

# Artificial Intelligence (AI) and Human Communication: From Machine-Mediated Human Communication to Human and Machine Communication

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## ABSTRACT

*This systematic review assessed the ever-changing role of artificial intelligence and intelligent machines in human communication in the current globalized world. The findings reported in the current manuscript are from a systematic review of 17 papers published from 2002 to 2023. An online search using Web of Science (WoS) and SCOPUS databases was done to record the related works. A total of 58 works were recorded through an online search, and of all 58 items 17 works published from 2002 to 2023 in 15 different journals were selected and thoroughly reviewed. The reviewed works' results support the ever-growing and inevitable role of AI and intelligent machines in human communication. Based on the results, the influence of AI and intelligent machines on human communication is a modern opportunity. The results indicate that based on its fast growth, an intelligent machine powered by AI can conduct intra-machine communication and act as an autonomous communicator in active human interactions. Based on the results, people must adequately update their technical skills to deal with ever-growing communication technologies.*

## Keywords

Artificial intelligence (AI), Human communication, ChatGPT, Intelligent machine, Intra-machine communication, Human-machine communication.

## Introduction

Communication is an essential aspect and requirement of human life. Communication is the process of information sharing between at least two communicators that help communicators connect [1-3]. As an essential process, communication enables people to shape perceptions, establish and maintain relationships, and collaborate on achieving their aims [4,5]. Besides direct communication, technology-mediated communication is a modern and broadly applicable type of communication in modern life. Different aspects of technology-mediated communication, such as computer-mediated communication (CMC), enable individuals to interact with different people through the use of computer-related

technologies and networks [6,7].

Technology-mediated communication, as a modern aspect of communication that includes human beings and communication technologies, helps people interact and share their ideas and exchange information [7-9]. Moreover, technology-mediated communication, as a fast method of information sharing, enables individuals to interact and share information without considering space and time limitations and establish relationships beyond their physical locations [8,10-12].

Communication technologies experience fast and profound changes, and the mentioned changes are faster than the emergence of works and publications by researchers and scholars [13-15]. Skill building and the improvement of technical skills based on the needs and technological changes of the 21st century and the adaptation of new and fast technological changes are among the

main requirements of the effectual use of modern technologies in different aspects of human life, including communication and education [12,16,17].

Artificial intelligence (AI) and intelligent machines deeply affected mediated communication and communication studies. According to Tai [18], some people know AI as an industrial revolution, and AI could change how we think and affect our self-awareness and how we contact and talk to others.

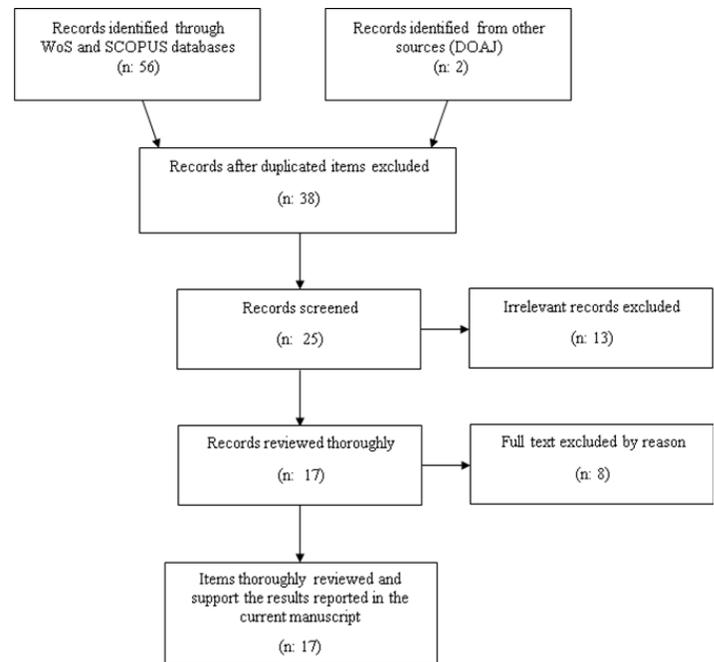
AI can be considered a system that can interpret external data correctly, learn from external data, and apply the gained information to fulfill specific tasks and achieve particular goals [19]. AI is more than a communication facilitator; instead automates interactions and influences some social processes [20,21]. AI is already broadly used in daily interactions. One of the most revolutionary platforms of AI is ChatGPT, which profoundly affects machine-mediated communication in the 21st century. According to Lund et al. [22], ChatGPT uses the processing abilities of natural language to perform duties based on the requests of its users. Moreover, ChatGPT works based on the existing resources and needs to gain the fundamental analytical skills of human beings [23].

