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Interaction Process Between Humans and ChatGPT in the Context of Interpersonal Communication

Rizca Haqqu[a], Salwa Nur Rohmah [b]

[a] *Communication Science at Telkom University, Indonesia*
[b] *Communication Science at Telkom University, Indonesia*

rizcahaqqu@telkomuniversity.ac.id, *sawanurr@gmail.com*

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Abstract. This study examines human interaction with artificial intelligence technology, focusing on the implementation of ChatGPT, a chatbot developed by OpenAI. Through the Human-Machine Communication (HMC) approach, the research describes human-like attributes in ChatGPT, exploring emotional responses and utility in educational, professional, and personal contexts. Qualitative research methods with triangulation techniques were used for a holistic understanding, involving interviews, observations, and document analysis. The results indicate that ChatGPT can provide adaptive responses, adjusting language style, and presenting information with self-awareness. Comparisons between human-to-human and human-to-machine interactions, particularly through ChatGPT, reveal significant differences. In human-to-human communication, the primary role is given to humans as message sources, while in machine communication, ChatGPT becomes an interactive partner, especially in text messages. Despite similarities in interpersonal communication features, such as feedback, personal relationship cues are more pronounced in human-to-human interactions. Factors like self-concept, openness, and confidence are dominant in human-to-human communication, while AI literacy becomes crucial in interactions with machines.

Keywords: Human-Machine Communication, ChatGPT, Interaction, Interpersonal.

*Correspondent Author : Rizca Haqqu
University/Institution and Address : Telkom University
Mobile Phone of Correspondent Author : 081325225900

INTRODUCTION

This research is based on the phenomenon of the development of artificial intelligence and how humans use this technology in their interaction processes. Humans exhibit various unique characteristics when interacting with technology. One of them is adaptability, where humans can learn and adapt to new technologies, understand new concepts, and integrate technology into their daily routines. Additionally, humans tend to rely on technology in various aspects of life, ranging from communication and entertainment to work and education (Belyh, 2019). Another characteristic is the natural human desire to understand and leverage new technology, often serving as a driving force for innovation and discoveries. Technology also functions as a tool for social interaction, and its use can have significant emotional impacts. For example, the use of social media has been associated with increased feelings of loneliness and depression among some individuals. Lastly, technology can influence behavioral changes, such as alterations in how information is sought through the Internet and communication via smartphones. Therefore, the impact of technology can be significant in shaping our thinking, learning, and behavior (Belyh, 2019).

The emergence of new media in human civilization, along with technological advancements, is believed to rival the popularity of conventional media. The high consumption of the internet is a key driver in the development of this technology, The use of internet in households reached 78.18%, while mobile phone usage reached 62.84%, and computer ownership increased to 18.83%. Additionally, the percentage of the population accessing the internet significantly increased from 25.37% in 2016 to 53.73% in 2020. On the other hand, landline phone ownership experienced a decline, dropping from 3.49% in 2016 to 1.65% in 2020. These data reflect the increasing trend of dependence on the internet and mobile devices in households, while landline phone usage has declined (Surtasih et al., 2020). Recent technology has proven to have positive impacts on the education process, such as artificial intelligence (Rina, 2023). Josephine Wolf, in the Global Perspectives journal, states that technology is becoming increasingly popular in various sectors, including vehicles, aircraft, medical equipment, and financial transactions, all relying on technology. Furthermore, government and corporate surveillance of individuals, as well as information processing, now heavily depend on digital technology and artificial intelligence (AI), potentially reducing interaction or communication among humans (Wolff, 2021). Artificial intelligence, often referred to as AI can be described as a system that exhibits intelligent behavior, analyzing its surrounding environment and autonomously taking actions to achieve specific goals. This includes the ability of AI to intelligently respond to its environment, utilize programmed knowledge, and execute actions autonomously to achieve desired outcomes (Sheikh, Prins, and Schrijvers, 2023). In general, the definition of artificial intelligence (AI) refers to the ability of computers to mimic human intelligence.

The popularity of artificial intelligence (AI) is not a new phenomenon for humanity. In 1966, society was fascinated by the emergence of the "ELIZA Effect," a tendency to perceive the intelligent behavior of computers, such as that possessed by ELIZA, as an analogy to human behavior. This term is also known as anthropomorphism and is derived from the name of the ELIZA chatbot created by Joseph Weizenbaum in that year (Cristea, Sucala, and David, 2013). As a computer program, a chatbot is designed to simulate conversations with human users, especially over the Internet. This type of artificial intelligence can interact with users through text or voice, understanding one or more human languages through Natural Language Processing (NLP). Chatbots are also known as smart bots, interactive assistants, digital assistants, or artificial conversation subjects (Adamopoulou and Moussiades, 2020).

