

# Light and Shadow of Artificial Intelligence: Transformative Journalism Opportunities and ethical dilemmas brought about by ChatGPT

## -- A research review based on the literature of domestic core journals

Yazheng Li<sup>1</sup>, NiYuan He<sup>1</sup>, Sisi Geng<sup>1\*</sup>

1. School of Journalism and Communication, Anhui University, Hefei, China

\*Email Of Corresponding author: [T22301078@stu.ahu.edu.cn](mailto:T22301078@stu.ahu.edu.cn) (Sisi Geng).

### Abstract

Since the release of ChatGPT in 2022, the related research fields have shown an explosive growth trend. Given this, this study attempts to sort out the current research systematically results on ChatGPT in journalism and communication by the literature review to expand the horizon of future research. Journalism and communication scholars have carried out a series of research on ChatGPT from three aspects: journalism reform, media theory, and media ethics. These researchers made certain progress in theory and practice. However, the existing researches still have problems, such as unclear concept definition, single research method, and confusing research topic. Future research should base on the perspective of journalism and communication disciplines, expand research methods and enrich research perspectives, and constantly upgrade ChatGPT research from phenomenon discussion to theoretical innovation and academic exchange.

**Keywords:** ChatGPT, News communication, Artificial intelligence, Media ethics

**DOI:** 10.7176/NMMC/104-12

**Publication date:** July 31<sup>st</sup> 2023

### 1. introduction

On November 30, 2022, US artificial intelligence company Open AI officially launched ChatGPT, a large-scale language generation model. ChatGPT uses neural networks and deep learning technology to generate and understand natural language. As soon as ChatGPT was launched, it gained wide attention and swept the screen of major social media websites. ChatGPT registered over 1 million users in just five days and reached 100 million active users within three months. In March 2023, Open AI launched GPT-4, an iterative update of ChatGPT. Later, Baidu, iFlytek, and other companies released similar products, such as "Ernie Bot" and "iFlySpark." In just half a year, large-scale language models and generative AI have become hot topics in the industry and academia. At the same time, ChatGPT has also become the object of active attention and research of journalism and communication scholars. The related research results show an explosive growth trend. Although the research on artificial intelligence technology and the News communication industry is not a new topic, the appearance of ChatGPT once again pushes artificial intelligence to the forefront of academic research. Whether artificial intelligence will lead to the unemployment of journalists has become a hot topic in the industry and a focus of controversy in academia. The academic community has also analyzed and discussed how new technologies such as ChatGPT will change the media industry's future from multiple perspectives. In this context, we believe sorting out and reviewing the academic research results related to ChatGPT from the perspective of current journalism and communication disciplines is necessary. This paper will sort out the research on ChatGPT in the field of journalism and communication to find the shortcomings in the current research on ChatGPT and News communication and then propose some new directions and research ideas for related research, hoping to inspire future research on the integration of News communication and emerging artificial intelligence technologies.

### 2. Understanding and research of the ChatGPT concept in the field of journalism and communication

ChatGPT's full name is Chat trained pre-transformer, that is, the Pre-trained chat generation model. Through training, ChatGPT can automatically generate natural language responses and conduct dialogue and interaction

with users. Most of the definitions of ChatGPT in the academic circle are borrowed from the explanations given by relevant technology companies or the definitions given by the research field of artificial intelligence. The word ChatGPT is foreign. ChatGPT has not formed a unified and fixed Chinese name in Chinese studies. There are mainly two versions of "chatbot" and "big language model." One view is that ChatGPT belongs to a multi-functional human-machine intelligent dialogue system from the perspective of its functions and applications, so it is translated as a "chatbot" (Jiang Hualin 2023). For example, scholar Luo Xin proposed, based on this concept, that ChatGPT promotes the application and promotion of chatbots in all walks of life and will give birth to a huge chatbot market (Luo Xin 2023). Another viewpoint starts from the underlying technical logic of ChatGPT, regards it as a big language model based on deep learning and neural network to realize language understanding and generation, and believes that ChatGPT is essentially a powerful artificial intelligence technical framework supporting its function operation. Scholars who hold this view usually believe that ChatGPT is pre-trained by massive data and artificial feedback and focuses on the function of conversation content generation (Jiao Litao 2023). For example, from the perspective of the "big language model," Jin Gengxing believes that in artificial intelligence, all kinds of information system software are covered by the big language model (Jin Gengxing 2023). These two Chinese translations mainly focus on the strong technical support and artificial intelligence generation function of ChatGPT and define ChatGPT as "technical essence + function," but their emphases are different. The translation of "Chatbot" focuses more on the real-time intelligent conversation ability of ChatGPT. It regards ChatGPT as a new type of human-computer interaction system that can carry out natural and smooth dialogue interaction with people. In contrast, the translation of the "big language model" pays more attention to the technical mechanism of ChatGPT -- a large-scale language knowledge model constructed using neural networks and deep learning technology. The scholars who hold this view believe that the big language model is the basis for realizing various language tasks.

