Communication Styles of Human-Machine Interaction in the ChatGPT

Ayu Setia Ningsih[1]*, Galuh Nur Rohmah[2]
[1][2] Universitas Islam Negeri Maulana Malik Ibrahim Malang
200302110132@student.uin-malang.ac.id, galuh98@bsi.uin-malang.ac.id

Abstract:
This research aims to analyze the communication style of Human-machine interaction based on ChatGPT 3.5 to understand the pros and cons, as well as potential improvements in the implementation of this technology. Humans have limitations in processing complex information. The emergence of machines helps humans complete work, and many machine features provide solutions. This research found out human-machine interaction, focuses on communication and using cooperative principles that have four maxims: maxim quantity, maxim quality, maxim relation, and maxim manner are some of the divisions that will be sought in human-machine interaction. The research uses a qualitative method by using a chatbot as a GPT version 3.5 chat that is then given a command. Then, the data is collected and analyzed. From this analysis, human-machine interaction qualitatively has good performance but has a deficiency in maximum quantity due to too much information given. The outcome of the violation of the maxim quantity that stands out requires self-interpretation where the statements correspond to the question. This research is expected to help develop human-machine interaction technology primarily in business.

Keywords: *chatbot, ChatGPT, communication, human-machine interaction, pragmatics*

1. INTRODUCTION

The communication style of human-machine interaction is interesting because it has peculiarities in linguistic aspects such as more responsive language feedback, the graphical interface used on Microsoft Windows, and many found on various platforms including GPT chat. As a linguistic researcher, I felt it was essential to go deeper into this phenomenon. Human-machine

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* Corresponding Author
Ayu Setia Ningsih, email: 200302110132@student.uin-malang.ac.id

interaction has become one of the most famous robotic research studies of the last decades. While a multitude of frameworks have been developed to facilitate seamless and reliable human-machine interaction, a significant proportion of these remain unrealized in their potential (Mahmud et al., 2020). Human Machine Interaction (HMI) using sensors, communication modes, and actuators is essential to achieving effective, intuitive, and smooth HMI. Human is the most important thing in HMI, but a variety of new possibilities of interaction may emerge in the future. Interactions in medical care, the entertainment industry, or even social media. HMI is an inevitable technology in the future (Yin et al., 2021). Human-machine interaction has a crucial component in its interaction, which is physical movement and language. HMI continues to develop well in the world of health, electronics, smart home, and Artificial Intelligence. (AI). This is the AI that will be discussed in this study, more precisely the AI ChatGPT (Zhang et al., 2019). Because there's a lot of software and AI in the development of ideas, so I'd like to research the communication style.

The communication style of human-machine has a strong influence on the development of the understanding of the GPT Chat language. Kementerian Komunikasi dan Informasi (Kominfo) has stated that a GPT chat language model is trained to get answers to a given question by introducing millions of data on human conversations. It's just, that GPT Chat is still hard to understand the meaning of duplicate sentences and complex sentences (Tishomingo, 2023). The phenomenon of ease in digging this information attracted GPT Chat users to reach 100 million users and 1.8 billion visits (Riyanto, 2023). The current challenge is how the language in the GPT Chat can be easily understood and the dialogue between human-machine interaction can take place as well as possible. This is done to facilitate the understanding of the language generated by the ChatGPT based on requirements expressed in natural language in human-machine interaction (Dale, 2021).

This research discusses how the human-machine interaction when conducting conversations to find solutions such as since users or humans know GPT Chat as described earlier. In this study, the researchers more specifically revealed how to interpret GPT Chat messages from a pragmatic point of view. Pragmatic is the study of the use of language, pragmatics helps communicate by studying what is said and how to say it. This linguistic study is unique in that it combines the implicit pragmatic theory between man-machine and, secondly, most importantly, it analyzes the principle of cooperative work as something that takes place ChatGPT with man (Cornips et al., 2023). An analysis of the communication styles directly related between humans and machines can influence the interpretation of meaning differently in each individual. It is crucial to know how they interact during solving everyday problems that make a major contribution to resolution and decision-making. An understanding of human-machine, human interaction with GPT Chat in various questions and answers shows the effectiveness of GPT chat communication in everyday situations and whether adjustments are needed in its communication style.