The essence of artificial intelligence (AI) is the effort to create machines capable of simulating human rationality. To achieve this goal, AI can employ various techniques, such as machine learning, neural networks, deep learning, and natural language processing, as enhancements to human capabilities. This approach involves logical calculations and modeling of human consciousness cognitively (Sheikh, Prins, and Schrijvers, 2023). Bozdag, in his writing, notes that large companies are currently making substantial investments to launch AI-based tools. This is evident in various applications such as ChatGPT, Dall-e, Midjourney, Microsoft Copilot, Photoshop AI Tool, and several other emerging and developing applications (Bozdag, 2023). Now, we can observe a similar phenomenon with the popularity of ChatGPT. The advancement of this technology has transformed the communication culture of society and how they choose media as a source of information and entertainment.

ChatGPT is an implementation of a chatbot that utilizes artificial intelligence technology, specifically language models, developed by OpenAI. Its main function is to provide realistic and natural responses to various questions and commands from users. Additionally, ChatGPT can generate text on various topics, styles, and lengths based on user instructions (Maulana, Darmawan, and Rahmat, 2023). ChatGPT is a product of OpenAI, an artificial intelligence research organization founded in 2015 by prominent figures in the technology world, such as Elon Musk, Peter Thiel, Reid Hoffman, and others. OpenAI's mission is to develop artificial intelligence that benefits humans without causing risks or harm (Sahabudin, 2023). According to the McKinsey and Company survey

results (2022) from 1,492 global survey respondents, 50% of respondents have adopted AI in at least one of their business units. The artificial intelligence developed by OpenAI can respond to human questions in structured, coherent, and accurate text or prompts. Additionally, ChatGPT can remember the context of previous conversations (Setiawan and Luthfiyani, 2023). Thorp, in his writing quoted by Sundar and Liao (2023), states that ChatGPT is an exceptional medium for using natural language.

Experiments conducted by Setiawan and Luthfiyani (2023) explain that the application of appropriate prompt techniques can be used to produce fairly good scientific writing. According to Westerman et al., (2020), the presence of technology has altered existing communication structures, where machines or technology can now become communicative subjects. Humans may perceive artificial intelligence (AI) and its products as communication partners, even responding to AI as if they were communicating with a human. AI is considered more advanced than traditional computer software (Nah et al., 2020). Humans often use planned interaction and communication ("scripted"), so the use of AI algorithmic responses can enhance communication speed, positive emotional language use, and positive perceptions of interpersonal relationships (Hohenstein et al., 2023). As one of AI's products, ChatGPT, as described by Sundar and Liao (2023), has excellent abilities in imitating human language styles, although its drawback is that the originality of its written work is not comparable to human capabilities. Therefore, in the study conducted by Adi Setiawan and Luthfiyani (2023), it is stated that there is a need to conduct experiments using effective techniques to manage prompts to explore the data and potential of ChatGPT.

Based on several previous studies presented by the researcher, it is explained that ChatGPT, as artificial intelligence, has been widely adopted and is capable of responding to human questions coherently, and has the ability to remember the context of previous conversations. Despite the sophistication in AI capabilities like ChatGPT, there are still specific aspects that need to be explored more deeply, such as the similarity of interaction between humans and machines with interpersonal communication among humans. There are also unique aspects and complexities that require further understanding and exploration. ChatGPT, as one of the developments in artificial intelligence (AI) technology, has become an interesting object for further study. The study of AI within the scope of Communication Science also involves the emergence of a new theory known as Human-Machine Communication (HMC) (Guzman and Lewis, 2020). The main focus of this theory is on the meaning created in the interaction between humans and technology, as well as its implications for individuals and society. HMC is used as a conceptual framework to describe the interaction and communication between humans as users and machines or systems that use artificial intelligence or other technologies. The background of the HMC theory arises from phenomena that attract attention, including (1) Awareness that even though humans are aware that artificial intelligence is programmed by humans, they feel they are communicating with the machine, not its programmer. (2) Machines or robots are considered communicative partners despite their differences from humans. (3) Humans are involved in the exchange of messages with technology (Guzman and Lewis, 2020). HMC aims to create an effective and easily understood communication platform between humans and machines. Its goal is for users to interact with machines more comfortably and efficiently. The development of HMC involves various fields, including artificial intelligence, Natural Language Processing (NLP), pattern recognition, and responsive user interface design (Littlejohn, Foss, and Oetzel, 2021). Thus, HMC becomes an important theoretical foundation in understanding the interaction between humans and technology and in developing better communication solutions in the era of AI development.

