involves collecting data from participants at a single point in time, making it a practical and efficient choice for studies that aim to capture current practices, perceptions, and attitudes within a defined population (Maier et al., 2023). This design is particularly suitable here

because the research seeks to understand how public relations professionals in Ghana are currently integrating AI tools into crisis communication and how they perceive the social presence in these interactions. The choice of a quantitative approach ensures that the data collected is numerical and can be subjected to statistical analysis. This method allows the researcher to objectively measure the variables of interest, AI usage, perceived social presence, and crisis communication effectiveness, and to test the relationships between them. By relying on structured questionnaires and standardized measurement scales, the study minimizes subjective interpretation and enhances the reliability of the findings. Additionally, quantitative analysis supports hypothesis testing, enabling the researcher to confirm or refute the predictions derived from theory with statistical evidence (Barroga & Matanguihan, 2022).

The cross-sectional nature of the design is also advantageous for several reasons (Hunziker & Blankenagel, 2024). First, it allows the researcher to gather information from a relatively large group of public relations professionals within a limited timeframe, making it both cost-effective and manageable. Second, it provides an overview of the current state of AI adoption in crisis communication in Ghana, offering insights into how organizations are responding to technological advancements at this point in time. Although this design does not establish causality as strongly as longitudinal studies, it is well-suited for identifying significant associations between variables and generating evidence that can inform future research and practice.

Furthermore, the survey design aligns with the positivist philosophy and deductive approach adopted in this study. It supports the use of statistical techniques to analyse data objectively, ensuring that conclusions are based on measurable patterns rather than subjective judgments. The use of structured questionnaires also makes it easier to compare responses across participants and

to generalize findings to the broader population of PR professionals, provided that the sample is representative.

3.5 Data Collection Method

The study collects primary data using a structured questionnaire, which is one of the most reliable tools for gathering quantitative information in social science research. A structured questionnaire ensures that all respondents answer the same set of questions in a consistent format, making it ideal for testing hypotheses and analysing relationships between well-defined constructs. To ensure the accuracy of the data, the questionnaire is adapted from previously validated scales that have been used in related studies. Using established scales improves both reliability, meaning the measures produce consistent results, and validity, meaning they accurately capture the variables under investigation (Kusmaryono et al., 2022).

The questionnaire is organized into sections that align with the main variables of the study. The responses are collected on a seven point likert scale, ranging from ‘strongly disagree’ to ‘strongly agree.’ This scale is commonly used in quantitative research because it allows respondents to express how strongly they agree or disagree with statements, providing nuanced data about their perceptions and attitudes (Okunbanjo et al., 2024). The Likert scale also makes it easier to code and analyse responses statistically, which supports accurate hypothesis testing. The questionnaire is distributed to reach a broad and diverse sample of public relations professionals across Ghana. Ethical considerations guide the entire data collection process. Participants are fully informed about the purpose of the study, how their responses will be used, and their rights as respondents. Participation is voluntary, and respondents have the freedom to withdraw at any point without

facing any negative consequences (Rana et al., 2023). To maintain confidentiality, no identifying information is collected, and responses are analysed only in aggregate form. Before completing the survey, participants provide informed consent, confirming that they understand the nature of the study and agree to take part. The data collection process is designed to be accurate, ethical, and efficient. By using a structured questionnaire adapted from credible scales and safeguarding participants' privacy, the study ensures that the collected data is both reliable and suitable for answering the research questions and testing the proposed hypotheses.

3.6 Data Analysis Techniques

The analysis of data in this study is carried out using SPSS, which is widely recognized for its ability to handle quantitative data and perform advanced statistical tests. The analysis process begins with descriptive statistics, which provide an overview of the dataset. This step summarizes respondents' demographic characteristics, such as age, gender, organizational affiliation, and years of experience, as well as general trends in the variables under investigation. Descriptive analysis allows the researcher to understand the data at a glance, identify patterns, and detect any potential anomalies that may need to be addressed before further analysis (Kemp et al., 2018). Once the dataset is cleaned and prepared, the study tests the reliability of the measurement scales used in the questionnaire. Reliability refers to the degree to which a scale consistently measures what it is intended to measure (Kennedy, 2022). To assess this, Cronbach's alpha is calculated for each construct. A value of 0.7 or higher is typically considered acceptable, indicating good internal consistency (Malapane et al., 2024). This step is crucial because it ensures that the data collected through the questionnaire is dependable and suitable for testing the hypotheses. After confirming

reliability, the study proceeds to hypothesis testing using regression analysis. Regression is chosen because it is a robust statistical technique for examining the relationships between independent and dependent variables. In this case, the analysis tests whether AI usage directly influences crisis communication outcomes, and whether perceived social presence also has a direct effect on these outcomes. Regression results reveal not only the existence of relationships but also their strength and statistical significance (Arkes, 2023). This is essential for addressing the first two hypotheses of the study.

To test the moderating effect of perceived social presence on the relationship between AI usage and crisis communication, the study applies Hayes' PROCESS macro (Model 1). This tool is particularly useful for testing interaction effects, where one variable (in this case, perceived social presence) may strengthen or weaken the relationship between an independent variable (AI usage) and a dependent variable (crisis communication outcomes) (Clement et al., 2022). The PROCESS macro not only calculates the interaction term but also provides detailed output, including conditional effects at different levels of the moderator. This allows for a deeper understanding of how social presence shapes the effectiveness of AI-mediated crisis communication.