This research is based on the argument that the communication interaction between humans and machines is still a learning center because of the expectation of users to find answers to unanswered questions from their surroundings. In previous studies, the communication style of human-machine interaction had similarities in finding out how communication happens in human-macine. However, the application is different, with this study focusing on the GPT Chat that is often used by many people while previous research focused on chatbots for business purposes (Duncan, 2022). Language professionals use and imply the use of machines in helping translation to simplify and speed up work. This machine is not a substitute, but rather a tool that

makes the job easier. Developments in machines like ChatGPT are continuing, such as developing ChatGPT that can mimic the cognition of a child aged 0-18 months. Besides, developments also by pursuing ChatGPT can make considerations and make decisions as a collaboration of humans and GPT machines in realizing maximum functionality. Previous research has discussed a lot of human-machine interaction. This research will be more concise on the discussion of the grouping of violations that occur between humans and machines.

2. LITERATURE REVIEW

2.1 Pragmatic Theory

Using pragmatic theory, communication gives new lessons about speech. Pragmatics itself is a branch of linguistics that presents the meaning of speech in certain contexts. Leech explains that in pragmatics there are principles of how humans speak depending on the situation (Hartini et al., 2020). Linguistic pragmatics focuses on a context, deeper there is an affective pragmatic that deals with the meaning of emotional expression in a context (Scarantino, 2017). Paul Grice gives the opinion that the whole communication can have a different meaning than what is spoken. Speakers performing communication will meet or not meet the maximum conversations that are present in a conversation (Simons, 2017). In HMI it's important to know what the correspondence is in communication. Communication itself is the clarity and effectiveness of the speaker and opponent. The norm that deals with this is Grice's cooperative principle. This principle is part of the pragmatic, of building a smooth conversation.

According to Grice, the speaker is committed to the truth and relation of his text, the listener is aware of this commitment and perceives the uttered text as true and relevant by his recognition of the speaker's commitment to its truth and relationship (Ngozi & Americanah, 2022). According to Kant, cooperative principles will give appropriate results if they meet four categories. These categories are quantity, quality, relation, and manner. The principle of quantity provides the necessary information and does not provide more information than is necessary.

2.2 Human-Machine Interaction

The study of the human-machine interaction (HMI) ChatGPT is still very limited, the GPT Chat that appeared on November 30, 2022, is a system that greatly facilitates human work in both oral and written communication. Previous research explains and assumes that the GPT Chat is capable of creating stories with a variety of genres. As for the communication style, the HMI ChatGPT is limited to analyzing short horror stories by the still-limited GPT chat. Studies with the theme of Artificial Intelligence (AI) focused on the GTP Chat revealed the shortcomings of the GPL Chat in the form of direct sentences, not writing the title of the story, and not using the image language style. From the limitations of producing horror short stories, AI has the limitation of creating a fictional work (Yudono, 2023).

A study of other communications, discussing the development of wireless communications in digital services. This discussion is deep in network communication, this network communication affects the speed of the AI machine in responding (Levchenko & Schmalian, 2020). Besides, GPT chat communication with humans also raises issues of language and communication through verbal performance. In another study, the style of communication dealt with the four styles of communication: The Equalitarian Style, The Structuring Style, the Dynamic Style, and The Relinquishing Style. Of the four types of communication, the most perfect is the

equalitarian style. This is because it provides two-way communication with a common basis, characterized by the reciprocity of communication.

2.3 Communication Style

Communication is fundamental to the process of exchanging information to reach a solution. Communication becomes one of the foundations for communicating ideas. In its delivery, communication has its style. Because the communication style can determine and influence the speaker over what is spoken (Butler et al., 2023). The communication style between humans and machines for example is sustainably able to help identify what is to be achieved by applying appropriate strategies. Research related to the model of the HMI system takes place at the physical and mental levels in the sense that there are substantially implicit dimensions of the user. However, in the communication style, also triggers the effect of user behavior (Montecchi & Becattini, 2021).