Based on OpenAI [24], ChatGPT (Chat Generative Pre-trained Transformer) is a trained model that interacts in a conversational method, and its dialogue format enables ChatGPT to provide answers for follow-up questions, admit mistakes, reject unsuitable requests and challenge incorrect arguments. The ever-growing aspect of AI, its communicative ability, and its potential influence on text and meaning generation caused severe concerns among researchers and scholars. According to Guzman and Lewis [25], with the transformation of AI and AI-related technologies from mediating interactions between people to communicators, communication scholars faced challenges and opportunities, and now scholars are facing the challenge of exploring how technologies should be considered as one side of communication (communicator) instead of the mediator. However, despite concerns over the adverse effects of AI on societies, the social outcomes of communicating through AI's use remained unexplored [26]. To explore some probable effects of AI on human communication, this systematic review assessed the ever-changing role of AI and intelligent machines in human communication.

## Methods

To record the related works for this systematic review work, an online search of the existing published literature using databases provided by the Web of Science (WoS) and SCOPUS and by the adaptation of steps from PRISMA Group [27], was applied. Using four key terms, "artificial intelligence and human communication", "AI and communication", "Machine-mediated communication", and "intelligent machines and human communication", an online search was done. A total of 58 published papers were recorded from the WoS and SCOPUS databases. Based on the quick review and title, abstract, and conclusion screening of all recorded items, of all 58, 17 papers published from 2002 to 2023 in 15 different journals were selected for the complete review, and 41 duplicated and

irrelevant items were excluded. The inclusion/ exclusion criteria were the aim and scope of the recorded item based on the above-mentioned key terms. The flowchart below in Figure 1, adapted from PRISMA Group [27], includes the mentioned procedure for online search, item selection/ exclusion, and item review.



**Figure 1:** Flowchart of the online search, item selection/ exclusion, and item review procedures.

After selecting 17 papers for the complete review, the index of all journals that published the selected items was checked through the WoS and SCOPUS. Based on the assessment, all 17 selected items were published in 15 WoS, SCOPUS, and DOAJ indexed journals. Based on the results, of all 15 journals that published the 17 selected papers, 11 were indexed in WoS and SCOPUS, three were indexed in SCOPUS, and one was indexed in DOAJ. Table 1 below indicates the names and indexes of journals and the number of items selected from each journal.

**Table 1:** Name and index of Journals with the number of selected papers from each journal.

Name of Journal	Journal Index	Number of selected papers
Artificial Intelligence	WoS (SCIE) & SCOPUS	1
Business Horizons	WoS (SSCI) & SCOPUS	1
College and Research Libraries	SCOPUS	1
Communication Studies	WoS (ESCI) & SCOPUS	1
Computers in Human Behavior	WoS (SSCI) & SCOPUS	1
Journal of Computer-Mediated Communication	WoS (SSCI) & SCOPUS	1
MATRIZes	DOAJ	2
Nature	WoS (SCIE) & SCOPUS	1
New Media and Society	SCOPUS	2

Organizational Behavior and Human Decision Processes	WoS(SSCI) & SCOPUS	1
Patterns	WoS (ESCI) & SCOPUS	1
Revista da Sociedade Brasileira de Medicina Tropical	WoS (SCIE) & SCOPUS	1
<a href="#">Scientific Reports</a>	WoS (SCIE) & SCOPUS	1
TripleC	SCOPUS	1
Tzu Chi Medical Journal	WoS (ESCI) & SCOPUS	1