By following this rigorous multi-step approach, the data analysis produces findings that are statistically sound and aligned with the research objectives. The combination of descriptive statistics, reliability testing, regression analysis, and moderation testing through Hayes' PROCESS macro ensures a comprehensive examination of the relationships among the study variables. This structured process allows the study to provide strong empirical evidence to either support or reject the proposed hypotheses, while also contributing meaningful insights to the understanding of AI usage, social presence, and crisis communication effectiveness.

CHAPTER FOUR

PRESENTATION OF FINDINGS, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents and discusses the findings from the data collected for the study. The analysis focuses on examining how the use of AI influences the effectiveness of crisis communication within Ghana's PR industry and how perceived social presence moderates this relationship. The chapter starts with a description of the demographic characteristics of respondents. It then presents the results of the reliability test to assess the consistency of the measurement scales used in the questionnaire. Descriptive and correlation analyses are also provided. Finally, the study hypotheses are tested using regression analysis and Hayes' PROCESS macro to determine the direct and moderating effects among AI usage, perceived social presence, and crisis communication effectiveness. The findings are then discussed in relation to existing literature and the study objectives.

4.2 Demographic Characteristics of Respondents

The demographic characteristics of the respondents provide insights into the diversity of the sample used in this study. A total of 102 questionnaires were distributed, and after data cleaning to remove incomplete and inconsistent responses, 79 were deemed valid and suitable for analysis. This represents a valid response rate of approximately 77.5%, which is considered adequate for quantitative research (Greenfield and Greener, 2016). The demographic variables examined in this study include gender, age, industry sector, current position, and years of work experience in PR/communication practice.

The sample included 37 male respondents, representing 46.8% of the total participants, and 42 female respondents, representing 53.2%. This fairly balanced distribution indicates that both male and female perspectives on AI usage in crisis communication are well captured, ensuring gender inclusivity in the study.

The age distribution shows that the majority of respondents were in the 30–39-year age group (43.0%), followed by those aged 20–29 years (31.6%). Respondents aged 40–49 years constituted 16.5% of the sample, while those 50 years and above made up 7.6%. Only a very small portion of the respondents, 1.3%, were below 20 years. The concentration of respondents in the 20–39 age range suggests that the study primarily captured the views of mid-career professionals, who are likely to have significant experience with both traditional and AI-mediated crisis communication.

Regarding industry affiliation, 49.4% of the respondents were employed in PR/communication consultancies. Respondents from corporate/private companies represented 29.1% of the sample, while government/public agencies, media/journalism, and non-profit/NGO sectors accounted for 11.4%, 6.3%, and 3.8%, respectively. Data for this study were obtained from practitioners working in Echohouse Ghana, KAC Media, Media Majique and Research Systems, MTN Ghana, Telecel Ghana, Hubtel, GT Bank, Ghana Highways Authority, Focus FM, and SOS Children's Villages Ghana, reflecting the diverse representation of PR consultancies, corporate institutions, media houses, government agencies, and NGOs. This diversity highlights the study's ability to capture perspectives from a variety of organizational contexts.

The distribution of respondents' positions within their organizations shows that 30.4% were executives, 26.6% were managers, 30.4% were officers/staff, and 12.7% were owners/managers. This indicates that the sample included a balanced mix of strategic decision-makers and

operational staff, providing a comprehensive view of how AI is being utilized across different organizational levels.

In terms of work experience in PR/communication, respondents with 4–6 years of experience represented the largest group (29.1%), followed by those with 7–10 years (26.6%) and more than 10 years (25.3%). Respondents with 1–3 years of experience made up 16.5%, while those with less than one year of experience accounted for 2.5%. This distribution suggests that the majority of respondents have moderate to extensive professional experience, making them well-positioned to provide informed opinions on AI adoption and crisis communication practices.

The demographic characteristics as shown in table 4.1 reflects that the respondents were relatively experienced, mid-career PR professionals working across diverse sectors in Ghana, with a fairly balanced representation in terms of gender and organizational roles. This supports the generalizability of the study findings within the context of the Ghanaian PR industry.

Table 1 Table 4.1: Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	37	46.8
	Female	42	53.2
Total		79	100.0
Age Category	Less than 20	1	1.3
	20–29	25	31.6
	30–39	34	43.0
	40–49	13	16.5
	50+	6	7.6
Total		79	100.0
Industry Sector	Corporate/Private		
	Company	23	29.1
	Government/Public	9	11.4

		Agency	
		Non-profit/NGO	3
		PR/Communication	39
		Consultancy	5
		Media/Journalism	5
Total			79
Current Position		Owner/Manager	10
		Executive	24
		Manager	21
		Officer/Staff	24
Total			79
Years of Work Experience		Less than 1 year	2
		1–3 years	13
		4–6 years	23
		7–10 years	21
		More than 10 years	20
Total			79

Source: Field data (2025)

4.3 Reliability Analysis

A reliability analysis was carried out to check how consistently the items in the questionnaire measured each of the main variables of the study. Reliability shows whether the different questions used to measure a concept produce similar results. The test was done using cronbach's alpha (CA), which is used to check for internal consistency. According to Nunnally (1978), an alpha value of 0.70 or higher is considered acceptable, while values above 0.80 indicate a good level of reliability.