One derivative of the HMC theory is Communicative Artificial Intelligence (CAI). CAI brings a new perspective to communication studies by considering the role of AI as a communicator. The presence of this theory makes a significant contribution to the field of communication, where the conventional Lasswell paradigm emphasizes elements of "who," "what," "through what media," "to whom," and "with what effect" still assumes that the role of "who" must be held by humans, while the role of "what" is held by the media (Mulyana, 2000). Applying conventional communication concepts to the CAI perspective is an interesting subject for further exploration. Although humans are aware

that AI is programmed by other humans, they acknowledge that their messages are conveyed to the machine, not its programmer. Machines or robots are considered communicative partners, despite their differences from humans (Guzman and Lewis, 2020). As a result, CAI opens up opportunities to redefine the conceptual framework of communication in the context of artificial intelligence, expanding our view of human interaction with technology.

A study cannot be separated from the object and subject of the research. The object is defined as the focus of attention to be observed and studied. In the context of this research, the object is the interaction between humans and robots. To complement field data, the research subject focuses on Generation Z. Generation Z is a group of individuals born in the era of technological advancement and are familiar with electronic media from an early age. This generation is accustomed to using technology in various aspects of life (Nasution, 2020). Therefore, this generation is considered familiar with the use of artificial intelligence, especially ChatGPT, in their daily lives.

Based on the researcher's description, there is an interesting research gap within the scope of Communication Science to be explored more deeply, which is to examine the form and style of interaction that occurs during the communication process between humans and ChatGPT. This opens up opportunities to further understand the dynamics of interaction between humans and artificial intelligence, especially in Generation Z, and its implications for how they communicate and interact with technology.

RESEARCH METHOD

The method of scientific research is a structured effort to achieve accurate understanding, guided by rational considerations (Nasir, 2009). The focus of this research is on the use of qualitative research methods to explore the interaction between humans and ChatGPT, whereas in the HMC theory, the interaction and communication between humans and machines involve the exchange of information, messages, and communication between humans as users and machines or systems that use artificial intelligence or other technologies (Littlejohn, Foss, and Oetzel, 2021). A qualitative approach is applied by utilizing triangulation techniques in data collection. Triangulation involves combining observations, interviews, and documentation to obtain a holistic understanding (Sugiyono, 2023). Document review is also used to sharpen the researcher's analysis from different perspectives based on the context being studied. Data collection in this research utilizes a literature review as its technique. Literature review refers to the examination of literature, reports, books, and records related to the issues to be investigated (Haqqu, 2020). In the data collection process, interview transcripts, photos, and voice recordings are involved. Sugiyono explained that in research, the criteria for informants must be determined because the sources must be competent in their field to produce quality data (da Conceicaoa and Supratmanb, 2022).

The researcher conducted a pre-research by distributing a Google Form containing general questions such as name, age, contact information, whether the respondent uses ChatGPT, how often and for how long they have been using ChatGPT, and their experiences with it. From these general questions, 10 out of a total of 107 informants from Generation Z were selected based on predefined categorizations. The chosen ten informants are avid users, even addicted, in interacting with ChatGPT, making them key informants for this study. Key informants are individuals with a profound understanding of ChatGPT usage due to their intensive experiences and involvement. They have the capacity to provide valuable insights into how interactions with ChatGPT are implemented in real-life contexts. The following is a review of the Google Form results.

