

Exploring the Complexities of AI-Mediated Communication and Human-Machine Communication

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Abstract

The rapid advancements in AI technologies, particularly Large Language Models (LLMs), have blurred the lines between AI-Mediated Communication (AI-MC) and Human-Machine Communication/Human-Artificial Intelligence Communication (HMC/HAIC). This paper introduces novel concepts such as AI-Assisted Communication (AI-AC) and AI-Dominated Communication (AI-DC) within AI-MC and proposes a theoretical framework positioning LLMs as communicators with dual sender-receiver roles. The framework is extended to encompass Generative AI technologies, offering a novel perspective on AI's multifaceted role in human communication processes. By integrating insights from diverse research perspectives, the paper contributes to the advancement of communication theory, highlights ethical considerations, and aims to stimulate further investigations into the transformative impact of AI on human communication.

Keywords: AI-Mediated Communication, Human-Machine Communication, Large Language Models, AI-Assisted Communication, AI-Dominated Communication, Generative AI

Exploring the Complexities of AI-Mediated Communication and Human-Machine Communication

Introduction

In the rapidly evolving landscape of communication studies, a clear delineation between Artificial Intelligence-Mediated Communication (AI-MC) and Human-Machine Communication (HMC) is essential for understanding the diverse roles, impacts, and ethical considerations of AI in various communication contexts. According to previous research (Hancock et al., 2020). AI-MC refers to the use of computational agents to modify, augment, or generate messages on behalf of human communicators to achieve specific communication goals. And HMC focuses on direct interactions between humans and AI systems, where the AI serves as the primary interaction partner (Guzman & Lewis, 2020; Westerman et al., 2020). However, this paper argues that the development and increasing sophistication of Large Language Models (LLMs) have blurred the lines between AI-MC and HMC, necessitating a more precise framework for exploring the role of AI in communication processes, as LLMs' capabilities now extend beyond simple text generation to complex tasks such as speech generation, scientific writing, and autonomous research (Hagendorff, 2023; Zhao et al., 2023; Brodник et al., 2023; Jiao et al., 2023; Gero et al., 2022; Zhang et al., 2023; Williams et al., 2023; Boyko et al., 2023; Rahman et al., 2023; Hamaniuk, 2021).

To illustrate the complexity of this distinction, consider the example of interacting with LLMs such as ChatGPT. When a user engages with ChatGPT without involving a third party, the interaction clearly constitutes a case of HMC. However, if the user employs ChatGPT to compose a thank-you email intended for another person, the distinction becomes less clear,

raising the question of whether the entire process—from creation to delivery—should be considered AI-MC or if the interaction with ChatGPT itself should be classified solely as HMC.

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To address this conceptual ambiguity and provide a more precise framework for exploring the role of AI in communication processes, this paper offers clearer definitions of AI-MC and HMC and introduces the term Human-Artificial Intelligence Communication (HAIC). The paper argues that AI-MC requires the involvement of human communicators at both ends (e.g., senders and receivers) and that the AI does not obtain full autonomy. In contrast, HAIC involves AI systems that obtain full autonomy and engage with human communicators at only one end (e.g., senders or receivers).

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Furthermore, this paper introduces two subcategories within AI-MC: AI-Assisted Communication (AI-AC) and AI-Dominated Communication (AI-DC). AI-AC refers to scenarios where AI plays a supportive role in enhancing human-generated content, while AI-DC describes situations where AI takes a predominant role in generating the content, with human involvement primarily focused on oversight and approval.

The distinction between AI-MC and HAIC is crucial due to their different implications for communication processes and ethical considerations. In AI-MC, AI can influence the perceptions and biases of both senders and receivers, potentially impacting trust and authenticity in communication (Mieczkowski et al., 2021; Hohenstein & Jung, 2020). In HAIC, the AI's

influence is limited to the human communicators directly interacting with it, raising concerns about over-reliance on AI (Belk, 2021).