As shown in Table 4.2, all the constructs used in this study recorded CA values above the recommended minimum level. The reliability analysis for the AI Usage scale, which comprised six items, yielded a CA of 0.828, indicating a high level of internal consistency, suggesting that all items contributed meaningfully to the overall scale. It demonstrates that the items consistently measured respondents' perceptions of how AI tools enhance efficiency and effectiveness in crisis communication. The scale measuring crisis communication effectiveness consisted of five items and achieved a CA of 0.855, reflecting strong reliability and confirming the consistency of the respondents' evaluations of organizational communication performance during crises.

Perceived social presence scale, with six items, recorded a CA of 0.805, which is above the recommended threshold. This reliability outcome indicates that the items effectively measured the degree to which respondents perceived AI-mediated communication as human-like and socially engaging.

Table 2 **Table 4. 2: Reliability Analysis**

Variable	Number of Items	Cronbach's Alpha
AI Usage	6	0.828
Crisis Communication Effectiveness	5	0.855
Perceived Social Presence	6	0.805

Source: Field data (2025)

4.4 Descriptive and Correlation Statistics

Descriptive statistics provide an overview of the central tendency and variability of the study variables, offering insights into respondents' perceptions of AI usage, crisis communication

effectiveness, and perceived social presence. Table 4.3 presents the mean, minimum, maximum, and standard deviation for each variable.

The average AI Score, which measures the extent to which respondents utilize AI in crisis communication, had a mean of 2.31, with scores ranging from 1.33 to 3.67 and a standard deviation of 0.65. This indicates that, on average, respondents moderately agree that AI tools enhance their efficiency and effectiveness during crises. The average for crisis communication recorded a mean of 2.25, with a minimum of 1.00 and a maximum of 3.80. The standard deviation of 0.70 suggests a moderate level of variation in respondents' perceptions, reflecting some differences in how effectively organizations communicate during crises. Average for social presence was a mean of 2.29, with scores ranging from 1.00 to 3.83 and a standard deviation of 0.64. This finding indicates that respondents generally perceive AI interactions as somewhat socially present, though there is some variability in individual experiences.

Correlation analysis was conducted to examine the relationships among AI usage, crisis communication effectiveness, and perceived social presence. The results as shown in table 4.3b indicate that AI usage is positively and significantly correlated with crisis communication effectiveness ($r = 0.306$, $p = 0.006$), suggesting that greater use of AI tools is associated with higher perceived effectiveness in managing crisis communication.

Additionally, AI usage is positively correlated with perceived social presence ($r = 0.424$, $p < 0.001$), indicating that as AI tools are employed more frequently, users tend to perceive interactions as more human-like and engaging. Similarly, crisis communication effectiveness and perceived social presence are positively correlated ($r = 0.335$, $p = 0.003$), highlighting that higher perceptions of social presence are associated with better crisis communication outcomes. The descriptive and

correlation statistics provide preliminary support for the hypothesized relationships in this study. They suggest that AI usage and perceived social presence are positively linked to crisis communication effectiveness.

Table 3Table 4.3: Descriptive and Correlation Statistics of Study Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Average AI Score	79	1.33	3.67	2.31	0.65
Average Crisis Communication Score	79	1.00	3.80	2.25	0.70
Average Social Presence Score	79	1.00	3.83	2.29	0.64

Source: Field data (2025)

Table 4Table 4.3 (b): Pearson Correlations of Study Variables

Variable	AI Usage	Crisis Communication	Social Presence
AI Usage	1	0.306**	0.424***
Crisis Communication	0.306**	1	0.335**
Social Presence	0.424***	0.335**	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests)

4.5 Hypothesis Testing

The study tested three hypotheses regarding the relationships between AI usage, perceived social presence, and crisis communication effectiveness. Regression analysis and Hayes' PROCESS macro were employed to assess both direct and moderating effects. The results are presented below.

4.5.1 Relationship between AI Usage and Crisis Communication Effectiveness

Simple linear regression was used to test whether AI usage predicts crisis communication effectiveness. The ANOVA results show that this model is statistically significant ($p = 0.006$), indicating that AI usage reliably predicts crisis communication outcomes. The regression coefficients reveal a significant positive relationship between AI usage and crisis communication effectiveness ($B = 0.331$, $t = 2.819$, $p = 0.006$). This result as shown in table 4.4a supports hypothesis 1, suggesting that greater utilization of AI tools is associated with higher perceived effectiveness in managing crises.

Table 5Table 4.4a: Regression Coefficients of AI Usage and Crisis Communication Effectiveness

Predictor	B	Std. Error	Beta	t	Sig.
(Constant)	1.491	0.281	-	5.308	<.001
AI Usage	0.331	0.117	0.306	2.819	0.006

4.5.2 Influence of Perceived Social Presence on Crisis Communication Effectiveness

A separate regression analysis was conducted to examine the effect of perceived social presence on crisis communication effectiveness. The coefficient for perceived social presence is positive and significant ($B = 0.370$, $t = 3.118$, $p = 0.003$), confirming that higher perceptions of social

presence are associated with greater crisis communication effectiveness. This finding as shown in table 4.4b supports hypothesis 2.

