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Strategic Communication and Artificial Intelligence: Reviewing Emerging Innovations and Future Directions

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ABSTRACT

This review examines the adoption of artificial intelligence (AI) as a novel technology for strategic communication. This study includes a survey of pertinent literature that highlights innovative communication linked to AI applications in public relations, marketing and branding, political communication, and customer relations with the goal of enlightening both research and practice. Emerald Insight and Google Scholar, two essential online databases, were used to retrieve and analyse information from peer-reviewed journal articles and chapters (n = 17) published between 2017 and 2022. Based on the main inquiries raised by the research, significant themes were discovered and critically explored. Political communication with AI, AI-focused public relations and marketing approach, and conversational AI assistants were the major themes in the research on strategic communication and AI integration. These studies were primarily the outcome of quantitative and mixed-method techniques used in a western environment. This review satisfies the need for research on AI and strategic communication that makes inferences applicable to the context in Ghana. The study's conclusion outlines a research agenda for the future, emphasising the need for research on particular topics like integration of AI voice assistants in relationship marketing domains, adoption of wearable technology and its relevance to customers' health consciousness as well as privacy concerns of emerging innovation. Future studies should also focus on developing more evidence-based AI suggestions for strategic communication practitioners, as well as a thorough methodological and theoretical discussion of how to further close the gap between research and practice in the African setting.

***Keywords*:** artificial intelligence, adoption, innovation, strategic communication, technology

INTRODUCTION AND SCOPE

Over the years, there have been evident advancements and fundamental shifts in how communication is performed. These advancements highlight the dynamic nature of communication as a field and the increasing use of technologies to augment the process of ideation, creation, and transmission of messages in a range of situations, including interpersonal communication, media and journalism, and strategic communication. Innovative technology and the internet are evolving. Based on this, organisations have a responsibility to develop and utilise the emergence of innovative technology in their area of business. According to Zerfass and Huck (2007), innovation offers a company the chance to strengthen its in-built capabilities. As a result, innovation becomes a crucial competency for an organisation because it promotes growth, success, and profitability.

A call has been made for innovative applications of digital technology to supplement or replace conventional approaches to strategy formulation (Eriksson, Bigi & Bonera, 2020). How much has the usage of front-line digital technology affected a company's capacity for change? To illustrate, Teece *et al.* (1997) elucidate the primary use of innovation in a company. They contend that it is vital for an organisation to have the ability to actively develop, expand, and modify its resources to respond to environmental dynamism like new stakeholders and market demand through technology. The disruption that new technology brings to the modern marketplace, however, depends on information and knowledge (Hulsmann & Pfeffermann, 2011). Customers with knowledge of and access to sophisticated information and communication technologies have emerged (Davenport *et al.,* 2007), giving them access to the creation of content and the power to influence other consumers using digital innovation technology. This raises the question of how business organisations globally, and in African countries such as Ghana, are communicating and applying innovative technologies to better serve consumers and take advantage of opportunities to strategically position themselves within the global innovation economy.

The strategic communication literature views innovation technology as tools that help organisations advance and strengthen their positions in emerging markets and competition (Zerfass & Huck, 2007). As a result, an organisation that adopts innovation is largely responsible for its success. Apart from the other subfields of the communication discipline, the innovative and 'disruptive' integration of augmented technology, or artificial intelligence (AI), in mediated communication has drawn increasing interest from communication scholars (e.g. Brobbey, Ankrah & Kankam, 2021; Moore & Hübscher, 2021; Panda *et al*., 2019; Zerfass, Hagelstein & Tench, 2021; Zhang *et al.,* 2021). Although some studies (e.g., Zerfass & Huck, 2007) have criticised corporate innovation efforts as ineffective, the topic of innovation in strategic communication is still significant and an emerging force.

Few studies have attempted to examine the areas of strategic communication and artificial intelligence, despite the fact that many papers have reviewed aspects of AI-based technologies, including analytics and smart grids (Khosrojerdi et al., 2021), AI and big data and customer management (Ledro, Nosella & Vinelli, 2022), and AI in health services (Cavallone & Palumbo, 2020). A review of the studies indicated that this field of study has been dominated by western scholarship and perspectives, with little scholarship from the global south. Extant studies in this area are also characterised by quantitative and mixed methodological approaches.

According to Baumeister and Leary (1997), a good review should offer consequences for practice and policy as well as suggestions for theory development and research subjects. This paper critically reviews the most recent application of AI technologies specific to strategic communication in areas including public relations, political communication and marketing communication in order to synthesise empirical findings and highlight their relevance. This process also identifies several lessons learned that can be applied to future research directions and practice in Ghana. Algorithms and built systems relating to computer science and robotics have been the main subject of AI Literature; nevertheless, the current review aims at highlighting operational tasks, managerial considerations, and applications of AI by commercial entities that operate with a strategic communication function.