Hence, based on the aforementioned definitions, when an individual employs ChatGPT to draft a thank-you email meant for another person, this scenario qualifies as AI-MC. This categorization arises because the communication involves two human parties (the senders and the receivers), and ChatGPT operates without complete autonomy in this context. Specifically, the sender exercises final judgment over the content produced by ChatGPT before dispatching it to the recipient. This process underscores the facilitative role of AI in enhancing human-to-human communication, without assuming direct control over the communicative exchange.

This paper argues that a clear understanding of the differences between AI-MC and HMC is essential for addressing the ethical challenges posed by AI in communication. By proposing a more detailed conceptual framework, this work aims to contribute to the advancement of communication theory and inform future research on the responsible integration of AI in various communication contexts.

Delineating Two Types of AI-Mediated Communication: AI-Assisted Versus AI-Dominated Dynamics

Following the clear distinction established between AI-MC and HMC, this paper further elucidates two novel constructs that distinctly categorize the operational modes of AI within the domain of mediated communication: Artificial Intelligence-Assisted Communication (AI-AC) and Artificial Intelligence-Dominated Communication (AI-DC).

AI-Assisted Communication (AI-AC)

AI-AC represents a scenario in which artificial intelligence serves a supplementary role in the communicative process. In this context, the genesis of the message is primarily human, with AI intervening to modify, augment, or enhance the original message without engaging in independent content creation. The core of AI-AC lies in its facilitative capacity, where the technology acts to refine and optimize human-generated content through grammatical corrections, language enhancements, and semantic adjustments. This auxiliary engagement by AI underscores its role as an enhancer of human communicative intent, rather than as a progenitor of content. In essence, AI does not typically generate original content in this context.

AI-Dominated Communication (AI-DC)

Conversely, AI-DC delineates a paradigm in which artificial intelligence assumes a predominant role in the creation and dissemination of communicative content. Here, the original content is largely or predominantly generated by AI, with human agents primarily involved in the oversight, review, and approval of the AI-produced material. This dominion of AI over the creative process marks a significant shift from enhancement to origination, raising profound questions about the nature of creativity, authorship, authenticity, originality, trust, and responsibility in the age of advanced machine intelligence.

The Importance of Distinguishing AI-MC and HAIC

This paper primarily argues that a clear delineation between AI-MC and HAIC is crucial for understanding the different roles and impacts of AI in communication processes. In AI-MC, the core of the interaction remains between human communicators (e.g., senders and receivers), with AI acting as a mediating tool to facilitate, enhance, or generate content. In this context, AI

influences both ends of the communication, even if one party (typically the receivers) is unaware of its use.

The scope of AI's influence is broader in AI-MC than HAIC. For instance, in the context of LLMs, AI can introduce or reduce biases in text-based communication (Bender et al., 2021; Towne, 2024), potentially affecting the perceptions and understanding of both the sender(s) and the receiver(s). Moreover, when one end of the communicators employs AI without disclosing its use, issues of trust and authenticity may arise, further complicating the dynamics of the interaction (Hancock et al., 2020).

In contrast, AI's direct influence is typically limited to only one end of human communicators in HAIC. HAIC involves direct interaction between humans and autonomous AI systems, where the AI system acts as an end of communicator. Therefore, in this scenario, the AI's influence is limited to the humans directly engaging with it, and the risks and limitations of the AI are typically made known by the platform (Guzman & Lewis, 2020). According to the Anthropic Help Center, Claude, an AI assistant developed by Anthropic, has the potential to generate incorrect or misleading responses. The company advises users on its website to exercise caution and verify the information provided by Claude, particularly when dealing with high-stakes situations (Anthropic, n.d.).

As AI technologies advance, especially in the realm of LLMs, HAIC is poised to undergo a revolutionary transformation. AI systems are evolving from simple conversational agents to sophisticated entities capable of generating coherent dialogues, comprehending text, writing code, and performing complex human-like tasks (Brown et al., 2020; Seabrook, 2019). This shift has far-reaching implications than previous AI agents in terms of learning, information seeking, and language editing for academic papers (Randall, 2020; Towne, 2024).