Table 4.4b: Regression Coefficients for Perceived Social Presence and Crisis Communication Effectiveness

Predictor	B	Std. Error	Beta	t	Sig.
(Constant)	1.408	0.281	-	5.005	<.001
Perceived Social Presence	0.370	0.119	0.335	3.118	0.003

4.5.3 Moderating Role of Perceived Social Presence on the AI -Crisis Communication Relationship

To assess whether perceived social presence moderates the relationship between AI usage and crisis communication effectiveness, Hayes' PROCESS macro (Model 1) was employed. The analysis examined the interaction effect of AI usage (X) and social presence (W) on crisis communication effectiveness (Y) among the 79 respondents. The model produced an overall significant effect. The interaction term between AI usage and perceived social presence was marginally significant, suggesting that the impact of AI on crisis communication effectiveness depends on the level of perceived social presence. Conditional effects analysis revealed that at low levels of social presence, AI usage had no significant effect on crisis communication effectiveness. At medium levels of social presence, the effect of AI was positive and approached significance, whereas at high levels of social presence, AI usage significantly improved crisis communication effectiveness. These results indicate that AI alone may not be sufficient to enhance crisis communication outcomes, instead, its effectiveness is strengthened when AI interactions convey a high degree of social presence. In other words, stakeholders are more likely to perceive AI-

mediated communication as effective when the AI system is seen as responsive, human-like, and socially engaging. The results of this moderation analysis are summarized in Table 4.4c, which presents the conditional effects of AI usage on crisis communication at different levels of perceived social presence.

Table 4.4c: Moderation Analysis for Interaction of AI Usage and Social Presence on Crisis Communication

Perceived Social Presence	B	SE	t	p	95% CI Lower	95% CI Upper
1.50 (Low)	-0.071	0.196	-0.360	0.720	-0.461	0.320
2.33 (Medium)	0.232	0.125	1.861	0.067	-0.016	0.481
2.83 (High)	0.414	0.163	2.547	0.013	0.090	0.738

B= unstandardized coefficient for the effect of AI usage on crisis communication effectiveness at specified levels of social presence, CI = 95% confidence interval.

4.6 Discussion of Findings

4.6.1 Relationship between AI Use in Crisis Communication and Crisis Communication Effectiveness

The findings of this study indicate a positive and statistically significant relationship between the use of AI in crisis communication and the effectiveness of crisis communication among public relations professionals in Ghana. Specifically, the analysis revealed a moderate positive correlation between AI usage and crisis communication effectiveness, suggesting that respondents who reported higher levels of AI adoption also perceived their crisis communication efforts as more effective.

The results of this study align with existing empirical evidence on the role of AI in crisis communication. Loof (2023) found that AI-driven communication platforms enhance the speed and accuracy of crisis messaging, enabling organizations to provide timely updates and reduce information gaps. Xiao and Yu (2025), who explore how AI-mediated crisis communication, particularly through systems like chatgpt, can improve stakeholder satisfaction by handling inquiries quickly and accurately. They found that perceptions of AI competence strongly influence how stakeholders evaluate the communication. Their work suggests that AI is especially effective when it succeeds at delivering timely and relevant responses, which matches how your data show AI usage helping effectiveness. These studies support the present findings, demonstrating that AI not only streamlines communication processes but also enhances the effectiveness and perceived quality of organizational messages during crises.

The findings highlight the importance of integrating AI tools into organizational crisis communication strategies. By automating routine tasks and providing real-time analysis and responses, AI allows communication professionals to focus on strategic decision-making, empathic engagement, and reputation management. Such integration ensures that messages are clear, timely, and responsive to stakeholder needs, which is critical for maintaining trust and credibility under pressure. At the same time, careful oversight is essential to ensure that AI-generated content is accurate, contextually appropriate, and consistent with organizational values, preventing potential miscommunication or ethical challenges.

These findings can also be interpreted through the lens of SCCT and CMC theory. SCCT emphasizes that the success of crisis communication depends on aligning organizational responses with the type of crisis and stakeholder expectations. AI tools facilitate this alignment by enabling

rapid data processing, automated message dissemination, and tailored communication strategies, thereby helping organizations respond promptly and appropriately to stakeholder concerns. Also, CMC theory suggests that communication mediated through digital platforms, including AI-powered tools, can influence the effectiveness of message transmission by affecting clarity, responsiveness, and perceived social presence. AI technologies enhance CMC by allowing interactive, timely, and consistent communication, which can reduce misunderstandings and strengthen stakeholder engagement during crises.

4.6.2 Influence of Perceived Social Presence on Crisis Communication Effectiveness

The analysis revealed that perceived social presence has a positive and statistically significant influence on crisis communication effectiveness among public relations professionals in Ghana. Correlation analysis indicated a moderate positive association between perceived social presence and crisis communication effectiveness. These findings suggest that communication professionals who perceive a higher sense of human warmth, responsiveness, and interpersonal connection when using communication tools during crises tend to report better communication outcomes.