Assembling and analysing the rapidly growing corpus of research on AI is necessary to establish a sound foundation for innovative strategic communication practice in Ghana because there is a paucity of literature on the phenomenon. Following this, the paper raises significant questions: 1) What are the emergent researches on strategic communication and AI integration 2) What are the approaches or theories covered by studies on artificial intelligence and strategic communication? 3) What are the future directions inferred from the review that would inform AI and strategic communication research in Ghana?

SEARCH STRATEGY AND DATA COLLECTION

Articles for the review were identified and purposefully chosen based on the following categories: research issues not limited by date, the article must be related to a field in strategic communication, the article must be in full text and the language must be in English (Tranfield *et al.*, 2003). Articles would be sourced from Emerald Insights, a key online database. Later, a small number of publications were found using the key terms on the Google Scholar database because it is a research platform that aggregates articles from other databases. In accordance with Tranfield *et al.* (2003), a systematic review ought to be conducted across a number of databases with the aim of adopting a transparent, scientific method of finding knowledge base patterns in a certain field. From there, a final set of 17 articles was selected for the study.
The articles were retrieved from the database using keywords and terms related to artificial intelligence; AI and strategic communication; AI in advertising OR branding/brand; AI in public relations; AI and political communication; AI and big data; and, communication and AI. Table 1 contains the summarised characteristics of the articles.

TABLE 1 - Summary of the Articles Reviewed

Authors/ Year and country of publication	Research issues	Methods	Theoretical/conceptual framework
Panda, et al (2019), India	Role and application of AI in the Public Relations industry	Qualitative; Semi-structured interviews	n/a
Ledro *et al.* (2021)	AI implementation in customer relationship management literature	Systematic review; bibliometric techniques	A 3-step conceptual model for AI implementation in CRM

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Samara et al. (2020)	AI and big data in tourism	Systematic literature review	Big Data and AI value creation frames: project, produce, Promote and Provide
Cai et al. (2022), USA	Branded AI voice-assistants in hotels and customer's perceptions and behavioural intentions	Mixed method approach – qualitative and phenomenological methodology and experimental design	Conceptual framework: Extended Technology Acceptance Model (TAM)
Mostafa & Kasamani (2021)	antecedents and consequences of chatbot initial trust.	Questionnaire Structural equation modelling	Diffusion of Innovation Unified Theory of Acceptance and Use of Technology and Technology Acceptance Model
Brobbey *et al*. (2021), Ghana	The role of AI in Jumia Online Ghana's integrated marketing communications	Mixed method approach Case study design Interview Content analysis and SPSS	Social network theory
Jiménez & Ouariachi (2020), Netherlands	Impact of AI automation and role of communication professionals and skills and training for the impact of AI	Qualitative Delphi method Focus group Literature review	n/a
Cheng & Jiang (2020)	AI chatbot's marketing efforts in establishing relationships between brands and customers	Quantitative Survey Structural equation modelling analysis with Mplus 7.4 program	n/a
Passavanti et al. (2020), Italy	Exploring luxury brand retailers' use of new technologies for corporate marketing communication	Exploratory studies Multiple case study approach Semi-structured interviews MAXQDA analysis software	n/a
Garcia-Marín & Calatrava (2018)	Use of learning algorithms to identify and research media frames in political	Quantitative Support vector machine	Framing

	communication as a research technique		
Moore & Hübscher (2021) UK	Strategic communication and AI exploring PR with intelligent user interfaces	n/a	n/a
De Andrade & Tumelero (2022), Brazil	AI chatbot's contribution to customer service efficiency in a commercial bank	Single case study Content analysis Semi-structured interview Atlas. ti software	Evolutionary theory of innovation Technological innovation network
Yeboah (2020), Canada	AI solutions and inclusive innovation in Sub-Saharan Africa	Interview Qualitative Content analysis Case study	Inclusive innovation theory
Buhalis & Moldavska (2021), UK	Digital voice assistants in hospitality customer service	Qualitative Interviews	Human-computer interaction theory; Technology adoption
Singh (2021), Sweden	Voice-activated AI plays a strategic marketing function for the purchasing of groceries for consumers	Survey approach Partial least square approach Structural equation modelling	Conceptual framework: emotional attachment, self-connection, self-disclosure, anthropomorphism
Stone *et al.* (2020), UK	Research into the application of AI in strategic marketing decisions	Literature review Consultation	n/a
Zerfass *et al.* (2020), Germany	AI in communication management and the professionals' insights on the technology	Quantitative cross-sectional study Online survey SPSS	The technology-organization environment framework

PERSPECTIVES AND CONCEPTUALISATION OF ARTIFICIAL INTELLIGENCE (AI) INNOVATION

AI technology heralds the beginning of a new data revolution that integrates computer science, machine learning, and information technology. AI is a novel field of study that offers improvements for consciously controlling strategic corporate operations. Although little is known about the phenomenon, there is a lot of literature on AI, particularly in management contexts (Raisch & Krakowski, 2020). However, recent studies indicate that communicators are using AI in a variety of disciplines, including, but not limited to, tourism, strategic marketing, political communication, public relations, relationship marketing, customer relationship management, and healthcare (e.g. De Andrade & Tumelro, 2022; Cai, Cain & Jeon., 2022; Ledro *et al.,* 2021; Samara *et al.,* 2020; Zerfass *et al.,* 2021).