Currently, the definition of ChatGPT in domestic News communication mainly adopts two terms, "chatbot" and "big language model," which are based on the object description of ChatGPT technology and function itself. However, in specific academic research, ChatGPT is regarded as a research concept that must be combined with relevant theories in the context of specific research problems. There are mainly two tendencies in the research of News communication scholars on ChatGPT: one is the tendency of tool attribute, and the other is the tendency of media attribute. At present, the research on ChatGPT by News communication scholars mainly has two research concept tendencies: one is tool attribute tendency, and the other is media attribute tendency. The researches on tool attribute tend to regard ChatGPT as a technical tool and investigate its application prospect in journalism from the perspective of pragmatism. For example, Zeng Xiao believes that the generative artificial intelligence technology represented by ChatGPT will greatly improve the productivity of News content. (Zeng Xiao 2023)

In contrast, studies on media attributes tend to regard ChatGPT as a new media type and study how it changes human communication and social information systems. For example, scholar Du Junfei, from the perspective of ChatGPT human-machine dialogue, investigated how large language models reshape the way of human communication (Du Junfei 2023). The concept of ChatGPT originates from the field of artificial intelligence technology. While paying attention to the opportunities and challenges brought by ChatGPT to journalism, journalism and communication scholars also analyzed the operation logic of ChatGPT in a specific social background from the perspectives of media theory and communication mode, enriching their understanding of the concept and perspectives of research.

Table 1: Main viewpoints on the cognition, understanding, and research of ChatGPT

Categories	Content
Concept definition	- ChatGPT is a pre-trained chat generation model used to automatically generate natural language responses and engage in conversations and interactions with users.
	- The definition of ChatGPT in the academic circle is mainly based on the explanations of relevant technology companies and the definition of the artificial intelligence research field.
	- The field of Chinese studies has not yet formed a unified Chinese translation. Currently, two terms are "chatbot" and "large language model."
View of Chatbot	- ChatGPT is a multi-functional human-machine intelligent dialogue system, which can be translated as "chatbot," promoting the application and promotion of chatbots in various industries and giving birth to a huge chatbot market.
	- Luo Xin believes that ChatGPT promotes the application and promotion of chatbots in all walks of life and will give birth to a huge chatbot market.
Large language model view	- ChatGPT is a big language model for language understanding and generation based on deep learning and neural networks, focusing on dialogue content generation.
	- Jin Gengxing, from the "big language model" perspective, believes that in the context of artificial intelligence, all kinds of information system software are covered by the big language model.
Defining Features	- "Chatbot" emphasizes ChatGPT's real-time intelligent conversation capabilities as a new type of human-computer interaction system.
	- "Big Language Model" focuses on the technical mechanism of ChatGPT, which uses neural network and deep learning technology to build a large-scale language knowledge model, which is the basis of various language tasks.
Research Perspectives	- Tool attribute tendency research regards ChatGPT as a technical tool and discusses its application prospect in journalism and content productivity improvement.
	- Media attribute Tendency research regards ChatGPT as a new medium and studies how it changes the way of human communication.

### 3. ChatGPT: a new medium that promotes the reform of journalism

Up to now, academic circles have produced research results on ChatGPT and News communication from different topics. By June 10, 2023, in the CNKI database, with "ChatGPT" as the keyword and subject as the search item, there are a total of 96 papers in academic journals of journalism and communication, including 55 papers in core journals of Peking University and CSSCI source journals. Regarding the time of publication, ChatGPT has attracted great attention from domestic scholars just over half a year after its release. Related research began in January 2023, and after GPT-4 was released in March, related research showed explosive growth in the past three months. In general, the researches related to ChatGPT and journalism and communication mainly focus on the following three topics: ChatGPT and the reform of journalism; Theoretical research on ChatGPT from the perspective of media; ChatGPT and media ethics. About ChatGPT and media ethics, this article will be elaborated on in the new chapter.

#### 3.1 ChatGPT: An emerging force driving the change in the News Industry

ChatGPT has triggered much discussion in the News industry and academia since its release as an artificial intelligence tool with a content generation function. Scholar Peng Lan once proposed that developing intelligent technology promotes the intelligent process of News content production (Peng Lan 2019). As the most popular form of intelligent communication, ChatGPT, a technology still under development, participates in News production and reporting and promotes the whole-chain reform of the News communication process (Shi Anbin & Liu Yongliang 2023). The academic circles' discussion on the new artificial intelligence content generation technology represented by ChatGPT helps put forward suggestions for the integrated development of journalism.

It promotes the better application of artificial intelligence technology in all links of News production and the intelligent transformation of journalism.