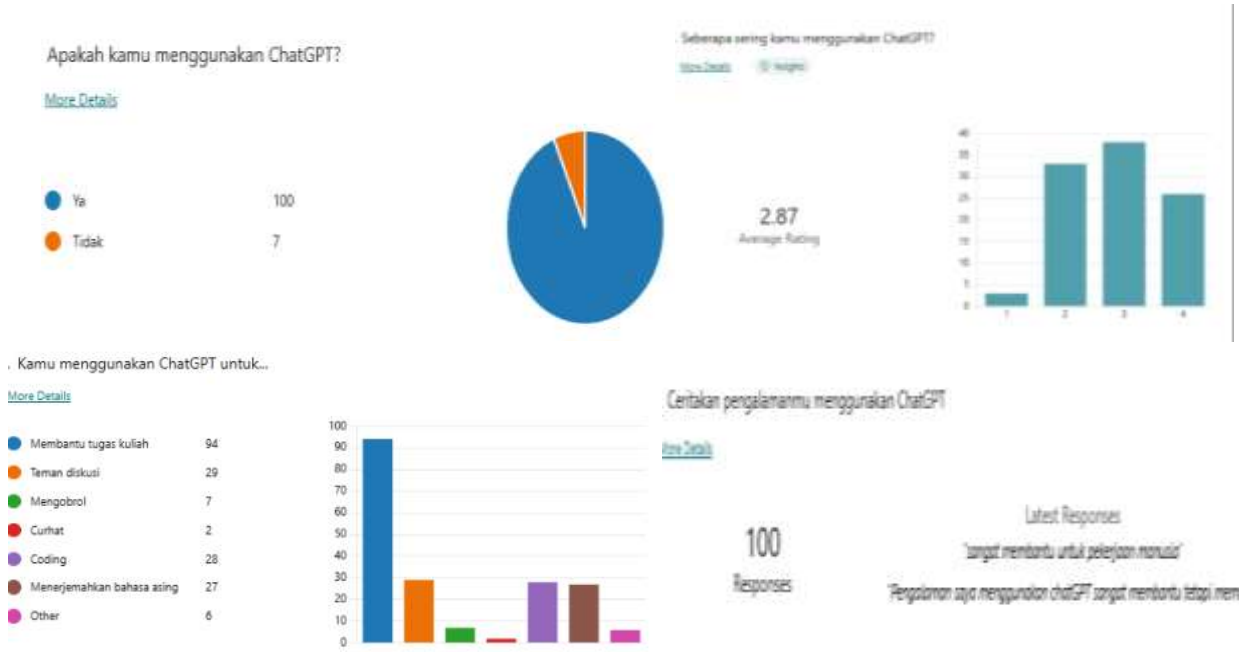

Image 1. Categorization of Informants

Furthermore, the researcher conducted in-depth interviews with the informants, emphasizing the context of interaction between humans and ChatGPT. Based on the obtained data, analysis was then performed using data triangulation techniques to ensure the validity and depth of data interpretation. Triangulation involves the use of diverse data sources, methods, theories, or different research studies. Through this approach, the research aims to provide a more comprehensive and in-depth understanding of the interaction between humans and ChatGPT in the context of communication.

RESULT

The concept of how humans interact with ChatGPT is related to the dimensions of space and time (Guzman and Lewis, 2020). ChatGPT is part of artificial intelligence within Deep Learning Machines (DL). This technology enables ChatGPT to handle complex tasks such as image and voice recognition, Natural Language Processing (NLP), and autonomous systems (Taye, 2023). In general terms, the model of interpersonal communication is described as communication conducted between one person and another face-to-face, carried out verbally and non-verbally, and can elicit direct responses (Josiarvi and Rina, 2021). With the existence of this artificial intelligence model, interaction patterns between humans and machines are formed. The communication patterns that occur resemble interactions in interpersonal communication, where there are communicators and communicators. Here are the dynamics of interaction between the informant as a human and ChatGPT as an artificial intelligence robotic entity.

Attributes of Humanity in ChatGPT

The human-like attributes of ChatGPT are explained by the informants, highlighting ChatGPT's ability to respond by suggesting users consult with experts or more competent individuals, demonstrating concern for continuous learning and access to deeper information. ChatGPT's ability to understand messages from the questions asked creates a more human-like and easily understandable interaction experience. This reflects the level of complexity and adaptive ability in responding to user questions or requests. Other informants emphasize ChatGPT's responses in providing feedback on additional information to enhance the continuity of answers. This shows an effort to provide more comprehensive and relevant solutions.

Furthermore, ChatGPT can adapt its language style according to user needs, demonstrating the ability to adjust to individual communication preferences, both in formal and informal contexts.

Finally, informants mentioned that ChatGPT can tailor interactions to the conversation context, especially in topics relevant to Generation Z. One informant noted that ChatGPT is self-aware, even apologizing for its limitations. This reflects humility and self-awareness, indicating human-like qualities. Here are some quotes from informant interviews:

> *"For example, if it doesn't know, it's like asking, is there more information, maybe it can be helped, suppose the information we provide is not quite right, it adds, it reminds if there is more up-to-date information."*
> *"It knows how to answer people's questions based on how we ask. For example, if we ask formally, it will answer formally. If we ask more casually, like talking to a friend or talking to someone real, it will also greet us in the way others respond to us, it's quite flexible."*
> *"If there's similarity with humans, it can think. If we give a command, it can process until it gives an answer."*
> *"ChatGPT is like a friend, you know, that can be discussed. Like... it's like chatting, right? Yes, like a friend who can be discussed because I've also chatted with ChatGPT out of boredom, and people are chatting with ChatGPT, the chat is like language with a friend."*

From the informant's perspective on how ChatGPT is viewed from a humanistic standpoint, elements are revealed that resemble forms of communication between humans. ChatGPT not only provides functional responses but also shows self-awareness, the ability to adapt to the user's language style, and the responsibility to ensure information accuracy. ChatGPT's ability to respond by considering the conversation context and asking additional questions reflects the interactive aspect of human-like interpersonal communication. Furthermore, ChatGPT's apologies demonstrate a humble attitude, which is often a key element in building healthy interpersonal relationships. Therefore, although ChatGPT is artificial intelligence, the interaction creates a communicative environment that provides a human touch and retains some characteristics of interpersonal communication.