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The development of intelligence and the application of intelligent tools were intended to improve human competence and productivity at work (Alupo Omeiza & Vernon, 2021). According to Gunkel (2012), smart objects or semi-intelligent artefacts serve as information sources or receivers that gather from their users and utilise the information it collects to plan or predict the users' behaviour. According to a prediction made by Licklider (1960, quoted by Alupo, *et al.,* 2021), the partnership between a person and a computer can be compared to a symbiotic one in which mental tasks are accomplished more efficiently than they could be by a person acting alone. Based on that ideology, Alupo *et al*. (2021) go on to explain that AI was developed to amplify and augment human cognitive abilities. While McKinsey (2017) and Singh (2021) refer to the AI phenomena as the next frontier and the new consumption reality, respectively, Schwab (2016) describes it in terms of the fourth industrial revolution. New business models supported by AI solutions are slowly gaining pace, but many industries are yet to fully leverage AI innovation to boost productivity.

Ledro *et al.* (2021) define AI as the intelligent application of data supported by technological solutions. Data from consumer touchpoints are transformed by algorithms, according to Ledro *et al.* (2021), who highlighted that this produces personalised marketing responses and allows for the customisation of goods and services that provide customers with a high level of value. A technology system's ability to accurately read a vast amount of data, learn from that data, and use that learning to accomplish specified goals and activities is how Kaplan and Haenlein (2019) explain AI. This implies that AI technology is incredibly effective and can integrate experiences into routine tasks. Data technologies that use AI are tied to big data analytics that examines the computational replication of cognitive abilities, and internet of things automation processes (De Andrade & Tumelero, 2022). In light of the aforementioned, De Andrade and Tumelero (2022) note that AI has grown in popularity and is now one of the most important tools of technological innovation for organisations looking to improve and transform their product and service offerings.

An overview of artificial intelligence's history can be found in Alan Turing's 1950 essay "Computing Machinery and Intelligence," which introduced the concept of machine intelligence and the discourse surrounding it. The goal of Turing's (1950) analysis and “Turing Test,” as noted by Gunkel (2012), was to evaluate and measure a machine's capacity to simulate human behaviour. By the Turing test, a machine is intelligent, if it can mimic a human-to-human communicative exchange. The debate over AI innovation, which centres on whether machines can successfully replicate interpersonal communication, is still relevant even if the growth of the internet has given computer-mediated communication a new perspective. The study of communication and how it relates to the Turing test suggests that computers, which promote user contact, are also participants in communication (Gunkel, 2012). This refocuses the communication process since, in addition to looking at the individuals involved in the interaction, the message, the noise, the hurdles and the technology that make this connection possibly becomes the 'other' which requires further examination.

Koehler (2018) offers an intriguing perspective on AI innovation by arguing that the technology supports the user through intelligent schemes, removing, replacing, or empowering individuals through the use of completely automated tools. This emphasises the notion that AI innovation will ultimately be the technology that completely replaces human contact and communication methods because literature has suggested that the technology mimics or studies human

behaviour to make its functions easier (De Andrade & Tumelero, 2022; Koehler, 2018). Contrary to what has been claimed, however, the emphasis is not so much on replacing users in the decision-making process as it is on simplifying and improving decisions through the use of AI innovation in addition to effective techniques that serve as moderators of human agency (de Mul, 2010; Stone *et al.,* 2020). In essence, users are employed mostly for auxiliary duties. On the other hand, some scholars have raised discussions and advocated for AI ethics because of its social inadequacy (Friedler *et al.*, 2016).

AI is envisioned by Zerfass, Hagelstein, and Tench (2020) as 'becoming.' Their study observed that AI is not only becoming prevalent in the retail, service, or manufacturing industries but is also becoming a consuming technological breakthrough that permeates daily life. The conceptualisation of AI is comparable across the several papers analysed. It is realised that in both academia and practice, attention to AI or augmented communication has been significant with emphasis on AI innovation that blends data-driven technologies and augmentation for effective business solutions. The literature, for instance, claims that the rising demand is dependent on the ability of AI tools to address issues of misinformation while also amplifying social ills like hate speech in the digital sphere, raising concerns about the use of AI technology in communication around issues of ethics and privacy (e.g. Friedler *et al.*, 2016).

RESEARCH ON STRATEGIC COMMUNICATION AND AI INTEGRATION

The field of communication is one of the many areas where AI holds enormous potential. The promise of AI for practitioners encourages an environment that is conducive to co-creation from collective intelligence, according to Macnamara and Zerfass (2012). In essence, AI has transformed professionals from spectators to participants and co-creators with the public through the use of technology. Stone *et al*. (2020) assert that the strategic decision-making process is where humans and computers currently have an advantage. The literature on AI and strategic communication, reviewed here, focuses on developing marketing plans and making effective use of AI-based solutions, such as the use of chatbots and voice-activated AI support, for businesses that offer services (e.g. De Andrade & Tumelero, 2022). What was revealed as the research agenda in strategic communication and AI hinged on these fields — public relations, marketing communication, relationship marketing, and political communication.