This paper argues that the distinction between AI-MC and HAIC is essential due to the different ethical concerns and the scope of impact associated with each form of communication. In AI-MC, the AI's influence can potentially spread bias among human communicators, with the effects propagating to a wider audience (Sap et al., 2020). For example, when authors use AI as a writing aid, the AI's biases may inadvertently influence the perceptions of perhaps thousands of readers. In contrast, the biases and information loss resulting from HAIC are limited to the individual human-AI interaction and do not directly affect others.

Defining the Autonomy of AI in AI-MC and HAIC

A key factor in distinguishing AI-MC from HAIC is the level of autonomy granted to the AI system. In AI-MC, the AI does not possess full autonomy, and human participants are involved at both ends of the communication. Even in cases of AI-Dominated Communication (AI-DC), where the AI predominantly generates content, humans remain as communicators at both ends of the exchange. When an AI system is given full autonomy or involves human communicators at only one end, the interaction falls under the category of HAIC.

However, it is important to note that the presence of other mediators, such as human moderators, does not preclude the classification of an interaction as AI-MC. For instance, human content inspectors may review and filter AI-generated content to prevent the dissemination of hateful, incorrect, or harmful messages (Gillespie, 2020). Similarly, platform operators may address technical issues and bugs to ensure the smooth functioning of the AI system (Geiger, 2020). These additional layers of human involvement do not alter the fundamental nature of AI-MC, particularly in complex communication scenarios.

Full autonomy, in the context of HAIC, refers to the AI's ability to facilitate, enhance, or generate content in any form of communication without requiring human approval or oversight

and function as an end of communicators (e.g. senders or receivers) rather than mediators on behalf of humans. This autonomy is exemplified by LLMs like ChatGPT, Claude, and Gemini (Brown et al., 2020), as well as less advanced AI systems such as Alexa and Siri (Guzman, 2020). These AI agents can automatically initiate or respond to communication based on predefined scripts or user prompts (Dale, 2016). While human moderators may review the content of these interactions to correct errors or address inappropriate outputs (Gillespie, 2020), the AI's ability to send and respond to messages remains automatic. Moreover, the human moderators does not take the responsibility or grant approval for the content that the AI generated. The involvement of non-communicator human mediators, such as moderators or technical support staff, does not negate the autonomous nature of the AI within the HAIC framework. Therefore, if these AI agents engage in conversations with human communicators and are not acting on behalf of other human communicators, this qualifies as HAIC.

Understanding the distinction between AI-MC and HAIC, along with the varying degrees of AI autonomy, is paramount for effectively navigating the complex landscape of AI-mediated and AI-driven communication (Guzman, 2018). By recognizing these differences, researchers and practitioners can better address the unique challenges and opportunities presented by each form of interaction (Gunkel, 2020).

Addressing the Complexities of AI-DC and HAIC

AI-DC and HAIC in the context of LLMs present a series of unprecedented challenges and questions, among which are considerations of authorship and creativity: Can AI be recognized as the author of a text? Does AI-generated content possess the novelty and creativity necessary to contribute meaningfully to human knowledge?

This paper argues that the core issue is originality. The issue of originality is central to AI-DC. With AI technologies, such as LLMs, generating novel content for real-life applications—demonstrated by the widespread use of platforms like ChatGPT, which boasts 180.5 million users in 2024 and garnered 1.6 billion visits in January of the same year (Duarte, 2024)—questions surrounding authorship and responsibility for AI-originally produced works have become increasingly pertinent. The capacity of AI to create original art and videos, as seen with tools like Midjourney and Sora, further complicates these questions, prompting a reevaluation of who should bear responsibility and receive credit for AI-generated works.

This paper argues that the responsibility and credit for content generated by AI should rest with humans. Given that AI lacks the agency and ethical understanding inherent in human beings, it is not equipped to assume responsibility. Consequently, it should not be credited as the author. In the context of AI-MC, the responsibility for ensuring the accuracy, appropriateness, and ethical use of AI-generated content lies with the human communicator initiating the interaction. This entails rigorous inspection, review, and validation of the content before its dissemination. Similarly, in HAIC scenarios, the human recipient of AI-generated suggestions or knowledge must undertake a critical evaluation of the content, assuming full responsibility for its application.