Firstly, ChatGPT reshaped the whole process of News production. The emergence and rapid development of ChatGPT have accelerated the involvement of various artificial intelligence technologies and tools in the process of news production, and the involvement of intelligent content generation technology in knowledge production and knowledge dissemination will bring great changes to the mode of content production (Lu Xiaohua 2023). Zhang Lanshan and Tang Huiting pointed out that ChatGPT will bring a new paradigm of media content generation. Relying on its powerful knowledge base and intellectual generation ability, ChatGPT's content production efficiency far exceeds that of manual labor, which will greatly improve the efficiency of News production and change the field of media production (Zhang Lanshan & Tang Huiting 2023). Zheng Manning made a diachronic analysis of machine News writing and proposed that ChatGPT is the representative technical form in the News stage of AIGC. In the News stage of AIGC, machine writing News will no longer be limited to template writing in specific fields. AIGC will become the main body of machine content production and deeply integrated into the News production process (Zheng Manning 2023). As a kind of artificial intelligence technology, ChatGPT has both the identity of a productivity assistant tool and a content generation subject, which promotes the trend of man-machine collaboration in News production. In addition to common text content production, ChatGPT will also be embedded in video content's production and reporting process. Fang Shishi and Deng Zhangyu systematically analyzed the artificial intelligence content produced based on ChatGPT in People's Daily. ChatGPT can enrich local News reporting resources and automatically generate News videos and complete content broadcasting when combined with virtual digital people (Fang Shishi & Deng Zhangyu 2023). From Newsgathering to News reporting, ChatGPT and its integration with other intelligent technologies permeate every stage of News production, promoting the reshaping of the News production process by artificial intelligence.

Secondly, ChatGPT promotes the intelligence of News distribution. In the era of algorithmic distribution, the large language model will further improve the efficiency of intelligent distribution. Yu Guoming and Li Fan analyzed information distribution patterns based on large language models such as ChatGPT from the technical path of ChatGPT. They proposed that large language models push information distribution toward "information pretribution and invocation" driven by pre-training models (Yu Guoming & Li Fan 2023). Cai Jinfin proposed that ChatGPT, with its highly personalized mode of dialogue and feedback and reliance on the learning ability of large language models, will make information dissemination move from broadcast open-source dissemination to point-to-point closed-source dissemination (Cai Jinfin 2023). In the path of information distribution, on the one hand, ChatGPT exerts its intellectual interaction ability. On the other hand, it completes algorithm distribution through language model pre-training, promotes the intellectual development of algorithm distribution, and constantly adapts to users' needs. At this stage, the academic community's study of ChatGPT's impact on information distribution is helpful for the News industry to clarify the development trend of algorithm distribution and provide guidance for the News industry to improve the way of News distribution.

Finally, ChatGPT and the AIGC News content production it drives are changing how News is consumed. ChatGPT drives the media industry to create new News service content, spawns a new way of News consumption, and is expected to create chat-based News products (He Huiyuan 2023). The intelligence of technology promotes the innovation of News products and services, which is expected to change how information is obtained and consumed. From the perspective of News content forms, Zeng Xiao proposed that ChatGPT will promote and improve the one-stop News service mechanism, provide one-to-one content services according to different scenarios in the News consumption process, and comprehensively improve user experience (Zeng Xiao 2023). Zheng Manning also believes integrating technology enables users to interact with News scenes in an all-around way, thus changing the audience's News consumption in the dimension of experience (Zheng Manning 2023). From News production and distribution to News consumption, ChatGPT has promoted a series of changes in the News industry and News communication process. Integrating AIGC into News production leads to the reconstruction of News formats and the News industry chain. When News production enters the AIGC stage, it is necessary to study the impact of emerging technologies on the News industry, from the whole process of News production to News consumption, and determine how ChatGPT empowers the News industry. Exploring how ChatGPT promotes the reform of journalism will help better understand the relationship between technological change and the development of journalism and provide a reference for the current media convergence at the practical level.

### 3.2 ChatGPT: A new type of media that catalyzes the transformation of media theory

Canadian scholar McLuhan once broadly defined media, believing that "media is an extension of the human body" (Eric McLuhan & Frank Zinglong 2023). From this perspective, any tool that contributes to the technological progress and life of human beings can be regarded as media. Therefore, ChatGPT, a symbol of the progress of artificial intelligence technology, can also be understood as a kind of media and become the object of media research. As a new form of media technology, the birth of ChatGPT has aroused great interest from media theorists and prompted preliminary research results. Theoretical research on ChatGPT from the perspective of media helps grasp the media attributes of ChatGPT, enriches the existing media theories, and clarifies its far-reaching impact on the structure of human communication and even the whole social structure. At present, the academic community not only analyzes the media attribute of ChatGPT, an emerging technology, but also examines the extensive influence of ChatGPT as a medium on people, media systems, and social structure from different perspectives of macro, meso, and micro.

First, scholars focus on the media attributes and characteristics of ChatGPT itself. As a new artificial intelligence technology appears, the first question to be discussed is whether ChatGPT has media attributes and what kind of media characteristics. In this regard, Gao Fei and Wang Qingchuan made a systematic analysis of the media properties of ChatGPT, compared it with previous media forms, and concluded that although ChatGPT has certain independent media properties, it can only serve as the assistant of existing media communication (Gao Fei & Wang Qingchuan 2023). On the other hand, based on McLuhan's theory that "media is an extension of people," Deng Jianguo believes that language and writing are human beings' primary, extended mind and thus regards ChatGPT with dialogue function as an "extended mind." He also proposed ChatGPT as a mechanized writing tool, creating a writing experiment co-created by man and machine (Deng Jianguo 2023). From the "availability" theory perspective, Chen Zhi and Chen Hao believe that ChatGPT is permeable, diffusible, and subversive and will penetrate all aspects of social life while changing digital content production methods (Chen Zhi & Chen Hao 2023). In general, journalism and communication scholars have discussed the characteristics of ChatGPT from the perspective of media theory to distinguish it from the characteristics summarized by other disciplines from the perspective of science and technology. In addition to the nature of tools, journalism and communication scholars see the media attributes of ChatGPT, which helps clarify the media nature of ChatGPT and lays a foundation for other scholars to conduct media theory research.