POLITICAL COMMUNICATION WITH ARTIFICIAL INTELLIGENCE

The use of big data and AI in political narratives, political communication, and new information and communication technologies have all been identified as current trends (e.g. Baranowski, 2022; Larrondo-Ureta & Meso-Ayerdi, 2022). For example, the scientific research by Matalon *et al.* (2021) acknowledged the significance of utilising AI technologies that can predict attitudes and optimise content propaganda and information in political discourses on social media through the use of the natural language toolkit and VADER software. This infers that populism and voter sentiments that relate to political discourses can be tracked and analysed as a means to anticipate violence related to politics. Matalon *et al.*'s (2021) opinions on this technology were based on research that demonstrated the phenomena of opinion inversion spread about Israel during the Israeli-Palestinian conflict. The result demonstrates that tweets can be 'inverted' and can be identified using sentiment analysis based on AI technologies (Matalon *et al.*, 2021).

AI algorithms have been used in various studies to identify news frames in political news pieces.

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In a study on how academics in political communication and media studies might assess sentiments and apply various methods for recognising frames in news items, Garcia-Marín and Calatrava (2018) used a Support Vector Machine to categorise data using the researchers' variables. The authors claimed that because of the complexity of the algorithms and the necessary skill to operate them, users of this technology are likely to encounter a 'black box' effect. In their conclusion, Garcia-Marín and Calatrava (2018) urged the academic community to pay attention to the dynamics and value of these developing technologies.

Yeboah (2020) highlights how AI is transforming the political landscape in Africa and underlined the efforts made by many African nations in AI technology to achieve the broader digital agenda. For instance, countries like Kenya use AI-powered facial recognition and video surveillance technology to supplement law enforcement efforts and case-solving to increase government efficiency (Yeboah, 2020). Yeboah (2020) argues that the prevalence of AI in political discourses shows the importance of AI for communication and information transmission.

AI-FOCUSED PUBLIC RELATIONS AND MARKETING APPROACH

The literature revealed that AI research had a growing impact on PR and marketing strategy. However, Davenport *et al.* (2020) concur that there is a dearth of marketing literature that focuses exclusively on AI. Another assertion regarding PR and AI is that the field is 'sleepwalking into AI' because there seems not to be much discussion on the subject (Gregory & Virmani, 2020).

Foldes (2018), on the other hand, offers a compelling synthesis as part of a larger discussion of AI in fields including corporate communication, management, and marketing. The main argument for AI adoption in PR and advertising is explored from two perspectives, namely, its acceptance as an addition to professional activities and the claim that humans cannot be replaced by technology (Foldes, 2018). This claim is supported by Claude and Comb (2018), who note that AI is typically used to support important business decisions rather than to make them. This explanation casts doubt on the current business integration of AI in favour of what would be considered robust AI assistance in the future. Herein lay the various options available to boost data technology speed and assist in the significant replacement of human decision-making movements with AI (Stone *et al*., 2020). For example, the research of Shrestha *et al.* (2019) recounts numerous potentials of AI in business management, including full human-to-AI delegation found in digital advertising, online fraud detection, and pricing, as well as analytics and top management decision-making.

Zerfass *et al.* (2020) conducted a cross-sectional study to examine the adoption, impact, difficulties, and risks of AI in redefining communication management. Their research included literature on this gap as well as perspectives on innovation from communication professionals. Based on expertise in AI, the rate at which it is affecting communication management, implementation obstacles, and perceived risks, their research selected 2,689 European communication practitioners. The study's conclusions showed that communication practitioners lacked both the personal and organisational competencies necessary to manage the responsibilities and risks associated with adopting AI. The adoption of AI and its effects on organisations should be the primary focus of communication leaders. Zerfass *et al*. (2020) predicted that AI would have a significant impact on the field whereas top management support

and championing innovation will help the technology be adopted. The study concluded that their initial study will serve as a springboard for further investigation into how the technology is used in organisations that engage in communication.

Despite the dearth of empirical research on strategic communication related to AI in Ghana, Brobbey, Ankrah, and Kankam's (2021) work on the function of AI in integrated marketing communications with an emphasis on Jumia Ghana might be seen as a trailblazing effort. Customers and personnel from Jumia Ghana's online store were included in the data sample for this mixed-method study. Jumia used AI technology to enhance its marketing communications, which resulted in marketing leads for client targeting, client segmentation, and pushing content and products on its site (Brobbey *et al.,* 2021). The study indicates that Jumia accurately mined client data from their social networks for the purpose of effective marketing. Cannavale *et al.* (2022) describe mining as extracting the most important information from a significant amount of available data to facilitate informed decision-making. Brobbey *et al*. (2021) identified the lack of competency in AI use (e.g. Zerfass *et al*., 2020). From the study, it was clear that there was a link between AI and information technology, meaning that the IT department championed AI rather than necessarily working together with communication specialists. Some have argued that organisations and brands have polarising views on AI, and there is little upskilling in AI among communication professionals since AI is replacing and automating functions that have historically been the domain of public relations, such as content generation, media monitoring, or environmental scanning (Gregory & Virmani, 2020). Galloway and Swiatek (2018) contend that to provide informed advice, PR professionals do not need to become experts in AI technology. Rather, they should gain knowledge about the potential applications of AI.