## Results

Results reported in the current review paper are based on a systematic review of 17 papers published from 2002 to 2023 in 15 different journals. The results from the reviewed works indicate that so far AI and intelligent machines played essential roles in human communication and people used the mentioned modern technologies as facilitators and mediators of their mediated interactions for many years [7,26]. Based on the results, machine-mediated communication (MCM) is a fast and relatively free type of communication and enables people to interact one another without the consideration of time and space limitations [13,10]. However, the results from review of works published after 2020 indicate that intelligent machines turned from mediators of communication between humans to active communicators that can conduct intra-machine communication and be one side of interactions with human beings as well [22]. Based on the results from the reviewed works, nowadays, communication technology and intelligent machines experience rapid changes and people need to update and upgrade

their technical skills and adapt to deal with AI as a revolutionary changes in machine-human communication properly [17,18]. Based on the results, through its recent developments, intelligent machine can establish relationships of with human-beings and vice versa [28]. Table 2 below indicates the main results from the 17 reviewed works.

## Discussion

This systematic review assessed the ever-changing role of artificial intelligence (AI) and intelligent machines (IM) in human communication in the current globalized world deeply affected by the ever-growing aspect of modern technologies. An online search using Web of Science (WoS) and SCOPUS databases was done to record the related and required published items for the current review work. A total of 58 published works were recorded from the mentioned databases. After a quick scan and exclusion of duplicated and irrelevant works, 17 papers published from 2002 to 2023 were selected and thoroughly reviewed.

The reviewed works' results support the effectiveness and essential role of AI and intelligent machines in human communication and vice versa. Based on the results, the relationship between human communication and AI is inevitable, and the influence of AI and intelligent machines on human communication is irreversible and ever-growing. The results from the reviewed works ask people to update their technical skills based on the ever-changing aspects of AI and intelligent machines and deal with the mentioned modern technologies appropriately.

**Table 2:** Main results from a review of 17 selected articles.

Key findings/ Main concluding points	Author(s) & year
CMC is a quick way of information sharing	Baltes et al. [10]
Technology-mediated communication is faster and cheaper type of communication	Herring [13]
Modern communication technologies and technology-mediated communication can be applied to different types of human communication, such as interpersonal, intergroup, and intercultural communication	Yu [7]
Communication is a potential contributor to scientific works on the effectiveness of AI in scientific activities	Maria et al. [29]
The existing communication theories do not cover interactions between people and AI, whereas people interact with AI with the help of virtual agents, such as language-creation software and 'socialbots'	Guzman & Lewis [25]
AI can be considered a system that can interpret external data correctly, learn from external data, and apply the gained information to fulfill specific tasks and achieve particular goals	Kaplan & Haenlein [19]
Works on explaining AI mostly focus on the intuition of researchers that comprises good explanations	Miller [30]
Humans and machines can establish relationships	Spence [28]
After more than six decades since the establishment of AI as an academic discipline, the related technologies experienced rapid advances, and interest towards the mentioned field increased	Nah et al. [31]
Some people consider AI as an industrial revolution, and AI could change the ways we think and could affect our self-awareness and the ways we contact and talk to others	Tai [18]
Modern communication technologies' ever-changing and growing aspects indicate deep growth and the emergence of different branches in technology-mediated communication	Yao & Ling [17]
More studies and published works are needed to extend AI understanding	Lévy [16]
AI may cause curricular changes through imposing need for "AI literacy"	Anders [32]
AI is already broadly used in daily interactions. However, despite concerns over the adverse effects of AI on societies, the social outcomes of communicating through AI's use remained unexplored	Hohenstein et al. [26]
AI cannot replace scientists, but resources related to AI can be considered valuable	Quintans-Junior et al. [23]
ChatGPT works based on the existing resources and contents	Teel et al. [33]
The works of ChatGPT are based on OpenAI's natural language processing model	van Dis et al. [34]
AI may partake in academic activities, such as proofreading	