2.4 ChatGPT

The interaction between man and man is different from that of man and machine. Now a lot of people are using GPT Chat. Generative Pre-Trained Transformer (GPT) Chat is a kind of language model that can generate text by giving commands. This type of language model also serves as a translator, answers a variety of questions, and explores ideas according to orders given (Božić & Poola, 2023). With the help of GPT Chat, we can find ideas in writing, search for information, make outlines of a written work, look for references, translate, paraphrase references, make abstracts, and make introductory words. The effect of this GPT Chat is also worth noting, as it allows for irresponsible use (Wahid & Hikamudin, 2023).

The use of media is a strategic tool in today's world of education and problem-solving (Khotimah, 2021). Process tools make it easier to solve problems (Mayasari et al., 2021). For example, GPT Chat helps improve student writing skills in schools and colleges. In the field of foreign language learning, the Large Language Models (LLM) that relate to the academic integrity of ChatGPT provide a potential substitute as a search engine that delivers billions of results, Chat GTP helps develop ideas as well as information. GPT Chat technology is a way to improve efficiency in learning (Ramadhan et al., 2023). Besides, in the language world, ChatGPT often helps translate the language. The Los Angeles Unified School District has blocked the ChatGPT network of schools because this technology reduces the ability of critical thinking processes. This blockade took place on December 12, 2022, and was followed by the New York City Department of Education at the end of December 2022 (Ramadhan et al., 2023).

3. RESEARCH METHODOLOGY

The latest technology that has a big impact on life, like robotics, artificial intelligence (AI), and automated services. AI, which is artificial intelligence, has experienced rapid improvement in a study. AI technology can be used in a variety of industries, services, and education (Lukanova & Ilieva, 2019). One of the AI technologies is the Chat Generative Pre-Trained Transformer better known as the advanced GPT Chat AI, which is making it easier for users to use. Artificial intelligence is a system similar to human intelligence and can adapt, solve problems, learn, understand human language, and make decisions. GPT Chat can generate text in a variety of ways (Shidiq et al., 2023). Besides the developments that have taken place, AI GPT Chat remains a trend and is used to make it easier for humans to find solutions. With the increasing

development of this technology, ChatGPT has become an essential part that needs to be studied and continuously developed by the world of science.

In this study, the researchers used qualitative methods with a pragmatic theoretical approach. According to Creswell (2015), qualitative research is a series of material interpretation practices that make the world visible. The results of the observation are then presented in word form in writing. Qualitative research is used to build knowledge through understanding and discovery. Data on qualitative research will be described in descriptive terms. Researchers choose the type of qualitative research method because pragmatic research requires extensive presentation and description, then from that with qualitational methods will facilitate in digging more extensive and in-depth information (Creswell, 2015).

The data sources used in this study are text or images obtained from AI in the form of GPT Chat. The researchers will give orders on one of the subjects of one of the English literature courses, more precisely advanced analysis of English Literature. With the focus on using direct commands and the customized command cluster, it will make it easier to explain the specification of the purpose of writing which is to know the four principles of Paul Grice's human-machine interaction. (HMI). The technique of data collection in qualitative research is observation and documentation. Whereas to analyze data, researchers use the analysis presented by Miles and Huberman (1987) namely with data collection, simplification, data presentation, and lastly withdrawal or conclusion testing.

4. RESULTS

4.1. The Violation of Maxim Quantity

There is a violation of the principle of cooperation regarding maximum quantity. A total of 10 images from human-machine conversations. On the five commands conversation, almost all violate the principle of cooperation maxim quantity. The principle of cooperation is also the most violated in this cooperation.

Promt   : *What is hyperreality theory?*

ChatGPT   : *Hyperreality theory often associated with the work of French philosopher Jean Baudrillard, explores the blurring of distinctions between reality and simulation. Baudrillard introduced the concept of hyperreality in his book "Simulacra and Simulation" published in 1981.*
The core idea behind hyperreality is that in contemporary society the boundaries between reality and representations of reality become increasingly blurred to the point where it is challenging to distinguish between the two Baudrillard argued that simulations and signs have come to replace the real, and that people often live in a world where images, symbols, and simulations take precedence over actual experience.