Chen et al. (2022) found that higher perceived social presence substantially raised people's willingness to communicate and lowered communication anxiety when interacting with virtual physicians during mobile medical consultations. Zhang et al. (2025) reported that perceived warmth, competence, and emotional support via chatbots, which contribute to social presence, strongly affect users' satisfaction and dependency on those chatbots. These studies suggest that social presence improves how people receive messages mediated by technology, especially in emotionally sensitive or uncertain situations.

These results highlight the importance of designing crisis communication systems and AI tools that emphasize social presence. By integrating features that convey empathy, responsiveness, and human-like interaction, organizations can ensure that stakeholders feel heard, informed, and supported during critical situations. Such an approach not only enhances message clarity and understanding but also strengthens organizational credibility and stakeholder trust, which are central objectives of crisis communication.

SCCT emphasizes the importance of stakeholder perceptions and the alignment of communication strategies with stakeholder expectations during a crisis. When communication tools, whether AI-based or human-mediated, evoke a sense of presence and responsiveness, stakeholders are more likely to interpret messages as credible, timely, and trustworthy. CMC theory further supports these findings by explaining how digital interactions can simulate interpersonal presence, even when mediated by technology. In the context of crisis communication, higher social presence allows messages to feel more interactive, personalized, and responsive, which reduces uncertainty, increases comprehension, and fosters positive stakeholder perceptions. When AI-enabled systems or digital platforms convey messages in ways that capture social cues, such as tone, immediacy, and interactivity, stakeholders perceive the communication as more human-centered, which strengthens the overall effectiveness of the response.

4.6.3 Moderating Role of Perceived Social Presence on the AI-Crisis Communication Relationship

The results of the moderation analysis provide an understanding of the role of perceived social presence in the relationship between AI usage and crisis communication effectiveness. The analysis revealed that the interaction between AI and social presence was significant, indicating that social presence has the potential to amplify the effects of AI on crisis communication

outcomes. These findings suggest that the effectiveness of AI in crisis communication is contingent upon the degree to which stakeholders perceive the AI system as socially present, human-like, or engaging. Jin and Youn (2023) found that chatbot interactions that incorporated higher anthropomorphism and human-like features increased perceived social presence, which in turn improved user outcomes such as engagement and intention to continue using the system. The persuasive robots acceptance model (PRAM) introduced by Ghazali et al. (2020) further demonstrates that social cues such as empathy, trustworthiness, and interactivity enhance user acceptance and the persuasive power of technology-mediated agents. Although these studies were conducted in broader AI-human interaction contexts, their findings are highly relevant to crisis communication, which is fundamentally persuasive, stakeholders are expected to understand, trust, and act on messages delivered during critical events. The current study extends this understanding by showing that AI alone is insufficient, it is the perception of social presence that enables AI to effectively support crisis communication efforts. The findings suggest that organizations seeking to deploy AI in crisis communication should prioritize features that enhance social presence. This could include interactive and contextually responsive AI, personalization of messages, and cues that signal empathy or attentiveness.

SCCT emphasizes that effective crisis communication depends on understanding and addressing stakeholder perceptions, particularly in uncertain or high-stakes situations. AI systems that convey warmth, responsiveness, and human-like social cues can meet these expectations, thereby enhancing message credibility and stakeholder engagement. CMC theory similarly highlights the importance of social cues in mediated communication, suggesting that relational and interactive signals can compensate for the impersonal nature of digital interactions.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter gives an overview of the main results of the study, based on the analyses presented in chapter four. It raises the concerns of relationships that are analyzed among the use of AI, perceived social presence, and crisis communication effectiveness among the PR professionals in Ghana. The theoretical and practical implications of the findings are also discussed in the chapter, conclusions made that are based on the objectives of the study, and recommendations given to organizations and practitioners. Lastly, it highlights recommendations of the further research and it determines the limitations that must be taken into consideration in interpreting the findings.

5.2 Summary of Findings

5.2.1 Relationship between AI Use in Crisis Communication and Crisis Communication Effectiveness

The research established a strong and a significant positive relationship between the application of AI in crisis communication and crisis communication effectiveness. The findings revealed that the more AI tools are utilised by organisations (i.e. automated messaging systems, chatbots and data-driven communication platforms), the better organisations can cope with crises. Increased AI utilization was linked to the improved crisis response, enhanced message clarity, and quicker stakeholder engagement.

The results indicate that AI helps to make the actions at the time of crises more coordinated and timely. AIs improve the communication processes and make organisations more effective by

ensuring that real-time monitoring, prompt feedback, and correct information are practised as they enable organisations to respond to situations effectively. This justifies the fact that the need to incorporate AI in crisis communication practices contributes to the enhanced results of organisations going through crisis scenarios.

5.2.2 Effect of Perceived Social Presence on Effectiveness of Crisis Communication.

It was also concluded that perceived social presence has a positive effect on the effectiveness of crisis communication. This implies that the stakeholders would perceive the response of an organisation to a crisis as more successful when they perceive the communication to be warm, human and careful by the organisation. Greater perception of social presence was associated with improved comprehension of message, increased trust, and improved stakeholder involvement in situations of crisis.

Such findings suggest that despite the fact that communication is facilitated by the means of digital tools, individuals still appreciate face-to-face communication that appears personal and receptive. When the organisations express themselves in a manner that communicates empathy, connection and social awareness, the stakeholders tend to regard the communication as credible and useful. Hence, perceived social presence is significant in enhancing the effectiveness of crisis communication activities.