Secondly, ChatGPT entered the media ecology as a technology. From a diachronic perspective, many scholars investigated representative media technologies at different stages and analyzed the impact of technological changes on the structure of human communication. Ren Mengshan and Li Chengye systematically sorted out the context of technological changes from telegraph to ChatGPT. Based on the analysis of changes in the international communication pattern in different technological eras, they analyzed that the diffusion of ChatGPT would bring new changes to the international communication pattern (Ren Mengshan & Li Chengye 2023). Jiao Bao and Zhang Yawen divided human interpersonal communication into three stages: embodied, disembodied, and reflexive, according to the physical attributes of media change and communication. And proposed that from the meta-universe to ChatGPT, new media technologies will bring the return of interpersonal communication scenes and a new human communication ecology is being shaped by new media technologies (Jiao Bao and Zhang Yawen 2023). Given the media technology changes in the era of intelligent communication, Fang Xingdong, Zhong Xiangming, and Gu Yuye have sorted out the evolution of intelligent communication from TikTok to ChatGPT. They believe that ChatGPT is intelligent communication that has brought subversive changes in content productivity and communication infrastructure, marking the second half of intelligent communication (Fang Xingdong *et al.* 2023). Technology development is an important driving force to promote the change in communication ecology. From a historical point of view, the breakthrough of media technology often brings about major changes in the communication pattern. A diachronic analysis of the communication pattern from the perspective of technological change is helpful to grasp the law of technological change and the evolution of communication patterns from a historical perspective and stabilize the development direction in the rapidly changing technological change.

Thirdly, ChatGPT's impact on media ecology and communication structure transforms the human-machine relationship. Different scholars have discussed the transformation of the relationship between humans and technology under the ChatGPT background from different perspectives. From the perspective of intelligent communication, Peng Lan proposed three new human-machine relationships, namely human-machine collaboration, human-machine communication, and human-machine symbiosis. Driven by ChatGPT, these three human-machine relationships will become increasingly popular and penetrate individual life (Peng Lan 2023). In the future, humans and machines will continue to move toward a symbiotic state. Jin Gengxing believes that the

increasing interaction between humans and models will bring about the rise of a "human-model" symbiotic autonomous system, and all human communication actors will be compiled into a unified information database (Jin Gengxing 2023). Yu Guoming and Su Jianwei, starting from Don Ihde's theory of the relationship between man and technology, propose that ChatGPT will make the human-machine relationship increasingly intimate, human and artificial intelligence are coupled, and the relationship between human and machine will change from "alien relationship" to "embodied relationship." At the same time, man-machine coordination ability will become a crucial ability in the process of human socialization (Yu Guoming & Su Jianwei 2023). Du Junfei analyzed the human-machine interaction based on ChatGPT from the actor-network theory perspective and proposed that AI conversation would bring new forms of digital communication. The core value of ChatGPT is to make cross-life communication possible (Du Junfei 2023). In general, the artificial intelligence technology represented by ChatGPT promotes the profound transformation of the relationship between people and media, and the relationship between people and media moves from interaction to integration. The research on human-machine relationships under the current background is helpful to grasp better and use the new media technology and enhance the collaborative ability between people and technology.

Finally, ChatGPT plays its connecting function as a media and is embedded into the media system and even the social system, which will greatly impact the whole social structure, including the communication structure. Yu Guoming and Su Jianwei pointed out that compared with the previous generation of Internet portals, ChatGPT integrates multiple functions such as content production, information acquisition, and intelligent service, and will become a new generation of Internet portals to create a conversational super medium (Yu Guoming & Su Jianwei 2023). In another article, Yu Guoming further pointed out that ChatGPT is an epoch-making Internet technology, which is fully integrated into human practice with its high openness to realize the reconstruction of various elements of society by digital civilization and open the era of human intelligent interconnection (Yu Guoming 2023). By analyzing the communication logic of ChatGPT, Wang Jianlei and Cao Huimeng pointed out that ChatGPT keeps learning and evolving in the process of dialogue and generation to obtain a "human-like experience", which will continue to be embedded in the social communication system and eventually integrate with the long-term development of human beings (Wang Jianlei and Cao Huimeng 2023). Jin Gengxing discussed how the AI big language model represented by ChatGPT would reshape the social information system in the context of artificial intelligence and then explained the reform of media theory after ChatGPT with "the medium is the model" (Jin Gengxing 2023). Therefore, the generative artificial intelligence technology represented by ChatGPT, exerting its powerful connection function as a new type of media, is profoundly changing the human communication matrix and is embedded in the social structure to affect the development of human society. The study of ChatGPT in the social system will not only help to understand the changes in the media system better but also provide a grasp of the macro trend of social development in the digital age.