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According to some researchers and scholars (e.g., Hohenstein et al., 2023; Yu, 2011) [7,26], computers, AI and intelligent machines played essential roles in human communication, and people used the mentioned modern technologies as facilitators and mediators of their mediated interactions for many years. Based on the results, machine-mediated communication (MCM) is a fast and relatively free communication that enables people to interact without considering time and space limitations [10,13]. Some scholarly works published after 2020 indicate that intelligent machines turned from mediators of communication between humans to active communicators that can conduct intra-machine communication and be one side of interactions with human beings [22]. According to some published works (e.g., Tai, 2020; Yao & Ling, 2020) [17,18] nowadays, communication technology and intelligent machines experience rapid changes, and people need to update and upgrade their technical skills and adapt to deal with AI as a revolutionary change in machine-human communication properly. Nowadays, one of the mostly applicable AI-powered chatbot is ChatGPT that caused some concerns over its probable negative effects on human civilization. However, based on some of the cited sources in the current work, ChatGPT is a trained model and interacts in a conversational method, uses the processing abilities of natural language and works based on the existing resources and provided by humans. Moreover, Spence [28] believes that intelligent machines can establish relationships with human beings through recent developments and vice versa.

Based on the results reported in the current manuscript, AI and intelligent machines can conduct intra-machine communication, as humans conduct intrapersonal communication, and instead of being just facilitators and mediators of interactions between humans, AI and intelligent machines can interact with human beings and be considered as independent communicators. The reported results focus on the consideration of the ever-growing aspect of AI and modern communication technologies as a modern opportunity instead of criticism and being pessimistic regarding the fast growth of AI and intelligent machines. Based on the results, in the case of updating their awareness and abilities, people can use AI and intelligent machines in their aspects of their personal and professional lives. The results from the current study may open a helpful window into the relationship between AI and human communication.

### Conclusion

The current review assessed the ever-changing role of artificial intelligence and intelligent machines in human communication in the globalized world deeply affected by the ever-growing aspect of modern technologies. The results included in the current manuscript are based on a systematic review of 17 papers published from 2002 to 2023. The results reported in the current work support the effectiveness and essential role of AI and intelligent machines in human communication and vice versa. Based on the results, the relationship between human communication and AI is inevitable, and the influence of AI and intelligent machines on human communication is irreversible and ever-growing. The results from the reviewed works ask people to update their technical skills

based on the ever-changing aspects of AI and intelligent machines and deal with the mentioned modern technologies appropriately.

According to the results, AI and intelligent machines played essential roles in human communication, and people used the mentioned modern technologies as facilitators and mediators of their mediated interactions for many years. Based on the results, communication technology and intelligent machines experience rapid changes and can establish relationships with humans; thus, people need to update and upgrade their technical skills and adapt to deal with AI properly. The results indicate that, based on their fast and revolutionary developments, AI and intelligent machines powered by AI can conduct intra-machine communication as individuals conduct intrapersonal communication. They can also interact with humans as autonomous communicators and be one side of active interactions with human beings. Based on the results, in the case of updating their awareness and abilities, people can use AI and intelligent machines in different aspects of their personal and professional lives.

### Compliance with Ethical Standards

The authors of the current work declare no conflict of interest concerning the publication of this manuscript. The study does not involve any human and/ or animal participation. For the research design, data collection procedures, data analysis, and data report, all required research regulations were considered and applied.

### References

1. Edwards A, Edwards C. The machines are coming: Future directions in instructional communication research. *Communication Education*. 2017; 66: 487-488.
2. Sarwari AQ, Abdul Wahab MN. Study of the relationship between intercultural sensitivity and intercultural communication competence among international postgraduate students: A case study at University Malaysia Pahang. *Cogent Social Sciences*. 2017; 3: 1310479.
3. Schramm WE. *The process and effects of mass communication*. Urbana University of Illinois Press. 1955; 70: 290-291.
4. Mairesse F, Walker MA, Mehl MR, et al. Using linguistic cues for the automatic recognition of personality in conversation and text. *J Artif Intell Res*. 2007; 30: 457-500.
5. Pennebaker JW, Mehl MR, Niederhoffer KG. Psychological aspects of natural language use: our words, our selves. *Annu Rev Psychol*. 2003; 54: 547-577.
6. Barnes SB. *Computer-mediated communication: Human-to-human communication across the Internet*. Boston Allyn Bacon. 2003; 347.
7. Yu B. *Computer-Mediated Communication Systems*. triple. 2011; 9: 531-534.
8. Blake R. Computer mediated communication: a window on 12 Spanish interlanguage. *Language Learning & Technology*. 2000; 4: 120-136.
9. Mahmoud AEB, Auter PJ. *The Interactive Nature of Computer-Mediated Communication*. American Communication