Key concepts in hyperreality theory include:

1. *Simulacra: Baudrillard identifies four stages of the image or representation, with the fourth stage being the most crucial. In the fourth stage, the simulation no longer bears any resemblance to reality; it becomes a copy without an original. Simulacra are copies that have lost their connection to an underlying reality.*

2. *Simulation: Baudrillard discussed the proliferationof simulation which are artificial representations of reality. He argue that these simulations become more real than reality itself, leading to a loss of meaning and a sense of dis connection from the real world.*

3. *Hyperreal: The hyperreal refers to a state where the distinction between the real and the simulated becomes indistingulshable. It is a condition in which simulation are experienced as more real than reality. Baudrillard uses examples such as Disneyland, where the simulation of a magical world becomes more compelling than the mundane reality outside of it.*

4. *Implosion of Meaning: Baudrillard suggest that in a hyperreal society, meaning implodes because the distincyions between true and false, real and imaginary, no longer holds. As a result, symbols and signs circulate endlessly without reference to an underlying reality.*
   Hyperreality theory has been applied to various aspects of contemporary culture, including media, consumerism, and technology. Critics argue that while Baudrillard's ideas are thought provoking, they may be overly pessimistic, and deterministic. Nevertheless, the concept of hyperreality has influenced discussions on the nature of reality the postmodern era.

Prompt   : *Who is the inventor of hyperreality theory?*

ChatGPT   : *The concept of hyperreality and the associated theory are often   attributed to the French philosopher Jean Baudrillard. Baudrillard introduced and developed the idea of hyperreality in his influential book "Simulacra and Simulation," published in 1981. While other theorists and philosophers have explored related concepts, Bauderillard is most closely associated with the development and popularization of hyperreality theory. His work has has a significant impact on cultural studies, phisophy, and discussions about the nature of reality in the postmodern era.*

Prompt   : *Why Jean Baudrillard was able to discover the theory of hyperreality?*

ChatGPT   : *Jean Baudrillard's development of the theory of hyperreality can be attributed to his unique perspective, intellectual background, and engagement with contemporary cultural and social phenomena. Several factors contributed to his ability to articulate and explore the concept of hyperreality.*

1. *Intellectual background: Baudrillard was a French sociologist and cultural theorist who drew on a diverse range of intellectual influences, including Marxism, semiotics, and poststructuralism. His interdisciplinary approach allowed him to synthesize ideas from various fields and develop a distinctive perspective on contemporary culture.*

2. *Culture Critique: Baudrillard was deeply enganged in analyzing the shifts in culture and society during the late 20th century. He was particularly interested in the impact of mass media, consumerism, and technology on the construction of reality. His observations led him to question the traditional notions of reality and representation.*

3. *Semiotics and signs: Baudrillard was influenced by semiotics, the study of signs and symbols. He explored how signs and symbols function in society, and he*

became increasingly concerned with the idea that these signs were becoming detached from the reality they were supposed to represent.

4. *Postmodern context: Baudrillard'sm work emerged in postmodern context, characterized by a skepticism toward grand narratives and a fragmentation of reality. The increasing dominance of media, advertising, and simulations in everyday life promted Baudrillard to examine the way in which these elements shaped people's perceptions of reality.*

5. *Observations on Simulations: Baudrillard was intrigued by the proliferation of simulation in contemporary society. He observed how images, representation, and simulations were not just reflecting reality but were, in many cases, replacing or overshadowing it. This led him to formulate the concept of hyperreality.*

    Baudrillard's unique combination of theoretical influences, cultural critique, and a keen awareness of the changing nature of contemporary society allowed him to develop the theory of hyperreality. His work has debates in fields such as philosophy, cultural studies, and media theory, influencing subsequent generations.

Prompt : *When did Jean Baudrillard discover the theory of hyperreality?*

ChatGPT : *Jean Baudrillard did not "discover" the theory of hyperreality in the sense of stumbling upon a new phenomenon; rather, he developed and articulated the concept through his philosophical work. The key text associated with the theory of hyperreality is Baudrillard's book titled "Simulacra and Simulation," which was published in 1981. In this book, Baudrillard systematically explores the idea of hyperreality and its Implications for contemporary culture.*

It's important to note that the concept of hyperreality did not emerge as a sudden revelation but was the result of Baudrillard's ongoing engagement with various intellectual traditions, including sociology, semiotics, and postmodern philosophy. His work represents a culmination of ideas and reflections on the changing nature of reality, representation, and the influence of media and consumer culture.