Table 2: Summary of the main viewpoints of relevant research

Categories	Content
ChatGPT drives change in the News industry.	<ul style="list-style-type: none"> <li>- News Production: ChatGPT is integrated into every stage of News production, reshaping the entire News production process.</li> <li>- Lanshan Zhang and Huiting Tang pointed out that ChatGPT will bring a new paradigm of media content generation and greatly improve the efficiency of News Production</li> <li>- News distribution: The large language model will further improve the efficiency of intelligent distribution and promote the intelligence of News distribution.</li> <li>- Yu Guoming and Li fan propose that large language models push information distribution toward "information pretribution and invocation" driven by pre-training models.</li> <li>- News consumption: ChatGPT is driving the media industry to create new News services and ways of consuming News.</li> <li>- Zeng Xiao proposed that ChatGPT will promote the improvement of the one-stop News service mechanism and provide one-to-one content services according to different scenarios in the News consumption process.</li> </ul>
Media attributes and characteristics	- Fei Gao and Qingchuan Wang believe that although ChatGPT already has some independent media attributes, it can only serve as a communication assistant for existing media.

Catalytic Media Theory Change		- Chen Zhi and Chen Hao believe that ChatGPT, as a new medium, is absorbent, diffusive, and subversive.
	Viewpoint 1	- The development of technology is an important driving force to promote the change of communication ecology, and the breakthrough of media technology often brings about major changes in the communication pattern.  - Ren Mengshan and Li Chengye systematically combed the context of technological changes from telegraph to ChatGPT. They believed that the spread of ChatGPT would bring new changes to the international communication pattern.
	Viewpoint 2	- The impact of ChatGPT on media ecology and communication structure is first reflected in the transformation of the human-machine relationship.  - Peng Lan believes that with the promotion of ChatGPT, human-machine relationships, namely human-machine collaboration, communication, and symbiosis, will become increasingly popular and penetrate individual life.
	Viewpoint 3	- ChatGPT exerts its connecting function as a medium to broadly impact the entire social fabric, including the structure of communication.  - Yu Guoming and Su Jianwei believe that ChatGPT will become the next generation of Internet portals, creating a super conversational medium; At the same time, with its high openness, ChatGPT will fully integrate into human practice and realize the reconstruction of various elements of society by digital civilization.

#### 4. ChatGPT: Ethical dilemmas of Artificial Intelligence News Production

The emergence of ChatGPT opened the door of the AIGC field and revolutionized News productivity with new technology. However, at the same time, ChatGPT also triggered a series of ethical issues, which became the subject of close attention in the academic circle. Taking a comprehensive view of the existing research, the discussion on the ethics of ChatGPT mainly focuses on the following three aspects: the identity crisis of journalists and editors, the identification of intellectual copyright, and the risk of social communication.

##### 4.1 AI or human labor: the identity crisis of journalists and editors

The appearance of ChatGPT has prompted scholars to think further about the issue of the human-machine relationship. Many scholars believe that technological development will inevitably squeeze the living space of journalists. For example, Zheng Manning believes that eliminating professional boundaries of News producers will lead to the blurring of industry subjectivity and functional orientation, which will further dissolve the authority of traditional News of professional media (Zheng Manning 2023). For journalists, since the birth of ChatGPT, the popularity of content produced by AIGC machines has triggered the identity crisis of journalists and editors, and the discussion on whether artificial intelligence will replace journalists is extremely intense. In this regard, although most of the academic circles have affirmed the effectiveness of ChatGPT for journalism writing efficiency and content screening and verification, they still emphasize the significance of journalists and editors as "media people." For example, when Guo Xiaoping and Duan Linshan analyzed the impact of AIGC on the transformation of the media industry and the human-machine relationship, they emphasized that the value of embodied "presence" of journalists is becoming prominent. Although technology can obtain information through data analysis and statistical methods, a series of problems, such as obscured truth, publicity weakening, and emotional transmission obstructing, are likely to occur if journalists' presence is lacking for a long time. (Guo Xiaoping and Duan Linshan 2023)

As for the thinking about the human-machine relationship triggered by ChatGPT, the academic community generally believes journalists should actively cooperate with artificial intelligence to improve their basic skills. For example, Zhang Jianzhong *et al.* pointed out that "in the face of ChatGPT, journalists should not have an identity crisis." ChatGPT has always been a tool for journalists, and their basic skills of on-the-spot writing and investigation will not change (Zhang Jianzhong *et al.* 2023). Wu Xiaokun also believes that ChatGPT has the ability of language generation, but it doesn't have the inferential capability, and journalists should find a path of symbiosis with AI technology (Wu Xiaokun 2023).