However, in practical scenarios, the liabilities, responsibilities, and accountabilities associated with works originally generated by AI may encounter a more intricate landscape. Legal frameworks or agreements among various stakeholders may delineate more complex and nuanced assignments of liabilities, responsibilities, and accountabilities. Nevertheless, these obligations ultimately rest with human entities or organizations.

Moreover, as long as the involvement of AI in content creation is transparently disclosed, the integration of AI-originated material in scientific publications and other forms of knowledge dissemination should be permissible, provided human authors assume full responsibility for the content. If AI technologies can uncover new research avenues or ideas previously unexplored by humans, they have the potential to make a meaningful impact on human knowledge. Neither Nature Portfolio (n.d.) nor Sage Publications (n.d.) have banned AI-originally generated content, although they outline specific guidelines for AI use in content creation. These include not qualifying LLMs like ChatGPT as authors due to the lack of accountability, documenting AI use in the manuscript, and emphasizing human oversight to ensure content accuracy and address limitations like biases and inaccuracies inherent in LLMs (Belk, 2021; Melhárt et al., 2023). The overarching theme is the importance of ethical AI integration into creative processes, balancing AI's benefits with the integrity of human authorship. Thus, the judicious and responsible application of AI in the creative process can enhance the collective intelligence and creative capacity of humanity, provided ethical considerations and the integrity of human authorship are maintained (Fiske et al., 2019; Zhang et al., 2021).

The Evolution of Human Communication and the Advent of AI

Human communication has undergone a fascinating evolution, marked by continuous advancements in efficiency, speed, and information volume. From the earliest forms of communication, such as sounds, gestures, and totems, to the development of language and text-based communication through books and other written media, human communication has experienced significant transformations. The introduction of technologies like the telephone and the internet has further revolutionized communication, dramatically increasing the speed and volume of information exchange. In summary, the development of human communication has

centered on the speed, form, efficiency, and volume of information exchange. However, the emergence of Artificial Intelligence (AI), particularly LLMs, represents a new frontier in the evolution of communication. This paper argues that the revolutionary impact that AI has on communication is unlike ever before; AI impacts the very fabric of information generation in communication and the role of the communicator that AI qualifies for. Previous advances in communication focused on the speed, efficiency, and volume of information exchange. As illustrated by Guzman (2020), AI has the potential to fundamentally alter the nature of communication by directly participating in content generation and interaction. Moreover, this paper further posits that LLMs, with their ability to engage in human-like conversations and generate coherent responses, have blurred the lines between human-human and human-machine communication. Therefore, a clear distinction between AI-MC and HAIC is vital. This may aid future research in investigating the impact of AI's different roles in communication and the extent to which AI influences the communication process.

Furthermore, this paper argues for the distinct impacts of AI-AC and AI-DC on human communication, positing that their effects diverge significantly. AI-AC exerts a more nuanced influence, subtly aligning linguistic patterns within human discourse without modifying the core message intention. Furthermore, concerns regarding authenticity and trust are minimal in AI-AC scenarios, as the AI in this process normally does not generate original content. This perspective is supported by the policies of leading academic publishers such as Science and Elsevier (Thorp, 2023; Elsevier, n.d.), which permit the use of AI for enhancing the readability and linguistic quality of submissions, provided it does not supplant essential authorial functions, including the generation of scientific, educational, or medical insights and conclusions.

The policies stipulate that the application of AI and related technologies in the writing process must be disclosed in manuscripts, ensuring transparency and maintaining trust among authors, readers, reviewers, editors, and contributors. This disclosure is intended to align with the terms of use for these technologies and uphold the integrity of the scholarly communication process.

Conversely, AI-DC presents the potential to radically alter the substance of communicative content, infusing the domain of human intellect and knowledge with themes, ideas, and viewpoints originated by AI. The implications of this shift—whether advantageous or harmful—remain a topic of active discussion. A critical concern in the AI-DC context is the issue of authenticity and trust, amplified by the recognition that AI cannot be considered an author by the majority of publishers, including Nature, Science, Elsevier, and Sage (Nature Portfolio, n.d.; Thorp, 2023; Elsevier, n.d.; Sage Publications, n.d.).