Attributes of Human Interaction with ChatGPT

Based on the interaction between informants and ChatGPT, the experiences of the informants demonstrate various aspects of flexibility and usefulness of ChatGPT in various situations. For example, they utilize ChatGPT to translate foreign languages, helping overcome language barriers in academic study contexts. Additionally, informants feel additional benefits when using ChatGPT in creating Curriculum Vitae (CV), supporting internship searches, and preparing professional presentations.

The emotional aspect of interactions with ChatGPT is evident when informants use the application as a confidant. ChatGPT's responses resembling a human friend add a personal dimension to the interaction, indicating that ChatGPT can play the role of a friendly and empathetic virtual listener. Furthermore, in informal interactions as a discussion partner, ChatGPT is also seen as a virtual companion for casual conversations.

The use of ChatGPT in answering quizzes or assessments emphasizes its effectiveness in providing information and answers for academic tasks. Informants also describe the utilization of ChatGPT's paraphrasing feature to aid in thesis writing, showcasing the convenience it offers in various academic activities. In the context of internships, informants use ChatGPT for coding activities, proving its flexibility in supporting technical tasks such as code development and understanding. In brainstorming ideas, informants state that ChatGPT can serve as a source of inspiration to generate creative and relevant ideas. Here are some quotes from informant interviews:

> *"For the internship, I'm really into coding, so I ask for... the idea here, then please make the code. Sometimes ChatGPT isn't always 100% correct like that. We can also create code, and then there's an error, and we can ask ChatGPT what the error is, so that ChatGPT can provide a solution."*

"ChatGPT is like a friend, you know, that can be discussed. Like... it's like chatting, right? Yes, like a friend who can be discussed because I've also chatted with ChatGPT out of boredom, and people are chatting with ChatGPT, the chat is like language with a friend."
"Um... mostly just using its keywords, like 'please explain' or paraphrase this, then find this data. It's just those keywords."
"In college, just recently, there was a political communication assessment 1, like there were several questions, and because I was lazy, and I felt the lecturer's PowerPoint was incomplete, so I asked AI, and it could answer everything."
"After that, for college assignments, like the thesis. The journals are mostly in English, so I usually use ChatGPT for translation."
"Mostly, when I'm bored and unrelated to asking about my thesis, but they told me, like at the end... suppose I say thank you, then if it answers, both of us have to use the ':3' emoticon."

Overall, the interaction of informants with ChatGPT reflects various roles in supporting educational, professional, and personal activities. From the overall explanations of informants about the interaction process with ChatGPT, it is evident that the concept of interpersonal communication is manifested through the emotional responses of ChatGPT, creating a virtual relationship that facilitates sharing experiences and achieving communicative goals.

DISCUSSION.

Based on the research findings, categorization based on attribute determination is directed to observe how communication takes place during the interaction process between humans and machines. In the discussion chapter, the researcher will focus on analyzing how the model of interpersonal communication emerges in the interaction process. The researcher will compare interpersonal communication between humans in general and humans with machines according to the research results. It is found that ChatGPT attributes show similarities with humans, especially in terms of flexibility, communication skills, and humility. The majority of informants interpret ChatGPT as a communication subject. In the interaction between humans and ChatGPT, both are considered communicators but of different types. In this context, to describe the interaction and communication between humans and machines, Human-Machine Communication (HMC) involves the exchange of information, messages, and communication between humans as users and machines or systems that use artificial intelligence or other technologies (Littlejohn, Foss, and Oetzel, 2021).

As communicators, humans convey messages to ChatGPT based on their knowledge and experiences. On the other hand, ChatGPT, as a communicator, facilitates the exchange of messages with artificial intelligence that has been programmed and input data. ChatGPT remains capable of processing messages from humans, generating responses, and delivering messages or feedback effectively to humans. The ability of ChatGPT as a communicator lies in its capacity to understand, interpret, and respond to messages according to the context of the conversation, creating dynamic communication between humans and ChatGPT in the context of interpersonal communication.

Interpersonal communication generally occurs between individuals who are acquainted with each other and involves existing facts (Badawi and Rahadi, 2021). In the interaction between humans and machines, interpersonal communication takes place when users interact with language models designed to understand and respond to human text. Therefore, machines operating as communicators cannot be directly equated with human-to-human communication, although there are fundamental similarities and differences.