#### *4.2 Platform or author: The difficulty of attribution and identification of intellectual copyright*

The emergence of ChatGPT has caused great changes in journalism and publishing and inevitably triggered disputes over copyright and privacy. First of all, ChatGPT, as a large-scale generative intelligent model, is supported by massive data, so it is possible to use the protected information in its collection, sorting, and data analysis, resulting in privacy infringement. Luo Xin analyzed the characteristics and principles of the algorithm-based generation of ChatGPT as a large-scale generative intelligent model and pointed out that at the individual level, chatbots such as ChatGPT have risks of infringing on users' privacy and rights (Luo Xin 2023). Wang Lin, a reporter from China Youth Daily, also summarized the views of the legal community on whether ChatGPT's use of data is a risk of privacy violation and listed the cases of foreign News media accusing Open AI of using their articles to train ChatGPT without paying any fees. Emphasizing that "text data mining" requires appropriate intellectual property rights (Wang Lin *et al.* 2023).

ChatGPT has been listed as an author in several academic papers. At least four published and preprinted papers have used ChatGPT as a "co-author" on the paper, according to the Nature website. So, is the content created by ChatGPT creative work, should it be copyrighted, and how should the intellectual property rights be determined? These remain questions of academic interest. Xu Jinghong and Zhang Rukun analyzed the changes brought about by ChatGPT in the publishing field. They proposed that once ChatGPT is applied in the publishing field, the works produced by ChatGPT will be commercial and profitable, so the problem of dividing copyright will become a major challenge for the commercial realization of AIGC content in the future (Xu Jinghong & Zhang Rukun 2023). Citing Article 2 (8) of the Berne Convention on the scope of copyright application, Zheng Manning analyzed the vagueness of the current legal definition of copyright in works created by artificial intelligence and pointed out the risk of copyright identification in works produced by artificial intelligence such as ChatGPT (Zheng Manning 2023).

Most scholars believe that large generative intelligence models similar to ChatGPT are at risk of privacy infringement due to algorithmic black boxes and the opacity of data sources. On the other hand, the vagueness of the legal definition of copyright and the incompleteness of relevant legislation may lead to copyright disputes in the creation of AIGC.

#### *4.3 Truth or deception: the risk of social communication*

Han Bo of the Institute of Journalism and Communication of the Chinese Academy of Social Sciences believes that the social communication risk of AIGC mainly refers to the possibility that AIGC may be used to carry out immoral or even illegal information dissemination activities, the core of which is to generate content that "looks like that" but is false information (Han Bo 2023).

On the one hand, the social communication risk brought by ChatGPT lies in the difficulty in distinguishing the truth and falsehoods of its communication content and on the other hand, the bias that its algorithm black box may generate. Hacker et al. argue that the recent experiment proves that ChatGPT, even with certain protection mechanisms, can still be used to incite hatred and trigger speech campaigns on a large scale. As a machine learning model, ChatGPT relies on a very mixed corpus, which is difficult to distinguish between true and false, which makes the deviation between the authenticity and accuracy of the produced content still unavoidable (Hacker et al. 2023). Luo Xin also said that ChatGPT can only produce responses based on trained data, so when it is difficult for ChatGPT to find answers, it may forge information and pass it to the audience through technical means to bypass the content filter. In addition, its highly imitative language style makes it difficult to distinguish the truth from the fake (Luo Xin 2023). In addition, whether the text generated by ChatGPT is biased has also been widely explored. Fan Hong and He Jiayu also used the experimental method to analyze ChatGPT's portrayal of China's national image and the reasons behind the creation of the image by inputting five specific questions related to China's national image into ChatGPT Legacy. The research found that ChatGPT generates non-neutral views mainly because of data source channels, training error correction methods, and gatekeeper value orientation (Fan Hong & He Jiayu 2023). From the availability perspective, Chen Zhi and Chen Hao also analyzed the scope and mechanism of content available for application after ChatGPT was upgraded from "command-driven" to "intent-driven." In the process of availability empowerment, multiple risks, such as truth deviation under algorithm binding, emotional loss in human-computer dialogue, and information centralization under capital binding, are also generated (Chen Zhi and Chen Hao 2023).

All in all, the uncertainty of the truth and falsity of the content generated by ChatGPT may lead to the proliferation of fake News, and the difficulty of solving the black box of the algorithm may cause the bias of the output content of ChatGPT, which people use to cause group polarization (Zhao Hongxun & Ban Miaomiao

2023). When the technology is mature, ChatGPT can carry on a conversation like a human, and truth and falseness are difficult to distinguish when the machine has become the main body of communication from the communication medium. People are no longer the only choice for communication. It is still worth considering whether man-machine communication can surpass face-to-face communication and whether man-machine communication will replace interpersonal communication (He Tianping & Jiang Xiancheng 2023).