Moore and Hübscher (2021) have delved further into strategic communication and AI focusing on public relations and intelligence user interfaces (IUIs), immersive communication, and the risks of AI adoption. The authors provided a manual on intelligent user interfaces and artificial intelligence, explaining how they relate to the revolution in PR. The authors claim that the fields of strategic communication and public relations have advanced from graphical user interfaces to intelligent user interfaces supported by AI, in which technology "adapts to the user's interests, recommends what to buy or listen to, senses stress levels in city traffic, or helps cut through an enormous amount of work, most of which is useless, the information we are bombarded with" (Moore & Hübscher, 2021, p. 1). On the other hand, it is possible to make a customer's user interface appear more personalised by utilising or mining user data to customise and promote certain choices to them (Moore & Hübscher, 2021); which are sentiments already alluded to by Brobbey *et al.* (2021) and Cannavale *et al.* (2022). This process tends to augment the work of a communication practitioner. Furthermore, Moore and Hübscher (2021) underscored that "strategic communication will learn to use IUIs creatively, extensively, overpoweringly, and with a superb sense of timing. That much is strongly suggested by PR's history with other media" (p. 23). Panda *et al.* (2019) studied the benefit, application, and role of AI in the public relations industry using a qualitative semi-structured interview of 31 PR professionals. They concluded that mass personalisation and customisation using AI are improving the effectiveness of PR activities although issues of trust and privacy were not explored (Panda *et al.*, 2019).

Jiménez and Ouariachi (2020) investigated how AI might affect communication specialists and their function in institutions. Their research contributes to a broader appeal for public relations

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and marketing communication professionals to collaborate with technical specialists and upskill themselves to anticipate emerging technology. They conducted separate focus groups with communication specialists and students and concluded that the current pace of technological advancement necessitates the development of soft skills, technical abilities, training, and ethical responsibilities (Jiménez & Ouariachi, 2020). To Jiménez and Ouariachi (2020), AI performs duties in the communication industry such as generating press releases and news stories and providing customer assistance, increasing the effectiveness and productivity of communication experts. Consequently, communication professionals will place a greater emphasis on strategy, even while technician positions will disappear and creativity and decision-making will be challenging for technology to automate. This contradicts the claim by Claude and Comb (2018) that AI enhances business decision-making and senior management decision-making.

The study by Passavanti *et al.* (2019) examined how luxury brand retailers use new technologies as a tool for corporate marketing communication. Although their study focused on the use of new technologies by businesses such as social media, mobile tools, and in-store technologies, they also highlighted customer expectations for interactive new technologies, pointing at the potential for AI in the marketing and retailing of luxury brands (Passavanti *et al.*, 2019). On the other hand, Samara *et al.* (2020) elaborated on their ideas regarding the commercial usefulness of big data and AI in destination marketing and the tourism sector and the issues that their adoption raises. Based on the classification of projection, production, promotion, and provision highlighted by Talwar and Koury (2017), Samara *et al.* (2020) used a systematic review to suggest ways AI adds value to tourism. Samara *et al.* (2020) discovered that in addition to issues with technical, financial, and business challenges as well as regulation of the technology, the main perspectives of the papers reviewed focused on forecasting tourism flow and demand, appropriate targeting and messaging, tailored user experience, and the use of augmented personnel.

CUSTOMER RELATIONSHIP AND CONVERSATIONAL AI ASSISTANTS

As suggested previously, industries like tourism, PR and brands have all embraced AI as a strategic tool to manage and improve consumer experiences. Relationship marketing or enhancing client relations by altering how service providers connect with clients has been the subject of some research (e.g. Cheng & Jiang, 2020; Heo & Lee, 2018); with a concentration on the proactive adoption of voice-activated assistants and chatbot technology. A chatbot is a software programme incorporated into mobile devices that can respond to spoken commands using natural language, interact with users, and run searches on online databases (Gunkel, 2012; Zerfass et *al,* 2020). Chatbots are programmed to replicate human conversational abilities through voice interactions, textual dialogues, or both (Casas *et al*, 2020). The use of chatbots in the business operations framework illustrates how businesses use technology and strategies to connect with and engage with stakeholders.