- Journal. 2009; 11: 1-36.
10. Baltes BB, Dickson MW, Sherman MP, et al. Computer-Mediated Communication and Group Decision Making: A Meta-Analysis. *Organizational Behavior and Human Decision Processes*. 2002; 87: 156-179.
  11. Green L. *Communication Technology and Society*. London Sage Publication Ltd. 2002.
  12. Koufadi E. Integrating Computer Mediated Communication (CMC) and online networking in the teaching of English as a foreign language in high school. *Research Papers in Language Teaching and Learning*. 2014; 5: 199-222.
  13. Herring SC. Slouching toward the ordinary: current trends in computer-mediated communication. *New Media And Society*. 2004; 6: 26-36.
  14. Hrastinski S, Keller C. Computer-mediated communication in education: A review of recent research. *Educational Media International*. 2007; 44: 61-77.
  15. Soukup C. Building a theory of multi-media CMC: An analysis, critique and integration of computer-mediated communication theory and research. *New media and society*. 2000; 2: 407-425.
  16. Lévy P. IEML: rumo a uma mudança de paradigma na Inteligência Artificial. *MATRIZES*. 2022; 16: 11-34.
  17. Yao MZ, Ling R. What Is Computer-Mediated Communication?-An Introduction to the Special Issue. *Journal of Computer-Mediated Communication*. 2020; 25: 4-8.
  18. Tai MCT. The impact of artificial intelligence on human society and bioethics. *Tzu Chi Med J*. 2020; 32: 339-343.
  19. Kaplan A, Haenlein M. Siri Siri in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons*. 2019; 62: 15-25.
  20. Gehl RW, Bakardjieva M. *Socialbots and Their Friends: Digital Media and the Automation of Sociality*. Routledge. 2017.
  21. Reeves J. Automatic for the people: the automation of communicative labor. *Communication and Critical/Cultural Studies*. 2016; 13: 150-165.
  22. Lund BD, Wang T, Mannuru NR, et al. ChatGPT and a new academic reality: Artificial Intelligence-written research papers and the ethics of the large language models in scholarly publishing. *Journal of Association for Information Science and Technology*. 2023; 74: 570-581.
  23. Quintans-Junior LJ, Gurgel RQ, Correia D, et al. ChatGPT: The new panacea of the academic world. *Rev Soc Bras Med Trop*. 2023; 56: e0060-2023.
  24. OpenAI. Introducing ChatGPT. 2022. <https://openai.com/blog/chatgpt>
  25. Guzman AL, Lewis SC. Artificial intelligence and communication: A Human-Machine Communication research agenda. *New Media and Society*. 2019; 22: 70-86.
  26. Hohenstein J, Kizilcec RF, DiFranzo D, et al. Artificial intelligence in communication impacts language and social relationships. *Scientific Reports*. 2023; 13: 5487.
  27. Moher D, Liberati A, Tetzlaff J, et al. Preferred Reporting Items for Systematic Reviews and Meta- Analyses: The PRISMA Statement. *International Journal of Surgery*. 2010; 8: 336-341.
  28. Spence PR. Searching for questions, original thoughts, or advancing theory: Human-machine communication. *Computers in Human Behavior*. 2019; 90: 285-287.
  29. Maria I, Carlos M, Romancini R. Artificial Intelligence, human intelligence and communication research. *MATRIZES*. 2023; 17: 3-8.
  30. Miller T. Explanation in artificial intelligence: Insights from the social sciences. *Artificial Intelligence*. 2019; 267: 1-38.
  31. Nah S, McNealy J, Kim JH, et al. Communicating Artificial Intelligence (AI): Theory, Research, and Practice. *Communication Studies*. 2020; 71: 369-372.
  32. Anders BA. Is using ChatGPT cheating, plagiarism, both, neither, or forward thinking? *Patterns*. 2023; 4: 100694.
  33. Teel ZA, Wang T, Lund B. ChatGPT conundrums: Probing plagiarism and parroting problems in higher education practices. *College and Research Libraries*. 2023; 84.
  34. van Dis EAM, Bollen J, van Rooij R, et al. ChatGPT: Five priorities for research. *Nature*. 2023; 614: 224-226.