Comparison of Human-Human and Human-Machine Communication

In understanding the similarities and differences between interpersonal communication models of humans and robots, the researcher will compare them in several key aspects. Firstly, based on

interpersonal communication elements according to Mulyana (2000), the study will evaluate the processes of message exchange, self-awareness, empathy, and feedback in both contexts. Secondly, characteristics of interpersonal communication, such as emotional involvement, personal engagement, relationship dependency, and openness and honesty (Liliweri, 2017), will be compared between human-human and human-robot communication. Furthermore, characteristics of interpersonal communication according to Richard L. Weaver II, such as clarity, social awareness, reception and interpretation, and the ability to convey ideas (Budyatna, 2015), will be analyzed in both situations. Aspects of interpersonal communication according to De Vito in Liliweri (2017), such as verbal communication, non-verbal communication, information exchange, and openness, will be the focus for a more in-depth comparison. Lastly, factors influencing interpersonal communication, such as context, culture, communication skills, and technology (Harapan, Ahmad, and MM, 2022), will be evaluated in both communication contexts. By organizing this comparison in table form, the researcher hopes to clearly illustrate the similarities and differences that emerge in the interpersonal communication process between humans and humans, as well as humans and robots.

Table 1.1 Elements of Interpersonal Communication

Communication Element	Communication Element Human to Human	Communication Human to Machine (ChatGPT)
Source	Human	Human and machine
Message	Verbal and nonverbal (highly varied)	Verbal and nonverbal (limited to emojis)
Media	(Context-dependent)	Machine
Receiver	Human	Human and machine
Effect	Changes in attitude, behavior, or knowledge of the communicant	For humans: Changes in attitude, behavior, or knowledge For machines: Changes in interaction style

Table 1.2 Characteristics of Interpersonal Communication

Human-to-Human Communication	**Human-to-Machine Communication (ChatGPT)**
Undertaken due to various factors	Undertaken due to various factors
Results in both intentional and unintentional impacts	Results in both intentional and unintentional impacts
Often reciprocal	Often reciprocal
Implies interpersonal relationships involving at least two individuals	Does not imply interpersonal relationships involving at least two individuals
Occurs in diverse, variable, and influential environments	Occurs in diverse, variable, and influential environments
Utilizes various meaningful symbols	Utilizes verbal and nonverbal messages (limited to emojis)

Table 1.3 Characteristics of Interpersonal Communication

Human-Human Communication	**Human-Machine Communication (ChatGPT)**
Involves at least two people	Involves at least one machine (Guzman & Lewis, 2020)
Includes feedback	Includes feedback
Not necessarily face-to-face	Not necessarily face-to-face
Not necessarily goal-oriented	Not necessarily goal-oriented
Produces multiple effects	Produces multiple effects
Not necessarily using words	Must use words (OpenAI, 2023)
Influenced by context	Influenced by context (Guzman & Lewis, 2020)
Affected by noise	Affected by noise

Table 1.4 Aspects of Interpersonal Communication

Aspects	Communication Human-Human	Communication Human-Machine (ChatGPT)
Openness	1. The communicator must be open to the communicant, and vice versa. 2. The communicator's willingness to honestly witness incoming stimuli. 3. Acknowledging feelings, thoughts, and being accountable for them.	1. Human communicators must be open to communicants, whereas the openness of machine communicators is limited by the acknowledgment of their own limitations as machines. 2. The willingness of human communicators to honestly witness incoming stimuli, while machine communicators will respond to stimuli according to their programmed algorithms. 3. Humans acknowledge their feelings, thoughts, and take responsibility for themselves, whereas machines lack personal feelings, experiences, and thoughts.
Empathy	Knowing what others feel.	There is no empathy in human-machine communication.
Support	1. Descriptiveness: understood as an environment that is not judged, allowing people to freely express their feelings. 2. Defensive: creating an atmosphere where people do not feel ashamed to express their feelings, and they do not feel continuously criticized. 3. Spontaneity: understood as a person's ability to communicate spontaneously and have a forward-oriented perspective, maintaining an open attitude in expressing their thoughts.	1. Descriptiveness: understood as an environment that is not judged, allowing people to freely express their feelings. 2. Defensive: creating an atmosphere where people do not feel ashamed to express their feelings, and they do not feel continuously criticized. 3. Spontaneity: understood as a person's ability to communicate spontaneously and have a forward-oriented perspective, maintaining an open attitude in expressing their thoughts.
Positive Feelings	Appreciating the presence and importance of others	Machines will not care whether they are appreciated or not.
Similarity	Communication will be more effective when the atmosphere is equal.	Machines are already programmed to be able to equate themselves with humans.

Tabel 1.5 Factors Influencing Interpersonal Communication

Communication Human - Humans	Communication between Humans - Machines (ChatGPT)
Self-concept, openness, confidence	Artificial Intelligence (AI) Literacy

Comparison in the form of a table regarding communication between humans and humans and humans and machines highlights significant differences. In human-to-human interaction, the primary role is given to humans as the source of the message, while in communication with machines, especially involving text messages, ChatGPT becomes the interaction partner. Although the characteristics of interpersonal communication between the two have similarities, such as feedback, the absence of face-to-face necessity, the produced influence, context dependency, and the presence of noise, there is a difference in the signals of interpersonal relationships that are more pronounced in human-to-human communication.