De Andrade and Tumelero (2022), for example, studied the impact of AI on the effectiveness of customer service in banking. The authors assert that technological advancement in AI facilitates commercial transactions and services, encouraging businesses to create novel business models. Their research acknowledged the lack of studies on how AI might alter effective customer service methods; however, their study centred on how AI chatbots improve the effectiveness of a commercial bank's customer service. The findings of their research put out the hypothesis

that the bank's success rate in adopting new technology during the Covid-19 pandemic proved the need for and client acceptance of AI chatbot technology. According to De Andrade and Tumelero (2022), the use of chatbots in call centres and relationship centres decreased wait times, freeing up the human attendant to handle more intricate issues.

Chatbots, particularly those used in e-commerce, serve as virtual assistants that help businesses develop relationships with their customers (Shumanov & Johnson, 2021). Jumia used chatbots to personalise its customer experience, which improved marketing communications and increased product sales (Brobbey *et al.* 2021). By using chatbots with AI capabilities, Pizzi *et al.* (2021) corroborate this by connecting consumers' marketing behaviours to their purchasing habits. Heo and Lee (2018) concentrated on an AI chatbot application that combines messaging and business communication opportunities that offer answers to customer shopping concerns and for organisations to deliver real-time solutions to them. According to Illescas-Manzano *et al.* (2021), chatbots make it possible to collect user data and improve lead generation for customised email marketing. Cheng and Jiang (2020) also examined the function of chatbot marketing initiatives in developing a relationship between the consumer and the brand. The study shows that improving customer-brand engagement requires a variety of factors, including accessibility, entertainment, and customisation. Ledro et al. (2021) conducted a systematic analysis of the literature to look at the deployment of AI in customer relationship management (CRM). Their findings show that CRM is transitioning from a data-driven strategy to an AI-driven strategy. Voice assistants, chatbots, and the internet of things (IoT) were viewed as the new disruptive technologies for CRM in the future.

Customer perception and usage of conversational AI assistants have had a sparse discussion. An investigation by Cai *et al.* (2022) evaluated how the hospitality sector improves hotel visitor experiences by incorporating certain branded technology into traditional hotel experiences. The study also explored customer insight and perception of these AI voice assistants. The authors cited customer familiarity and brand affinity as reasons for selecting particular branded AIs, such as Amazon's Alexa, Apple's Siri, Google's Google Assistant, and Microsoft's Cortana. The study, which used a mixed-method approach and extended the technology acceptance model, found that chatbots integrated into hotel management, together with intelligent voice assistants, provide product ideas and tailor services to reduce customer service friction. Along with the AI assistant's perceived usefulness, consumers identified perceived convenience as a major driver for using technology that improves hospitality marketing. Additionally, consumers' willingness to use technology in their hotel rooms was hampered by privacy concerns and anxiety related to using AI-enabled devices. However, the study found that customer anxiety about AI voice assistants was lessened depending on the hotel's scale, whether it was a midscale or an upscale establishment (Cai *et al.*, 2022). Similarly, Buhalis and Moldavska (2021) on the use of digital voice devices for customer service in the hospitality industry examined customer concerns about the security and privacy of their personal information when using digital voice devices as well as the functional restrictions that prevent voice assistants from being widely used.

Although the findings from the aforementioned study on customer privacy and apprehension related to AI voice assistant technology are considered topical, scholars like Singh (2021) provide a different viewpoint. The author looked at the emotional connection between the consumer and the object (AI gadgets), particularly when it comes to grocery shopping and

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future purchase intentions. Singh (2021) introduced the concepts of anthropomorphising, consumer self-disclosure, and emotional attachments through a survey-based approach as the foundation for a conceptual framework and pretesting of these hypotheses. Singh (2021) argued that consumers interacted with AI voice assistants in a way that was perceived as 'human-like,' 'active,' and 'responsive,' mimicking that of interpersonal relationships. As a result, consumers divulged personal information and formed an emotional bond with the product, which increased purchase satisfaction and prompted repeat purchases. Despite Singh's (2021) allusion to current studies that researched the detrimental effects of trust on consumer behaviour, Singh's (2021) article did not address consumers' privacy concerns regarding their intentions to make purchases using the technology.

The literature analysis on consumer interactions and conversational AI assistants strongly points to a strategic opportunity for organisations and subsequently, the convenience AI technology provides to customers. These AI technologies are reportedly able to sell straight to customers and take orders without human assistance outside of working hours, enabling customers to achieve their purchasing objectives (Cai *et al.,* 2022; De Andrade & Tumelero, 2022; Singh, 2021). Additionally, retailers and voice assistant providers have strategic value because they can improve the capabilities of AI voice assistants to further promote attachment, fulfil marketing initiatives, and increase customer satisfaction.