The diverging impacts of AI-AC and AI-DC illuminate the multifaceted role of AI in contemporary communication, suggesting the necessity for future research to explicitly differentiate between these two constructs within the broader framework of AI-MC studies, given their unique effects on the landscape of human interaction.

Therefore, investigating AI-MC and HAIC is of paramount importance, as it signifies a new era in the evolution of human communication. The emergence of AI poses novel challenges and demands for communication theory (Gunkel, 2020; Guzman, 2018). Only by thoroughly examining and accurately understanding the impact of AI on communication can we harness its potential and promote the healthy development of human communication in the age of artificial intelligence.

LLMs as Communicators: A Theoretical Framework for Human-Machine Communication in the Age of AI

The emergence of LLMs has marked a significant shift in the landscape of communication, challenging traditional notions of communicators and redefining the boundaries of HAIC. This paper proposes a novel theoretical framework that positions LLMs as communicators, emphasizing their unique roles as both senders and receivers in communication. By integrating insights from various research perspectives, this framework aims to provide a greater understanding of LLMs' impact on communication processes and contribute to the ongoing development of communication studies.

The proposed framework builds upon the foundation laid by Guzman and Lewis (2020), who emphasized the need to investigate machines' roles and influences in communication processes. It further draws from Jones' (2014) challenge to the traditional view of limiting communicators to humans, recognizing the theoretical significance of machines as communication participants. Gunkel's (2020) discussion of AI's role in communication and its impact on communication theory and practice provides valuable context for understanding LLMs as communicators.

Central to this framework is the conceptualization of LLMs as communicators with a dual role: as senders and receivers of information. As senders and receivers, LLMs demonstrate the ability to generate coherent, logically complex human-like language and engage in meaningful communication (conversations) with humans, distinguishing them from simple predefined machine-generated information. As receivers only, LLMs undergo a training process that involves learning and understanding language from vast amounts of human-generated linguistic data. This process underscores the crucial role of human language in shaping LLMs'

communicative abilities and positions humans as senders in the machine learning process. Thus, this paper argues that the creation and application of LLMs are highly related to the field of communication studies.

The dual role of LLMs as communicators signifies a new stage in HAIC, moving beyond traditional human-computer interaction. LLMs' ability to deeply engage in the communication process and exhibit human-like capabilities in generating and understanding information opens up new avenues for exploring the dynamics of human-machine communication.

This framework also incorporates insights from related research, such as the concept of Computers Are Social Actors (CASA) proposed by Nass and Moon (2000), which suggests that humans tend to apply social rules to computers. This supports the notion of perceiving LLMs as communicators. Additionally, studies on chatbots' applications in specific communication contexts, such as education (Fryer et al., 2017) and health communication (Ho et al., 2018), provide valuable empirical insights into the potential roles and impacts of LLMs in various communication scenarios.

By synthesizing these diverse research perspectives, the proposed framework offers an approach to understanding LLMs' unique roles as communicators. It expands the scope of HMC and AI communication studies, prompting researchers to reconsider the definition of communicators, explore the distinctive dynamics of human-machine communication involving LLMs, and investigate the implications of LLMs for communication processes and outcomes.

Furthermore, this framework aims to open up new research directions and raise important questions. For example, how do LLMs' capabilities as senders and receivers influence the effectiveness and quality of communication? What are the ethical considerations surrounding LLMs as communicators, particularly in terms of trust, accountability, and transparency? How

can human communicators adapt to and leverage the presence of LLMs in various communication contexts? Addressing these questions will be crucial for advancing our understanding of human-machine communication in the age of AI.

In conclusion, the proposed theoretical framework, which positions LLMs as communicators with dual sender-receiver roles, aims to contribute to HMC and AI communication research. By integrating insights from diverse research perspectives and highlighting the unique characteristics of LLMs, this framework provides a foundation for exploring the transformative impact of LLMs on communication processes and hopes to open up new avenues for theoretical and empirical investigations in the field.