Discussion of factors influencing interpersonal communication, such as self-concept, openness, and confidence, indicates that their influence is more dominant in the context of human-to-human communication. A positive self-concept contributes to confidence levels and successful social interaction, while an open attitude creates more open relationships between individuals. Confidence, as a key factor, can be acquired through training and diverse social interactions, providing support for success in interpersonal communication.

On the other hand, in the context of human-to-machine communication, factors such as openness, empathy, support, positive feelings, and equality are evaluated by considering the AI literacy of the human partner, such as ChatGPT. AI literacy plays a crucial role in determining the success of interactions with machines. Therefore, the conclusion that can be drawn is that while human-to-human communication is influenced by psychological and emotional aspects, human-to-machine communication requires an understanding of AI literacy to achieve effective interaction.

Limitations Between Humans and Machines

Society responds to technology with social behavior by applying communication knowledge initially developed in the context of human interaction. The public's perception of technology as a message source is more influenced by machine characteristics than its similarity to humans, as expressed by Sundar and Liao (2023). Some differences in communicative behavior between human-machine interactions, including artificial intelligence (AI) and robots, have been identified by various studies (Mou and Xu, 2017; Shechtman and Horowitz, 2003). Evaluation involves not only assessing similarities between humans and machines in their communicative roles but also understanding potential differences, which becomes crucial. Guzman and Lewis (2020) emphasize the need for a holistic approach to understanding technology as a unique communicator.

In the context of human-machine communication, the source and receiver of messages involve both humans and machines, and the form of messages is limited to text, both verbal and non-verbal. Machines, such as ChatGPT, play the roles of communicator, communicatee, and medium. The effects of human-machine communication not only impact humans but also alter the interaction style of the machine itself. Interpersonal relationships between humans and machines can be built based on the communication context, adding a new dimension to the interaction. Although machines have limitations in empathy, personal experience, and subjective judgment, AI literacy is a key factor in the effectiveness of human-machine communication. The better humans understand AI literacy, the more effective the communication becomes. This highlights that machines, in the context of communication, function as unique partners, are limited to text-based responses, and play a dual role as both communicators and mediums. Meanwhile, AI literacy is key to the complexity of the relationship between humans and technology.

CONCLUSION

The interaction process in interpersonal communication between humans revolves around interpersonal relationships, openness, empathy, support, positive feelings, and equality. Although some of these traits are also reflected in human-machine communication, there are fundamental differences, especially in the limitations of interpersonal relationships and machine characteristics that cannot empathize. The importance of understanding the characteristics of interacting with AI is a key factor in achieving effective human-machine communication. This emphasizes that to communicate effectively with technology like ChatGPT, users need to have an adequate understanding of how the machine operates. The complexity of the relationship between humans and technology becomes more apparent, and the level of AI literacy becomes a crucial bridge to achieving better interactions in the context of Human-Machine Communication (HMC).

REFERENCES

Adamopoulou, E. and Moussiades, L. (2020) 'An overview of chatbot technology', in *IFIP international conference on artificial intelligence applications and innovations*. Springer, pp. 373–383.

Badawi, M.A.B.A. and Rahadi, D.R. (2021) 'Analisis Komunikasi Interpersonal Antar Mahasiswa President University', *Communicology: Jurnal Ilmu Komunikasi*, 9(1), pp. 123–137.

Belyh, A. (2019) *Understanding Technology and Its Influence on Human Behavior*. Available at: https://cleverism.com/understanding-technology-and-its-influence-on-human-behavior/ (Accessed: 24 January 2024).

Bozdag, A.A. (2023) 'AIsmosis and the pas de deux of human-AI interaction: Exploring the communicative dance between society and artificial intelligence', *Online Journal of Communication and Media Technologies*, 13(4), p. e202340.

Budyatna, M. (2015) *Teori-Teori Mengenai Komunikasi Antar-Pribadi*. Prenada Media.

da Conceicaoa, M. and Supratmanb, L.P. (2022) 'Strengthening Family Communication Bond through WhatsApp Media Group in Timor Leste', *Jurnal Ilmiah LISKI (Lingkar Studi Komunikasi) Vol*, 8(2).

Cristea, I.A., Sucala, M. and David, D. (2013) 'Can you tell the difference? Comparing face-to-face versus computer-based interventions. The" Eliza" effect in psychotherapy.', *Journal of Cognitive & Behavioral Psychotherapies*, 13(2).

Guzman, A.L. and Lewis, S.C. (2020) 'Artificial intelligence and communication: A human–machine communication research agenda', *New media & society*, 22(1), pp. 70–86.