On the other hand, research identifying issues with the application of AI technology is widespread. For example, Stone *et al.* (2020) questioned the morality and privacy risks associated with the collection of consumer data for marketing purposes using AI technology. Since consumer data is necessary for business decision-making and personalised marketing this shows the need for data privacy norms and compliance by marketing teams (Stone *et al.*, 2020). Because previous research has concentrated on the general concept of trust between organisations and consumers after experiencing it over some time, Mostafa and Kasamani (2021) investigated the consequences of the initial trust concept that develops after an individual has their first experience with AI chatbots. Also, Bawack, Wamba, and Carillo (2021), in their conceptual paper, posed some important questions to consider when using AI solutions by asking about the nature of the problem a manager is trying to solve with AI, the AI perspective required to tackle the problem, and the challenges that need to be addressed when considering the AI solutions.

METHODOLOGICAL APPROACHES AND THEORIES COVERED BY STUDIES ON AI AND STRATEGIC COMMUNICATION

In the literature, various approaches to the newly developing idea of AI and its communication connection have been reported. This section examines the literature about the methodologies, theoretical frameworks, and conceptual underpinnings used in these investigations. A description of the frameworks and methods used by the studies examined in this paper is provided in Figure 1 (below). For instance, compared to roughly five research that utilised qualitative approaches (e.g. Panda *et al.,* 2019), about six of the studies used quantitative methodology (e.g. Cheng & Jiang, 2020; Garcia-Marin & Calatrava, 2018) whereas some studies employed the mixed methods approach (e.g. Brobbey *et al*., 2021). Regarding frameworks, it was clear that some studies (e.g. Cai *et al.*, 2022) aimed to construct a conceptual framework out of pre-existing models or theories. Examples of models that have been expanded are the Diffusion of Innovation (e.g. Mostafa & Kasamani, 2021) and the Technology Acceptance Model

(e.g. Cai *et al.*, 2022).

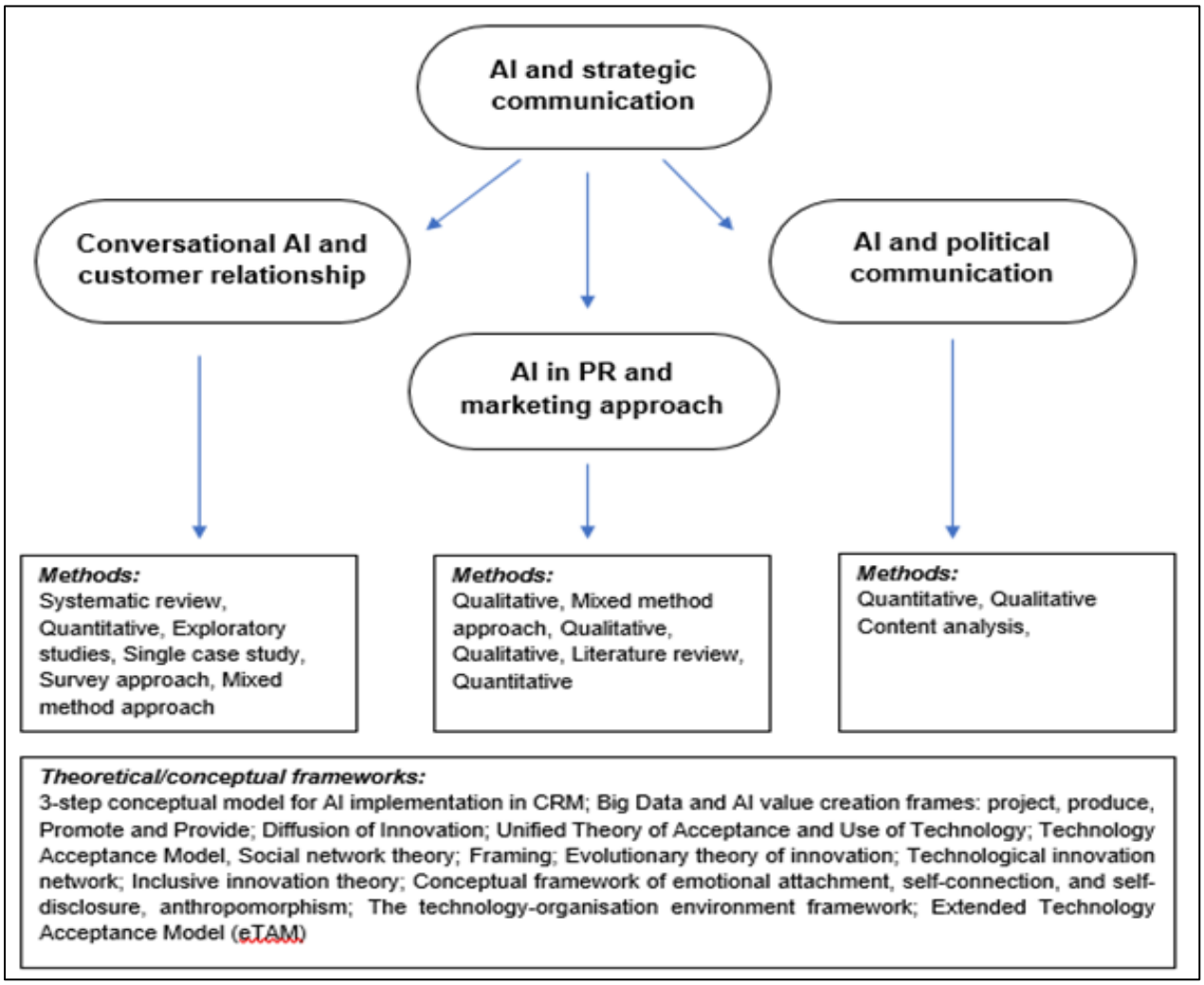


Figure 1: Conceptual map of AI and Strategic Communication Literature Review

FUTURE DIRECTIONS INFERRED FROM THE REVIEW TO HELP UNDERSTAND THE POTENTIAL IMPACT OF AI AND STRATEGIC COMMUNICATION STUDIES IN GHANA