"Simulacra and Simulation" is a complex and influential work that delves into the ways in which contemporary society experiences and interacts with reality, representations, and simulations. Baudrillard's exploration of hyperreality in this book has has a lasting impact on cultural theory and has been widely discussed and debated in academic and intellectual circles.

Prompt : *Where the theory of hyperreality is used?*

ChatGPT : *The theory of hyperreality has found application and resonance in various academic disciplines, cultural studies, and discussions about contemporary society. Here are some areas where the concept of hyperreality has been used:*

1. *Cultural Studies: Hyperreality is often employed in cultural studies to analyze the impact of media, technology, and consumer culture on the construction of reality. Scholars explore how representations and simulations in popular culture contribute to the blurring of distinctions between reality and fantasy.*

2. *Media Studies: Hyperreality theory has been applied to the study of media and its role in shaping perceptions of reality. It's used to analyze how news, entertainment, advertising, and digital media contribute to the creation of hyperreal environments, where simulations and representations take recedence over actual events.*

3. *Consumer Culture: The theory of hyperreality is frequently invoked in discussions about consumerism. It explores how commodities, brands, and advertising create hyperreal experiences that go beyond the functional aspects of products, influencing perceptions and desires.*

4. *Architecture and Urban Studies: Some scholars apply hyperreality theory to the built environment, examining how architecture and urban spaces contribute to a sense of hyperreality. Theme parks, shopping malls, and designed environments are often analyzed through the lens of hyperreality.*

5. *Postmodern Philosophy: Hyperreality is a key concept in discussions about postmodernism and postmodern philosophy. It reflects a skepticism toward the idea of an objective reality and questions the nature of representation in a world saturated with signs and symbols.*

6. *Simulation and Virtual Reality: Discussions about simulation and virtual reality often draw on Baudrillard's ideas. The concept of hyperreality is relevant in understanding how virtual environments and simulations can become more compelling than the real world, as seen in virtual reality experiences and simulations.*

7. *Film and Literature Studies: Scholars in film and literature atudies may use hyperreality theory to analyze how narratives in movies, literature and other storytelling mediums contribute to the construction of hyperreal worlds that diverge from conventional reality.*

8. *Political and Social Critique: Baudrillard's theory of hyperreality has been applied to critique political and social phenomena. Some argue that in the realm of politics, the simulation of events and the manipulation of images can create a hyperreal political landscape.*

   It's important to note that while the concept of hyperreality has been influential, it is also a topic of debate and criticism. Some scholars question its applicability or argue for a more nuanced understanding of the relationship between representation and reality.

Maxim quantity is often violated in the question "What is hyperreality theory?" Then the answers given are capable of answering the question but the information given exceeds the information required such as additional discussions about where the theory is applied. In principle cooperation maxim quantity only makes information contributions sufficient and only for a specific purpose. The concept of quantity only knows a specific purpose that does not mean communicating with a wider purpose (van Rooij & de Jager, 2012). Then on the second question "Who is the inventor of hyperreality theory?", on the command that questioned who was directly answered to the first sentence, "The concept of hyperreality and the associated theory are often attributed to the French philosopher Jean Baudrillard."

The data was subsequently collected by the researchers with the question "Why Jean Baudrillard was able to discover the theory of hyperreality?" with answers that also gave a long explanation.

The norm of conversation in cooperative principles is a means of obtaining an explanation of ideas, questioning opinions, and building informative conversations as needed. By providing optimum explanations and avoiding excessive and insufficient information during interaction (Tewari et al., 2020). Besides the questions related to "When did Jean Baudrillard discover the theory of Hyperreality?" the answers given by ChatGPT included violating the maxim quantity. The last data that gives the command with the question "Where the theory of hyperreality is used?" has a long answer, only there are points that can be used and according to the given command. The sufficient answer to the question where is "The theory of hyperreality has found application and resonance in various academic disciplines, culture studies, and discussions about contemporary society."