5.2.3 Moderating role of perceived social presence on AI-Crisis Communication Relationship.

The study found that perceived social presence moderates the relationship between AI usage and crisis communication effectiveness. Specifically, AI alone does not always lead to more effective

crisis communication. Its positive effect becomes significant only when the level of perceived social presence is high. In other words, AI tools are most effective when stakeholders perceive them as human-like, responsive, and socially engaging.

This finding highlights that technology-mediated communication, such as AI systems, is not inherently sufficient to ensure effective crisis communication. The human-like qualities conveyed by AI, such as empathy, attentiveness, and interactive cues, amplify the impact of AI on stakeholder perceptions. The results are consistent with the idea that social cues, whether human or AI-generated, enhance the persuasiveness and credibility of communication during crises.

Overall, the moderation effect emphasizes that organisations should not only adopt AI tools but also design these systems to enhance social presence. Features that make AI interactions appear responsive, personable, and empathetic can significantly improve stakeholders' reception and trust in crisis messages.

5.3 Theoretical and Practical Implications

5.3.1 Theoretical Implications

The results of the research have several implications to the theory, especially those related to the area of crisis communication, adoption of AI, and technology-mediated interactions. Using the SCCT and CMC theory, the study reveals that AI tools and perceived social presence can affect the efficiency of an organizational crisis communication.

Based on the SCCT lens, this study demonstrates that AI can help organizations react to a crisis situation in a timely and specific fashion, which will meet the expectations of stakeholders. According to the theory, the most important point in decreasing reputational damage is the credibility and appropriateness of the crisis response. According to the present results, AI improves

these responses because it allows organizations to provide quick, precise, and context-sensitive messages. An example is that a PR professional who has an AI-powered chatbot, responding to the interests of the stakeholders in the case of a service outage, will offer information in a consistent and timely manner, which will make stakeholders feel educated and reassured. This shows that AI tools are applied in a way that make SCCT principles operational in the sense that they allow responding to situations in a strategic, rapid, and situation-specific manner.

The research also expands the CMC theory by emphasizing the role played by the perceived social presence in communicating with AI. Although CMC has conventionally focused on the impacts of digital communication on the result of communication, the findings reveal that AI communications are more functional as they carry the traits of humanity. To illustrate, an AI platform that customizes the response with a human-like wording or intelligent tone may make the stakeholders feel that they are being heard and appreciated, even on the internet. This is in agreement with the CMC theory which states that relational and interactive cues are critical in effective communication within mediated contexts. The findings of the moderation make it clear that the influence of AI depends on these cues, which is why it is possible to state that the social presence needs to be included in the CMC framework.

The integration of the two theories makes the study help to build a more complex picture of the functioning of AI tools during crisis communication. It implies that AI technological capabilities and the relational perceptions of the stakeholders must be taken into consideration in theoretical models of crisis communication. In practice, this makes the SCCT and CMC theory widely applicable to real-life AI-mediated contexts, which validates the effectiveness not only as a factor

of message content and timing but also as a factor of human-like and socially engaging nature of communication.

5.3.2 Practical Implications

This research has a number of practical implications on the communication of crisis through AI and social presence to the PR professionals in Ghana.

To begin with, the fact that AI use has a positive impact on crisis communication effectiveness highlights the relevance of including AI tools into communication strategies of a company. During crisis communication, PR professionals can use AI-powered tools, like chatbots or automated messaging services, to handle routine queries. Automation of repetitive communication will enable practitioners to concentrate on strategic decision-making, tracking the mood of the people, and communication that is empathetic to guarantee responsiveness of the organization response in time.

Second, the high effect of perceived social presence suggests that AI interactions should be humanized to become effective. The AI systems are to include language that shows feelings and responds to the needs of the stakeholders, as well as the recognition of the needs in time. These characteristics can help the stakeholders feel appreciated and listened to with the result of building trust, increasing credibility of the message and better engagement in the critical situations.

Third, the moderating role of social presence highlights that the impact of AI on crisis communication depends on how stakeholders perceive its responsiveness and relational qualities. Organizations should therefore complement AI systems with human oversight to ensure interactions remain contextually accurate and sensitive. For instance, AI can handle high-volume

or routine interactions while human professionals address complex or sensitive issues, maintaining a high level of social presence and credibility.

Lastly, the results highlight the importance of developing policies in crisis communication that are both technologically effective and based on relationships. The inclusion of AI features with social presence of a human will boost efficiency and trust between the stakeholders in that it will serve as an indication that technology and human interaction can work concurrently to improve crisis communication results.

Altogether, the practical implications indicate that the effective implementation of AI needs investment in technologies, as well as focusing on human-centered communication practices, so that the stakeholders can see the messages as timely, precise, and socially attractive.

5.4 Conclusions

This paper aimed to test the relationship between the use of AI and the effectiveness of communicating a crisis among PR practitioners in Ghana and the moderation of this relationship by perceived social presence. The results give a number of significant conclusions.

Firstly, the research affirms that the use of AI has a positive influence on crisis communication. Those PR experts who expressed greater degrees of AI usage also found their own organizational crisis communication activities to be more effective. This indicates that AI devices when applied properly can improve message clarity, timeliness and the overall level of communication in the event of crisis. AI enables fast processing of the information and consistent messaging, and it results in practitioners being able to react to the emerging situations fast and ensure that the stakeholders trust them.