Table 3: Summary of the main viewpoints of relevant research

Categories	Content
News reporters and editors Identity crisis issues	- Technological development is bound to squeeze the living space of journalists. - Zheng Manning believes that eliminating the professional boundaries of News producers will lead to the blurring of the industry's subjectivity and practical orientation and will further dissolve the authority of traditional News of professional media.
	- Emphasizing the significance of journalists and editors as "media people." - Guo Xiaoping and Duan Linshan emphasized that the value of journalists' embodied presence is becoming increasingly prominent.
	- Journalists should actively cooperate with AI to improve their basic skills. - Zhang Jianzhong believes that ChatGPT has always been a tool for journalists, and the basic skills of journalists' on-the-spot reporting and investigation will not change.
The problem of intellectual copyright identification	- There is a risk of privacy infringement in ChatGPT - Luo Xin pointed out that at the individual level, chatbots like ChatGPT risk violating users' privacy and rights.
	- ChatGPT has difficulties in intellectual copyright identification - Xu Jinghong and Zhang Rukun argue that once ChatGPT is used in the publishing field, the works produced by ChatGPT will be commercial and profitable, so the division of copyright issues will be a major challenge for the commercial realization of AIGC content in the future.
Social communication risk issues	- It isn't easy to distinguish between true and false content of communication - Hacker et al. believe that ChatGPT, as a machine learning model, relies on a mixed corpus that is difficult to distinguish between true and false, which makes the deviation between the authenticity and accuracy of the produced content unavoidable.
	- Algorithmic black box may produce bias - Fan Hong and He Jiayu found that ChatGPT does generate non-neutral perceptions, mainly because of three aspects: data source channels, training error correction methods, and gatekeeper value orientation.

## 5. Research review and prospects

Through a systematic review of the existing research, although ChatGPT is still a new technology, it has produced some high-quality research results in the field of News communication. Scholars have achieved preliminary results in theoretical and applied research, forming a preliminary understanding of ChatGPT as a new technology in the News communication circle. At the practical level, the scholars have conducted a preliminary study on the application of ChatGPT in the News industry. At the theoretical level, ChatGPT is studied from the media perspective, and speculative methods deeply reflect the ethical issues raised by CHATGPT. With the development of ChatGPT and related artificial intelligence technology, the related research is still improving, which provides practical reference and theoretical basis for a better understanding of ChatGPT and News communication.

However, the existing research still has shortcomings in the following three aspects: Regarding conceptual understanding, there are still some limitations in understanding ChatGPT as a chatbot or a large language model. Most scholars' understanding of ChatGPT seems to be limited to the level of technical application, with a tendency toward technical pragmatism. Researchers focus more on the practical functions and technical features

of ChatGPT but ignore its deep connotation as a new communication technology and mode. Regarding research methods, domestic News and communication scholars' research methods on ChatGPT are relatively simple, focusing on theoretical analysis and lacking necessary quantitative research. Theoretical research is important, but quantitative research can provide a more comprehensive and accurate understanding, allowing News and communication scholars to further expand their research methods on ChatGPT. In terms of research topics, there is insufficient theoretical support for the discussion of ChatGPT, and the research topic is relatively stray. Although researchers closely follow the hot topic of ChatGPT, their understanding of its internal mechanism and influence is not deep enough to build a systematic theoretical framework.

In the follow-up research, the conceptual understanding of ChatGPT should be upgraded from the phenomenon description to the theoretical level, and the conceptualization of ChatGPT should be carried out in the context of relevant disciplines. For journalism and communication scholars, it is necessary to clarify the academic context of ChatGPT in specific research fields based on their own disciplines and reinterpret the concept of ChatGPT. Only by placing the definition of the technical field in the context of specific research questions can it be elevated to the height of theoretical dialogue and academic innovation in a specific academic field. In terms of research methods, we should jump out of the single speculative discussion and adopt more empirical and empirical research methods. On the one hand, it is to examine how News producers accept and use generative artificial intelligence such as ChatGPT.

On the other hand, it examines the News audience's acceptance of News content produced by AIGC and how users as technology users carry out practical activities of ChatGPT in daily life and work. Based on the existing research, the future should adhere to the position of journalism and communication disciplines, expand academic research horizons, and expand research topics from an interdisciplinary perspective to improve the breadth and depth of theoretical research. At the same time, we should deeply reflect on ChatGPT and its influence on journalism by combining theory and practice to realize the positive interaction between theory and practice.

## References

- Jiang Hualin. (2023), Research on the impact of Artificial Intelligence Chatbot on scientific research Achievements and talent evaluation -- Based on the perspective of ChatGPT and Microsoft Bing. *Journal of Chongqing University (Social Sciences Edition)*, 29 (02):97-110.
- Luo Xin. (2023), Ecological risk of Chatbot network communication and its governance: A case study of ChatGPT. *Young Reporter*, No.747(07):91-94.
- Jiao Litao. (2023), The influence of ChatGPT on the consciousness of the community of the Chinese nation and its countermeasures. *Journal of Nationalities*:1-8[2023-06-10].
- Jin Gengxing. (2023), Medium as a model: Intelligence emergence of Human-ChatGPT symbiotic autonomous systems. *Academia Sinica*, No.299(04):72-79.
- Zeng Xiao. (2023), New Thinking of ChatGPT: Opportunities, Challenges and Regulatory Strategies of News Content Production under AIGC model. *Publishing Wide Angle*, No.433(07):57-61.
- Du Junfei. (2023), ChatGPT: How Is Cross-Life Communication Possible? *Journal of Journalism and Writing*, No.466(04):1.
- Peng Lan. (2019), Human-machine Relationship in Content Production under the Trend of Intelligent Media. *Journal of Shanghai Jiao Tong University (Philosophy and Social Sciences Edition)*, 28(01):31-40.
- Shi Anbin, Liu Yongliang. (2023), Chatbot and the Whole Chain Reconstruction of News Communication. *Young Reporter*, No.743(03):98-102.
- Lu Xiaohua. (2023), ChatGPT, other intelligent content generation, and the intelligent revolution facing the press and publishing industry. *China Publishing*, No.550(05):8-15.
- Lanshan Zhang, Huiting Tang. (2023), AIGC: The New Revolution of Media Content Creation. *China Television*, No.447(05):94-100.
- Zheng Manning. (2023), Journalism under Artificial Intelligence Technology: Evolution, Turn, and Response -- New thinking based on ChatGPT. *Editors in China*, (04):35-40.