4.2. The Violation of Maxim Quality

The principle of cooperation that discusses the maxim quality Paul Grice has not yet found a violation of this maxim in the order that exists in the data. Maxim quality itself means that a conversation is considered effective and efficient when the pronunciation is factual. In maxim quality, there is no need to say what is not convincing or still questionable. The quality of conversation also depends on this maxim, when what is said is not based on the truth or even has no evidence then has violated Grice's cooperative principle by saying what is not believed (Sidabutar, 2022). The GPT chatbot has still not found a violation in the maxim quality, as has already been explained also that the source of the ChatGPT itself is from the sources of articles as well as books. So in this case, ChatGPT still has quite a quality seen from the answers to questions such as "What is hyperreality theory? or Who is the inventor of hyperreality theory?".

4.3. The Violation of Maxim Relation

Which is cooperative principle maxim relation found only one data. By giving the command "Why Jean Baudrillard was able to discover the theory of hyperreality?" the answer given was less specific than the beginning of the explanation.

Prompt   : *Why Jean Baudrillard was able to discover the theory of hyperreality?*

ChatGPT   : *Jean Baudrillard's development of the theory of hyperreality can be attributed to his unique perspective, intellectual background, and engagement with contemporary cultural and social phenomena. Several factors contributed to his ability to articulate and explore the concept of hyperreality.*

1. *Intellectual background: Baudrillard was a French sociologist and cultural theorist who drew on a diverse range of intellectual influences, including Marxism, semiotics, and poststructuralism. His interdisciplinary approach allowed him to synthesize ideas from various fields and develop a distinctive perspective on contemporary culture.*
2. *Culture Critique: Baudrillard was deeply enganged in analyzing the shifts in culture and society during the late 20th century. He was particularly interested in the impact of mass media, consumerism, and technology on the construction of reality. His observations led him to question the traditional notions of reality and representation.*
3. *Semiotics and signs: Baudrillard was influenced by semiotics, the study of signs and symbols. He explored how signs and symbols function in society, and he*

> *became increasingly concerned with the idea that these signs were becoming detached from the reality they were supposed to represent.*
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> 4. *Postmodern context: Baudrillard'sm work emerged in postmodern context, characterized by a skepticism toward grand narratives and a fragmentation of reality. The increasing dominance of media, advertising, and simulations in everyday life promted Baudrillard to examine the way in which these elements shaped people's perceptions of reality.*
> 5. *Observations on Simulations: Baudrillard was intrigued by the proliferation of simulation in contemporary society. He observed how images, representation, and simulations were not just reflecting reality but were, in many cases, replacing or overshadowing it. This led him to formulate the concept of hyperreality.*
> *Baudrillard's unique combination of theoretical influences, cultural critique, and a keen awareness of the changing nature of contemporary society allowed him to develop the theory of hyperreality. His work has debates in fields such as philosophy, cultural studies, and media theory, influencing subsequent generations.*

By giving a long explanation it is possible to understand the meaning of such a Long Explanation. Maxim relations itself build conversations to be relevant, a violation of this maxim usually occurs when the answer deviates from the topic or does not respond to the question put forward (Hossain, 2021). On the order above, the answer given is "Jean Baudrillard's development of the theory of hyperreality can be attributed to his unique perspective, intellectual background, and engagement with contemporary cultural and social phenomena. Several factors contributed to its ability to articulate and explore the concept of hyperreality." Such a conversation violates the maxim of relation because if you talk about the relationship between one thing and another, it's definitely about how the connection between question and answer is (CHEN Xiao, 2020).

4.4. The Violation of Maxim Manner

This Maxim manner has rules that must be clear, avoid ambiguous meanings, avoid vague expressions, need not be delirious, and be orderly.

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The core idea behind hyperreality is that in contemporary society the boundaries between reality and representations of reality become increasingly blurred to the point where it is challenging to distinguish between the two Baudrillard argued that simulations and signs have come to replace the real, and that people often live in a world where images, symbols, and simulations take precedence over actual experience.

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"Simulacra and Simulation" is a complex and influential work that delves into the ways in which contemporary society experiences and interacts with reality, representations, and simulations. Baudrillard's exploration of hyperreality in this book has has a lasting impact on cultural theory and has been widely discussed and debated in academic and intellectual circles.