Integrating Generative AI: Expanding the Theoretical Framework to Encompass AI-Generated Video, Audio, and Imagery

The proposed theoretical framework, which positions LLMs as communicators, can be further expanded to encompass a broader spectrum of Generative AI technologies, including AI-generated video, audio, and imagery. This expansion provides a more comprehensive perspective on understanding AI's role in human communication processes.

Generative AI, as an umbrella term, covers various AI technologies that can create new content, including text (through LLMs), video, audio, and images. By incorporating these diverse forms of AI-generated content into the framework, we can explore their unique characteristics and impacts on communication dynamics.

AI-generated video, audio, and imagery can be conceptualized as communicators in a similar vein to LLMs. AI-generated videos can be seen as a form of visual communication, conveying narratives, emotions, and information through moving images and sound. AI-generated audio, such as synthetic speech or music, can be considered a form of auditory

communication, capable of expressing ideas, emotions, and meaning through sound. AI-generated imagery, including synthetic photographs and artwork, can be viewed as a form of visual communication, conveying information, symbolism, and aesthetic value.

Each type of AI-generated content has its distinct features and potential influences on the communication process. For instance, AI-generated videos may have unique strengths in emotional expression and storytelling, while AI-generated imagery may have specific roles in information conveyance and symbolic representation. Exploring these nuances can provide a richer understanding of how different forms of AI-generated content shape human-machine communication dynamics.

Furthermore, investigating how humans perceive and interact with AI-generated video, audio, and imagery is crucial for understanding the unique dynamics of human-machine communication in these contexts. This includes examining how these AI-generated forms of content influence human emotions, cognition, and behavior, and how humans interpret and make sense of these machine-created artifacts.

Moreover, by broadening the scope of the theoretical framework to encompass Generative AI technologies, we can establish connections with other areas of AI communication research, such as computer vision, speech recognition, and affective computing. This situates the framework within a wider scholarly context and underscores its interdisciplinary relevance.

In conclusion, extending the LLMs-as-communicators theoretical framework to include AI-generated video, audio, and imagery significantly enhances its explanatory power and applicability. It provides a conceptual tool for understanding AI's multifaceted role in human communication processes.

Discussions

This paper distinguishes concepts between AI-MC and HAIC, introduces the concepts of AI-Assisted Communication (AI-AC) and AI-Dominated Communication (AI-DC), and provides a nuanced understanding of the varying roles and impacts of AI in communication processes. This framework contributes to the advancement of communication theory by addressing the complexities arising from the rapid development of AI technologies, particularly LLMs.

The clear delineation between AI-MC and HAIC is crucial for understanding the different ethical implications and the scope of impact associated with each form of communication. In AI-MC, the AI's influence can potentially spread bias among human communicators, with the effects propagating to a wider audience. Conversely, the biases and information loss resulting from HAIC are limited to the individual human-AI interaction and do not directly affect others. This distinction highlights the importance of considering the specific context and nature of AI involvement when assessing the ethical challenges and potential consequences of AI in communication.

Furthermore, the introduction of AI-AC and AI-DC as subcategories within AI-MC provides a more granular understanding of the varying degrees of AI influence on communication content. AI-AC emphasizes AI's role in assisting and optimizing human-generated content, while AI-DC highlights AI's dominance in content generation. This differentiation is essential for addressing issues of authenticity, credibility, and trust in AI-mediated communication, as the level of AI involvement may significantly impact how the content is perceived and interpreted by human communicators.

The proposed theoretical framework positions LLMs as communicators with a dual role: as senders and receivers of information. This conceptualization challenges traditional notions of communicators and expands the scope of HMC and AI communication studies. By recognizing

LLMs' ability to generate coherent, human-like language and engage in meaningful conversations with humans, the framework prompts researchers to reconsider the definition of communicators and explore the distinctive dynamics of human-machine communication involving LLMs.

The expansion of the framework to encompass Generative AI technologies, including AI-generated video, audio, and imagery, further enhances its explanatory power and applicability. This broader perspective allows for a more comprehensive understanding of AI's multifaceted role in human communication processes, considering the unique characteristics and potential influences of different forms of AI-generated content on communication dynamics.