- Fang Shishi, Deng Zhangyu. (2023), ChatGPT Moment for external communication: A case study of China Daily's dual embedded artificial Intelligence News production. *Journal of External Communication*, No.320(05):72-75.
- Yu Guoming, Li Fan. (2023), ChatGPT Wave and the New Opening of Intelligent Internet Era. *Educational Media Research*, No.44(03):47-52.
- Cai Jinjin. (2023), The influence of AIGC on Omnimedia production and communication system and its Countermeasures. *Media*, No.399(10):16-20.]
- He Huiyuan. (2023), How ChatGPT affects the Media Industry. *Young Reporter*, (04):1.
- Eric McLuhan, Frank Zinglong. *McLuhan Essentials* [M]. He Daokuan, trans. Nanjing: Nanjing University Press, 2000:8.
- Gao Fei, Wang Qingchuan. (2023), Media Attributes, Influence and Limitations of Artificial Intelligence ChatGPT. *News Enthusiast*, (04):36-39.
- Deng Jianguo. (2023), "Extended Mind" and "Broadcast of Dialogue": On ChatGPT as Writing. *Journalistic University*, (04):25-37+120.
- Chen Zhi, Chen Hao. (2023), The enabling utility of ChatGPT and its risk perspective from the perspective of supply. *Journal of Information*:1-9[2023-06-13].
- Ren Mengshan, Li Chengye. (2023), From the telegraph to ChatGPT: The History of international communication pattern in the context of technological evolution. *News and Writing*, (05):38-50.
- Jiao Bao, Zhang Yawen. (2023), From Metaverse to ChatGPT: The Return of Interpersonal Communication Scenarios. *Southeast Academic*, (03):197-205+248.
- Fang Xingdong, Zhong Xiangming, Gu Yeye. (2023), From TikTok to ChatGPT: Evolution mechanism and reform path of intelligent communication. *Media Observation*, (05):39-47.
- Peng Lan. (2023), The panorama and prospect of intelligent Communication and human-machine Relationship from ChatGPT. *Journalism University*, (04):1-16+119.
- Yu Guoming, Su Jianwei. (2023), Communication revolution and media ecology under the wave of Generative Artificial Intelligence: From ChatGPT to the future in the era of comprehensive intelligence. *Journal of Xinjiang Normal University (Philosophy and Social Sciences Edition)*, 44 (05):81-90.
- Yu Guoming. (2023), Communication Revolution and media ecological Reconstruction under ChatGPT. *Exploration and Debate*, No.401(03):9-12.
- Wang Jianlei, Cao Huimeng. (2023), ChatGPT's communication characteristics, logic, and paradigm. *Journal of Shenzhen University (Humanities and Social Sciences Edition)*, 40 (02):144-152.
- Guo Xiaoping, Duan Linshan. (2023), AIGC: Leading the Transformation of Media Industry and the Reconstruction of Human-Machine Relationship. *Audiovisual Industry*, (03):5-10.
- Zhang Jianzhong, Celia Campbell. (2023), News journalists should not have an identity crisis in the face of ChatGPT. *Young Reporter*, 2023, No.745(05):97-98.
- Wu Xiaokun. (2023), The Impact and Challenge of ChatGPT's Information "Revolution" on Journalism. *Exploration and Controversy*, (03):26-29.
- Li Ruoyi, Wang Lin, Jia Jiye. (2023), Intellectual property risks behind ChatGPT. *China Youth Daily*, 2023-02-21(006).
- Xu Jinghong, Zhang Rukun.(2023), Application of ChatGPT in editing and Publishing industry: Opportunities, Challenges, and Countermeasures. *Chinese Editors*, (05):116-122.
- Han Bo. (2023), ChatGPT: The Risk of Artificial Intelligence Content Production and Communication. *Chinese Society Proceedings*, 2023-02-16 (003).
- Hacker P, Engel A, Mauer m. (2023), Regulating ChatGPT and other Large Generative AI Models. (2023-2-10). <https://arxiv.org/abs/2302.02337>.
- Fan Hong, He Jiayu. (2023), China's National Image from the Perspective of ChatGPT: Analysis and Speculation. *International Communication*, (04):19-22.
- Zhao Hongxun, Ban Miaomiao. (2023), ChatGPT's communication characteristics and ethical dilemmas. *Audiovisual Industry*, (03):34-38.

---

He Tianping, Jiang Xiancheng. (2023), ChatGPT from the perspective of international communication: Application scenarios, hidden worries and trends. *Journal of International Communication*, (03):64-67+80.