Secondly, perceived social presence is an important factor that influences the communication outcomes. It was found that in cases where AI-mediated interaction passes an illusion of a human-like emotion like empathy, responsiveness, and attentiveness, stakeholders will be more likely to interpret crisis communication to be productive. This emphasizes that it is not enough to have AI technology, but relations and interactive cues within the AI-mediated communication are what is required to create credibility and interaction.

Thirdly, perceived social presence was identified to moderate the relationship between AI use and crisis communication efficacy. The use of AI tools does not necessarily ensure the better results of communication, and the effect of these tools is increased when the stakeholders feel that AI is socially present and involved. This highlights the significance of integrating the technological effectiveness with relationship components in the form of crisis communication so that automated systems are not perceived as cold-blooded and unconcerned with the needs of the stakeholders.

Lastly, the results show the applicability of the SCCT and CMC theory to the dynamics of AI in crisis communication. SCCT highlights the necessity of the strategic and context-specific reaction, which can be facilitated by AI based on the quick information processing and focused messages. CMC theory emphasizes the importance of perceived social presence in mediated interactions in the sense that relational cues can be better employed to make AI-mediated communication effective.

The study concludes that AI can be substantially useful in enhancing crisis communication, yet its effectiveness requires the introduction of social presence into the digital communication. In order to be able to deliver the best outcomes in times of crisis, the PR practitioners have to balance between technical efficiency and human human-oriented communication.

5.5 Recommendations

According to the results of the study, it is possible to make a set of recommendations to be offered to the representatives of the PR field and PR organizations in Ghana to be able to successfully use AI in crisis communications and guarantee high levels of stakeholder involvement.

5.5.1 Implement AI-Tools in crisis communication

In case of a crisis, organizations need to implement AI applications, including chatbots and automated messaging services to perform some routine and time-urgent communication activities. The tools have the ability to make sure that the correct information is disseminated as quickly as possible to minimize the delays and misinformation. Nevertheless, AI must not substitute, but supplement, the human decision-making and judgment in the case of a sensitive crisis.

5.5.2 Improve the Perceived Social Presence in AI-mediated Communication

In order to make the use of AI tool more effective, organizations need to include characteristics that capture human-like behavioral attributes like empathy, responsiveness, and personalization. This may involve AI-created messages that recognize the concerns of the stakeholders, offer them support or interactive feedback. In this way, the stakeholders feel more inclined to regard the communication as credible, engaging, and trustworthy.

5.5.3 Educate PR Professionals to find a balance between technologically and human intensive interaction

It is necessary to train public relations professionals to use AI products in an efficient manner without forgetting about human control. The training must be based on tailoring AI responses, keeping track of automated communications to determine if they are appropriate or not, and

delivering high-stakes or sensitive messages in a personalized manner. The strategy will make sure that technology is beneficial instead of adversarial in terms of stakeholder trust.

5.5.4 Create AI and Social Presence Crisis Communication Policies

There should be clear rules to the use of AI in crisis communication within organizations, which are the guidelines applied on how and when AI is used and what standards are expected to be maintained through social presence. Decision-making policies are to take into account ethical aspects, tone, message clarity, and responsiveness to avoid miscommunication to maintain the reputation of organizations.

5.5.5 Take Advantage of Feedback to keep AI-mediated Communication on the Improvement

Companies need to receive the opinions of interested parties about their experience with communication based on AI during crisis. The feedback based on such insights can facilitate the improvement of AI systems, make them more interactive, and make the communication responsive and socially stimulating.

5.6 Future Research Recommendations

Although the present research offers useful suggestions on the use of AI and perceived social presence in crisis communication in the Ghanaian PR environment, there are still aspects that could be investigated by further research in order to widen the knowledge. First, follow-up research might look at the other moderating variables that might affect the efficacy of AI-mediated crisis communication, including organizational culture, stakeholder features, or crisis type and severity. Research on these variables would give a deeper insight into the most effective times and

locations of the use of AI tools. Second, longitudinal designs may be applied to future studies in order to trace the evolution of AI use in crisis communication over time and the development of perceptions of social presence and trust due to the repeated engagement of the stakeholders with AI systems. Third, the research may investigate the use of AI in various areas other than PR like healthcare, education, or government, to establish whether the results of this study can be applied to other organizational settings. Lastly, analyzing user experiences and expectations of working with AI through qualitative methods may be used as the complement to quantitative analyses to obtain deeper insights into the experiences of stakeholders and their expectations of engaging with AI and provide a more comprehensive view of social presence and communication effectiveness. Targeting these aspects, future studies will be able to add to the existing results and will help to develop more effective and context-specific AI-aided crisis communication strategies.

5.7 Limitations of the Study

Although this study offers valuable information on AI application and its perceived social presence in crisis communication, it has a number of limitations that cannot be ignored. Firstly, the study was done with PR professionals in Ghana only, and therefore, it might not extend the results to other countries or cultural settings where the organizational practice, technology adoption or expectations of stakeholders might not be similar. Second, it was based on a self-reported data using questionnaires. Although this approach offers a significant insight, it can be caused by response bias where the participants might have exaggerated or under-reported their AI usage or social presence. Last of all, but not least is the study is cross-sectional and thus only represents one point of time; it is hard to draw a conclusion about causality or how the relationship between AI

application, social presence, and the effectiveness of crisis communication may evolve over time or different crises.