However, the proposed framework also raises important questions and challenges that require further investigation. The ethical considerations surrounding LLMs as communicators, particularly in terms of trust, accountability, and transparency, need to be carefully examined. As AI technologies continue to advance and become more deeply integrated into communication processes, it is crucial to develop robust ethical guidelines and best practices to ensure responsible and beneficial use of AI in communication.

Moreover, the framework's emphasis on the dual sender-receiver roles of LLMs calls for empirical research to investigate how these capabilities influence the effectiveness and quality of communication. Future studies should explore how human communicators adapt to and leverage the presence of LLMs in various communication contexts, and how this interaction affects communication outcomes and user experiences.

The proposed framework also has practical implications for various domains, such as education, healthcare, and business communication. By providing a clearer understanding of the different forms of AI involvement in communication processes, the framework can guide the

development and implementation of AI-based communication tools and strategies in these contexts. For instance, in educational settings, the framework can inform the design of AI-assisted learning systems that optimize student engagement and learning outcomes while ensuring the authenticity and credibility of the educational content.

In conclusion, the proposed theoretical framework, which distinguishes between AI-MC and HAIC and introduces the concepts of AI-AC and AI-DC, aims to contribute to the field of AI communication research. By providing a nuanced understanding of the varying roles and impacts of AI in communication processes and expanding the scope to include Generative AI technologies, the framework offers a conceptual tool for exploring the transformative impact of AI on human communication. As AI continues to evolve and shape the communication landscape, this framework serves as a foundation for further theoretical and empirical investigations, guiding the development of responsible and effective AI-based communication practices.

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Figures & Tables

Figure 1. The Exemplified Process Considered as AI-MC

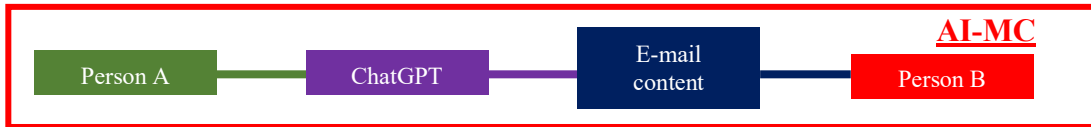


Figure 2. The Exemplified Process Considered as HMC



Table 1. Definitions of AI-MC

Limited Autonomy of AI in AI-MC	Necessity of Human Communicators (e.g., senders and receivers) in AI-MC	Role of Human Mediation in AI-MC
AI within the context of AI-MC operates under human oversight, lacking full autonomy. This means that the AI must act upon human authorization, inspection, supervision and approval. It underscores that the AI, in	This proposition asserts the fundamental requirement of both ends of human communicators (e.g., senders and receivers) in AI-MC, distinguishing it from HMC that must not involve direct	Acknowledging the potential involvement of additional human mediators in AI-MC, this proposition addresses their role in collaborating with AI to modify, augment, or generate messages. Such human mediation underscores

<p>this capacity, operates only as an extension of human intent within the communicative process, reinforcing the centrality of human agency in the deployment of AI for communication purposes.</p>	<p>communication between two human communicators.</p>	<p>the collaborative synergy between human agents and AI technologies in achieving communicative objectives, without altering the fundamental nature of AI-MC as facilitating human-to-human communication.</p>
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Table 2. Definitions of HMC/HAIC

Full Autonomy of AI	Exclusive Human Participation	Potential for Human Mediation
<p>HMC/HAIC encompasses scenarios where Machine/AI possesses full autonomy, initiating communication or responding to human prompts independently of direct human oversight.</p>	<p>HMC/HAIC is characterized by interactions that involve either one end of human communicators (e.g. senders or receivers), but not both human parties, delineating a direct engagement between a human and an Machine/AI agent.</p>	<p>While HMC/HAIC primarily involves direct interactions with Machine/AI, the possibility of human mediation exists, enhancing the interaction without altering its direct nature between Machine/AI and a human party.</p>