Haqqu, R. (2020) 'Era Baru Televisi dalam Pandangan Konvergensi Media', *Rekam*, 16(1), pp. 15–20. Available at: https://doi.org/10.24821/rekam.v16i1.3721.

Harapan, E., Ahmad, S. and MM, D. (2022) *Komunikasi antarpribadi: Perilaku insani dalam organisasi pendidikan*. PT. RajaGrafindo Persada-Rajawali Pers.

Hohenstein, J. *et al.* (2023) 'Artificial intelligence in communication impacts language and social relationships', *Scientific Reports*, 13(1), p. 5487.

Josiarvi, D. and Rina, N. (2021) 'Komunikasi Interpersonal Mentor Dan Anak Asuh Berprestasi Di Panti Yatim Indonesia Kota Bandung', 7(2), pp. 95–105.

Liliweri, A. (2017) *Komunikasi antar personal*. Prenada Media.

Littlejohn, S.W., Foss, K.A. and Oetzel, J.G. (2021) *Theories of Human Communication*. twelfth. United States of America: Waveland press.

Maulana, M.J., Darmawan, C. and Rahmat, R. (2023) 'PENGGUNAAN CHATGPT DALAM TINJAUAN PENDIDIKAN BERDASARKAN PERSPEKTIF ETIKA AKADEMIK', *Bhineka Tunggal Ika: Kajian Teori dan Praktik Pendidikan PKn*, 10(1), pp. 58–66.

McKinsey and Company (2022) *The state of AI in 2022—and a half decade in review December 6, 2022 | Survey Share Print Download Save The results of this year's McKinsey Global Survey on AI show the expansion of the technology's use since we began tracking it five years ago, but*

with. Available at: https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai-in-2022-and-a-half-decade-in-review (Accessed: 24 January 2024).

Mou, Y. and Xu, K. (2017) 'The media inequality: Comparing the initial human-human and human-AI social interactions', *Computers in Human Behavior*, 72, pp. 432–440.

Mulyana, D. (2000) 'ILMU KOMUNIKASI Suatu Pengantar (Muchlis', *PT Remaja Rosdakarya* [Preprint].

Nah, S. *et al.* (2020) 'Communicating artificial intelligence (AI): Theory, research, and practice', *Communication studies*. Taylor & Francis, pp. 369–372.

Nasir, M. (2009) *Metode penelitian*. Bogor: Ghalia Indonesia.

Nasution, A.K.P. (2020) 'Integrasi media sosial dalam pembelajaran generasi z', *Jurnal Teknologi Informasi Dan Pendidikan*, 13(1), pp. 80–86.

Rina, N. (2023) 'Artificial Intelligence Use as Communication Media in Learning Activity for Senior High School', *Jurnal Ilmiah LISKI (Lingkar Studi Komunikasi)*, 9(2), p. 135. Available at: https://doi.org/10.25124/liski.v9i2.6675.

Sahabudin, A. (2023) 'ChatGPT: Sebuah Transformasi Cara Belajar Mahasiswa Studi Kasus: Mahasiswa ITBM Polman di Kabupaten Polewali Mandar', *Jurnal e-bussiness Institut Teknologi dan Bisnis Muhammadiyah Polewali Mandar*, 3(1), pp. 65–73.

Setiawan, A. and Luthfiyani, U.K. (2023) 'Penggunaan ChatGPT Untuk Pendidikan di Era Education 4.0: Usulan Inovasi Meningkatkan Keterampilan Menulis', *JURNAL PETISI (Pendidikan Teknologi Informasi)*, 4(1), pp. 49–58.

Shechtman, N. and Horowitz, L.M. (2003) 'Media inequality in conversation: how people behave differently when interacting with computers and people', in *Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 281–288.

Sheikh, H., Prins, C. and Schrijvers, E. (2023) *Mission AI: The New System Technology*. Springer Nature.

Surtasih, T., Apresziyanti, D., Wulandari, H., & Hasyyati, A. N. (2020). *Statistik Telekomunikasi Indonesia*. Badan Pusat Statistik Indonesia.

sugiyono (2023) *Metode Penelitian Kualitatif*. Bandung: Alfabeta.

Sundar, S.S. and Liao, M. (2023) 'Calling BS on ChatGPT: Reflections on AI as a Communication Source', *Journalism & Communication Monographs*, 25(2), pp. 165–180.

Taye, M.M. (2023) 'Understanding of Machine Learning with Deep Learning: Architectures, Workflow, Applications and Future Directions', *Computers*, 12(5), p. 91.

Westerman, D. *et al.* (2020) 'I-it, I-thou, I-robot: The perceived humanness of AI in human-machine communication', *Communication Studies*, 71(3), pp. 393–408.

Wolff, J. (2021) 'How Is Technology Changing the World, and How Should the World Change Technology?', *Global Perspectives*. University of California Press, p. 27353.