Documenting emerging trends in AI and strategic communication and their implications can significantly impact Ghanaian communication researchers' study agendas. It is realised how scholarship is gradually emerging in this novel area because of technological advancement and the rate of publication from the western context as affirmed by the vast majority of studies reviewed in this paper. Research on AI and strategic communication, in the global south, focused on Africa and Ghana is scarce. After examining the literature, certain claims have been made that can guide future research in Ghana. This creates a crucial gap in our understanding of Ghana's developing field of AI and strategic communication. Furthermore, there is undoubtedly a pressing need to address the adoption of AI in strategic communication in the Ghanaian environment as well as practical implications in public relations and sectors where relationship marketing is unavoidable.

Jiménez and Ouariachi's (2020) study resolved that the development of soft skills, technical

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abilities, and ethical responsibilities is necessary for this period of innovative technology. Due to this demand, educational institutions that train students in communication must reform by regularly updating their curricula and offering digital media courses that expose students to AI technologies. This places emphasis on the necessary skills and knowledge of communication the institution should imbibe in training budding communicators. This is where the future direction and research gap are necessary in order to understand how the potential communicators in the Ghanaian context are being trained to embrace emerging innovative technologies.

Furthermore, certain studies have urged the adoption of AI technologies by PR experts. For instance, Panda *et al.* (2019) suggested that research should be conducted to assist PR professionals in making decisions regarding investment in AI solutions. Per observations from the study, sectors that are rapidly increasing AI adoption such as the financial sector, relationship marketing, and customer service domains (e.g. De Andrade & Tumelero, 2022) can be studied in the Ghanaian context. Another direction is to examine the angle of communication management and their knowledge and competencies in dealing with AI's adoption, impact, challenges, and risks (e.g. Zerfass *et al.,* 2020). Also, a grey area to study is the new trends and technological acceptance of immersive and wearable technologies and their implication for marketing communication, health, and sports (e.g. Kim & Chiu, 2018) to understand the Ghanaian perspective. Consumer perceptions and the use of chatbots in Ghana's commercial and retail business space as well as how consumers access news content using branded AI technology are intriguing research ideas to explore in Ghana.

Mostafa and Kasamani's (2021) study on the initial trust of AI chatbots showed that future research should concentrate on initiating and testing the findings in countries that appear to adopt AI chatbots and AI-assisted devices by examining other factors like information quality, customer experience, satisfaction, and attitude. Additionally, Cheng and Jiang (2020) point out that because their research was limited to the US market, context impact can be considered when examining how chatbots can support an organisation's marketing communications efforts. This goes to justify the essence of incorporating keen insights from the studies reviewed in order to explore the Ghanaian angle. Another area to investigate will be how brands in Ghana have adopted a variety of augmented technology or chatbots to automate their marketing communication mix by exploring how these technologies help to enhance the 4Ps of the marketing mix.

In the debate on AI and strategic communication, it is critical to acknowledge that consumers are a crucial component. Future research may focus on consumer demand, acceptance, and perceptions of new technology, which Passavanti *et al.* (2019) highlighted as a key factor. Research attention may be given to retooling the diffusion of innovation (Rogers, 2003) and the technology acceptance model (e.g. Cai *et al.*, 2022) to highlight the current trend in innovation communication in the African context. The ability of an organisation to explain its innovation to the public, and monitor the spread and adoption of the technology is a crucial component of innovation communication. This is significant for future research direction in Ghana if strategic communication scholars want to spearhead innovative strategic communication as change agents (Seeger, 2018).

CONCLUSION

AI presents an opportunity for strategic communication and there is a need for communication professionals to be involved and be in a position to offer guidance on how AI is instructed, used, and monitored (Gregory, 2021). According to the studies evaluated, innovative strategic communication is becoming more prevalent from an AI and strategy standpoint. The review also highlights several important advances in theory and practice as well as the adoption of AI technology by several strategic communication subfields. The paper examines how AI has been conceptualised in the literature to provide an overview of AI and its anticipated contributions. The review delved into the key research agenda addressed in strategic communication as well as potential future research directions. The goal of this research was an attempt to provide academics from different strategic communication fields with ideas and tools they need to better understand how AI and strategic communication intersects, which would ultimately progress knowledge and inform research directions in Ghana.

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