The question asked, "What is hyperreality theory?, why Jean Baudrillard was able to discover the theory of hyperreality?, and when did Jean Baudrillard discover the Theory of Hyperreality?" (Schamberger & Bülow, 2022). The first question gives a long description of the character, and the work, while the next question also gives information that is indirect to the answer but also explains the controversial nature of the theory. The question when on the order is answered with unnecessary explanations that can confuse like a summary of the answers to the previous questions, starting from his work, his character, and his theory explanation. Providing insignificant and rotating information violates the maxim manner (Made et al., 2023).

Table: 1 Communication Styles of Human-Machine Interaction in the ChatGPT

Prompt	Cooperative Principle			
	Quantity	Quality	Relation	Manner
What is hyperreality theory?	1	0	0	1
Who is the inventor of hyperreality theory?	1	0	0	0
Why Jean Baudrillard was able to discover the theory of hyperreality?	1	0	1	1
When did Jean Baudrillard discover the theory of hyperreality?	1	0	0	1
Where the theory of hyperreality is used?	1	0	0	0

5. DISCUSSION

This research shows that the communication style of human-machine interaction is still not completely perfect. There were violations in some conversations or orders. Maxim quantity is mostly violated by GPT Chat. This indicates that between humans and machines still visible patterns of conversation settings exist. The conversation process is already set up with algorithms that provide solutions and improvements in terms of efficiency (Tufarelli & Cianfanelli, 2022). Seeing from the results above also indicate a violation of the maxim quantity, however, the maxim quality still has not been found violation. So the quality of the GPT Chat shows a satisfactory result. This is because the language on the GPT Chat will continue to evolve. For example, other platforms like translation, sentimental analysis, and digital assistants are continuing to experience similar improvements. The GPT chat, which is still new, has already delivered surprising results in a variety of fields, both academic, business, and social. In another study that discussed the notion of chat, GPT also produced language modeling (LM) to enable a specific string of words to appear in a phrase (KATAR et al., 2023).

The communication style of human-machine interaction provides a fairly good communication outcome though not perfect. With continuous improvement, the language on the GPT chat is continuously optimized to produce effective and efficient communication. For example, the GPT chat itself that keeps delivering its latest version is GPT Plus chat. It's becoming important because the communication that happens between humans and machines will affect the desired outcome. The study Can ChatGPT Truly Become a Capable Assistant to a Paper Technology Specialist explains that the answers obtained will depend on the way the user asks the question. So the answers can be shallow or very profound (Yamazaki, 2024). It shows that there is a dependence between the two. This GPT chatbot has the potential to enhance intervention because it sometimes gives short answers and sometimes gives long answers. The pragmatic design in GPT chats will also affect the answers given. Like, for example, in health care chatbots

manage health care because of the new functions that exist due to the advances in technology (Avila-Tomas et al., 2019).

The communication style of human-machine interaction is not independent of what constitutes it. From the IT system, the language, and even the developer. The human head can invent new technologies such as GPT chat. This human-made technology will continue to bring advances in communication with new attractions like GPT chats. The perfectly created human brain then forms creativity-creativity with a nerve that regulates emotions, thoughts, and perceptions. For example, GPT chat technology, and the emergence of artificial communication responses are evidence of human ingenuity. Ability to grasp complicated communication language, get answers to questions asked, respond, and dig ideas (Fleming & Hospital, 2023). The advantages that offer many benefits obtained, simply cannot be replaced in some areas for example less perfect if applied in teaching and learning ethics. That ability is emotional in human beings, not machines. Such constraints will be hampered by building flexibility in communication as technology develops (Rahimzadeh et al., 2023).

The technology of GPT-based Chat, utilizing Large Language Models (LLM), has sparked numerous perceptions in distinguishing its capabilities from those of human creation. GPT Chat still requires small examples of a context to comprehend commands or tasks. The language in GPT Chat, through the development of language models, will assist in solving problems with available data (Balkus & Yan, 2023). The use of Large Language Models (LLM) is undoubtedly going to continue to evolve due to the convenience offered by bots like ChatGPT. However, the impact of ChatGPT needs to be handled judiciously. Users need to know when to utilize it and when to evaluate the reliability of the machine. Although violations of maxim quality are minimal in ChatGPT, it doesn't rule out the possibility of factual errors in the information provided by the chatbot. For example, students using ChatGPT to assist in essay writing should still conduct fact-checking on the information provided (Church, 2024). The impact of the language or communication style possessed by ChatGPT extends beyond the field of language education and also affects other disciplines. For instance, Large Language Models (LLM) created from Artificial Intelligence (AI), such as an astronaut on a distant journey from Earth, could provide real-time answers. This technology could lead to advancements trained on ChatGPT. LLM in space is highly beneficial and has the potential to improve communication latency. This would be invaluable in handling unforeseen emergencies, providing a significant impact on emergency response capabilities (Waisberg et al., 2023).