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APPENDIX



SCHOOL OF GRADUATE STUDIES AND RESEARCH (SoGSaR)

FACULTY OF PUBLIC RELATIONS, ADVERTISING & MARKETING

DEPARTMENT OF PUBLIC RELATIONS

PHONE NUMBER: +233 (0) 208251184

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Dear Respondent,

**Assessing the Effects of AI Usage in Crisis Communication Management in the PR Industry:
A Quantitative Study in Ghana**

I am James Augustus Quist, a Master's student at the University of Media, Arts and Communication (UNIMAC), Ghana. As part of the requirements for my degree, I am conducting a study titled 'Assessing the Effects of AI Usage in Crisis Communication Management in the PR Industry: A Quantitative Study in Ghana.'

Your participation is very important to this research. As a public relations or communications professional working in Ghana, your insights and experiences will provide valuable information

on how artificial intelligence is being used in crisis communication and its impact on communication outcomes.

The questionnaire should take about 8–12 minutes to complete. Please be assured that your responses will remain completely confidential. No personal or organizational information will be disclosed, and the results will be analysed only in aggregated form for academic purposes.

Participation in this study is entirely voluntary. By completing the questionnaire, you indicate your consent to take part in the research. You may also choose to withdraw at any time before submitting your responses without any consequence.

Thank you very much for your time and contribution. Your input will be greatly appreciated.

Yours sincerely,



.....
James Augustus Quist (Candidate)

.....
Rev. Odame Gyau (Supervisor)

Statement of Consent: By checking the box below or filling out and returning the questionnaire, you indicate that:

1. You have read and understood the information above.
2. You voluntarily agree to participate in this study.
3. You know you can withdraw at any time before submitting your responses.

Please, indicate your consent for participation here: ☐ *I agree* ☐ *I disagree*

SECTION A: ABOUT YOUR BUSINESS ACTIVITIES AND PROCESSES

Kindly use the scale presented below to indicate by ticking your level of agreement with the statements in this section.

SCALE: [1= strongly disagree; 2= disagree; 3= agree and 4= strongly agree]

Please, indicate the extent to which you agree or disagree with each of the following statements.

Using AI in crisis communication helps me accomplish crisis-related tasks more quickly.	1	2	3	4
Using AI in crisis situations improves the overall effectiveness of my communication work.	1	2	3	4
Using AI tools increases my productivity when managing communication during a crisis.	1	2	3	4
Using AI enhances my ability to perform communication tasks effectively during crises.	1	2	3	4
AI tools make it easier for me to handle communication tasks in times of crisis.	1	2	3	4
I find AI useful for carrying out crisis communication responsibilities in my organization.	1	2	3	4

Kindly use the scale presented below to indicate by ticking your level of agreement with the statements in this section.

Strongly disagree Disagree Agree Strongly agree 1 2 3 4				
During crises, I receive clear information from management about the organization's external responses.	1	2	3	4
I find it easy to communicate with top management during a crisis.	1	2	3	4
My organization has a clear crisis communication plan that addresses internal	1	2	3	4

stakeholders.				
During crises, I act as an ambassador by sharing positive messages about my organization with external stakeholders.	1	2	3	4
I feel more informed by management during a crisis compared to normal times.	1	2	3	4
<i>Please indicate the extent to which you agree to the following statements:</i>				
I feel a sense of human warmth and personal connection when using AI tools in crisis communication.	1	2	3	4
Interactions through AI during crises feel natural and engaging.	1	2	3	4
The AI system responds in ways that make communication feel interactive and responsive.	1	2	3	4
When using AI for crisis communication, I feel socially connected to the message or interaction.	1	2	3	4
AI tools create a sense of presence, as if I am interacting with another person rather than just a system.	1	2	3	4
Communication through AI during crises captures social cues (e.g., tone, responsiveness) that make the interaction feel more personal.	1	2	3	4

SECTION C: ABOUT YOU

In this section, kindly respond to the questions/statements by writing your responses or using the corresponding scales to indicate your responses.

>> Please indicate your **gender** ☐ Male ☐ Female

>> Please indicate your **age** (years) ☐ Less than 20 ☐ 20 to 29 ☐ 30 to 39 ☐ 40 to 49 ☐ 50+

>> **Industry sector** you work in ☐ Corporate/Private company ☐ Government/Public agency ☐ Non-

profit/NGO ☐ PR/Communication consultancy ☐ Media/Journalism

>> **Current position** in your organization ☐ Owner/Manager ☐ Executive ☐ Manager ☐ Officer/Staff

>> **Years of experience** in PR/communication practice ☐ Less than 1 year ☐ 1–3 years ☐ 4–6 years
☐ 7–10 years ☐ More than 10 years

Kindly use the scale presented below to indicate by ticking your level of agreement with the statements in this section.

-The questionnaire deals with issues I am very knowledgeable about	1	2	3	4
-I am completely confident about my answers to the questions	1	2	3	4
-I am confident that my answers reflect the company's situation	1	2	3	4

Thank you.