The communication style of human-machine interaction exhibits several differences in terms of outcomes obtained. This research discovered numerous violations of the maxim of quantity, yet in another study related to communication style, there was an attempt to employ specific contexts to achieve communication that could build trust and public perception. In the latest study on ChatGPT-4, which received its latest update in September 2021, new and diverse results were obtained. This variability could arise from providing detailed commands using rhetorical persuasion, capable of eliciting maximum responses. The potential of AI, represented by ChatGPT, with its various approaches, can leverage human-like communication (Park & Kim, 2024). Another study indicates that The United States Medical Licensing Examination (USMLE) is also exploring the AI communication style through ChatGPT. However, this research focuses on the USMLE's soft skills, including communication, ethics, professionalism, and empathy. The accuracy of answers provided from the given commands is at 90%, showing similarities with

the results of the study on the communication style of human-machine interaction in ChatGPT, which demonstrated the best quality in its findings (Brin et al., 2023).

The development of AI, particularly ChatGPT, consistently brings about updates across various domains. The communication style of human-machine interaction revolves around ethical, technical, and societal aspects. ChatGPT, with its complexity and advancements, poses challenges and potential for the future. In the field of communication, especially language, ChatGPT will offer benefits through broad evolutionary pathways in society (Youvan, 2024). Through improvements in language, communication, and the alignment of commands and responses, corrections become a pivotal aspect in the development of the communication style of human-machine interaction. Turing tests, as one example, need refinement as they pose fundamental issues. Natural Language Processing (NLP) can serve as a solution to address existing shortcomings. Language models utilized in digital assistants, translations, and sentiment analysis have enhanced the quality of human performance. ChatGPT is a tangible example widely used in various applications. Language Models (LM) employing statistical and probabilistic approaches help generate possible phrases within a word sequence. Although ChatGPT is not yet capable of independently creating complete articles, the communication style of human-machine interaction, despite its imperfections, can be utilized, with ongoing developments aimed at perfecting it over time (KATAR et al., 2023).

6. CONCLUSION

It turns out the communication style of human-machine interaction has some violations of the cooperative principles that Paul Grice put forward. Most of these violations are on maximum quantity and no violations on maximum quality. The violation of the maxim quantity is a lot because the information given sometimes exceeds the purpose of the question given. In fact, out of the five questions or commands given, there's always information repeatedly added. This GPT chatbot provides accurate information based on the questions asked, let alone GPT chats using English as their primary language. Besides, the pragmatic human-machine interaction is still a less developed study despite the rapidly rising demand for chatbots. As an example of a previous study that investigated maxim violations in chatbots, the result was that more violations were committed by men than women. It's based on the fact that women speak better than men (Jacquet et al., 2019). In the GPT chatbot, this produces a good conversation quality according to the principle of cooperation that does not violate the maxim quality.

This study gives a perspective of cooperative principles not only cooperative principles human-human but also on human-machine interaction through chatbot ChatGPT. Grice conveyed that in implementing cooperative principles must obey the four maxims which are the principles of linguistic interaction (Mubarok, 2021). The violation of the maxim on human-machine interaction about cooperative principles often occurs in the maxim quantity. By violating the maxim that gives excessive information and repeatedly requires interpreting itself where the statements correspond to the question (Grice, 1991). This paper has limited sources of data that still rely on the GPT 3.5 chat so it cannot serve as a strong and comprehensive foundation for the development of human-machine interaction technology such as chatbots. The development of the human-machine interaction technology requires a variety of other chatbot resources and in-depth interviews with informants. Advanced studies covering extensive data sources as well as appropriate informants can be a source of knowledge and development on the communication style of the technology.

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