The Influence of Social Capabilities on Artificial Intelligence Knowledge Media Literacy-take Chat GPT as an Example

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Abstract:From the perspective of media literacy, this article explores the reasons behind the phenomenon of "the more socially competent people are, the more and sooner they know about AI knowledge and ChatGPT". This study adopts the research method of questionnaire survey and in-depth interview method, and uses innovation diffusion theory and intermediary factors theory to conduct theoretical studies. This article will discuss the relationship between the audience's social ability and the degree of mastery of artificial intelligence and skills .
Keywords: social ability;media literacy;Chatgpt;artificial intelligence;innovation diffusion theory;Intermediary factors theory

1 Introduction

1.1Background Introduction

At the end of November 2022, OPENAI launched a new dialogue AI model ChatGPT, which quickly attracted widespread attention from all walks of life. "With the digitalization and virtualization of social exchanges, and the blurry of human-machine boundaries, virtual social exchanges, participation, and human-machine cooperation have gradually enriched the dimension of media literacy. " Therefore, whether you can understand social hot spots through digital media has become one of the standards for measuring user media literacy, and social communication has become one of the effective means to improve user media literacy.We have observed that many users have not used ChatGPT,. but they have a certain understanding of the relevant knowledge of ChatGPT through media information. Among them, The more socially inclined users are, the earlier they know about ChatGPT, and the better they know about AI and ChatGPT.. So it is worth thinking about the reason behind the phenomenon that "the more socially skilled people know more about AI and ChatGPT and know it earlier". What caused this phenomenon?

2.Literature Review

2.1Literature review of ChatGPT's extensive attention phenomenon

The huge social impact caused by the ChatGPT (General Pre-Trapet Transformer) has been

studied from various perspectives such as communication and media studies. For example, foreign scholar Debby R. E. Cotton, Peter A. Cotton, J. Reuben Shipway published in 2023 Chatting and Cheating: Ensury Academic Integrity in the Era of ChatGPT proposed that users should be alert to the credibility of the answer provided by GPT.Especially when it is used in the field of education and research, improving academic nature should be focused on. Domestic scholars Wang Jianlei and Cao Huimeng in ChatGPT's dissemination characteristics, logic and paradigm break through the traditional research paradigm of "subject-object dualism" and "interpretive empiricism" to reconstruct the value of ChatGPT as a new communication medium.. In Contingency rate database: ChatGPT as a new medium of knowledge, Zhou Baohua discusses the knowledge-mediated nature of ChatGPT and argues that it represents the latest stage of contingency rate database. However, most studies in the academic community currently focus on exploring the media nature, dissemination significance, or the impact on society and users, and lacks research on the relationship between user media literacy and user understanding and accepting the degree of ChatGPT.

2.2 Literature review of the theory of media literacy

Regarding the study of media literacy, foreign research has emerged in the 1930s. British scholar F.R. Livis and Dennis Sampon published in 1933 Culture and Environment: Cultivation of Cultivation Awareness first proposed media literacy education. In the Entertainment to Death published by Neil Polzman in 1985, the purpose of cultivating media literacy is to eliminate the mystery of the media and allow students to interpret the symbolic significance in the media.In his 2000 book Watch IT: the risks and promises of information technologies for education, American scholar Wally Bowen argues that media literacy education contributes to the development of citizens' ability to better confront media culture Media literacy education is the focus of foreign research and is now integrated into formal education in the UK, France and the US.

Chinese media literacy developed in the late 1990s. The paper published by Bu Wei in 1997 is one of the earliest related achievements in China. This paper explores the core content, feasible methods and significance of implementing media education in my country. Lin Xiaohua's Survey of the Media Cultivation of Ethnic Minority Farmers in 2009 found that there is a close connection between the media literacy of ethnic minority farmers and the economic development of the ethnic area. Cai Yan and Li Ling emphasized in the New Media Literacy in the Era of overloaded Information in 2013 that in the era of information overload, traditional media literacy education should transition to new media literacy education to keep up with the times and cultivate new media literacy that make people good at filtering and integrating information. In short, domestic research is either an overall and a summary research on media literacy and education, such as sorting out its development process; or investigations are conducted to study the media literacy of different groups in different media environments. However, these studies do not contain the relationship between social ability and media literacy.

2.3 Raising questions

Therefore, from the perspective of media literacy, this article will try to answer the following questions: "The more socially competent people are, the more and sooner they know about AI knowledge and ChatGPT" What is the reason behind it?

3.Research Method

This article adopts the research method of questionnaire survey and in-depth interview method to try to answer the above questions.

3.1 Questionnaire survey method

3.1.1Assuming establishment

Based on the above problems, the corresponding assumptions are raised here:

H1: Social ability is positively related to the degree of understanding of artificial intelligence knowledge

H2: Social ability is significantly correlated with the timing of knowing ChatGPT

H3: Social ability is positively related to the knowledge of ChatGPT

In order to prove the assumption, this study adopted a questionnaire survey method and produce questionnaires.

This survey completed the process of collection, sorting, and analysis of data on April 27, 2023. The survey is mainly based on open and closed questions. The main contents are: (1) Basic information confirmation: including age, gender, education level, working status, place of residence, income. (2) Independent variable: the test part of the social ability (3) Dependent variable: audience's knowledge about AI and ChatGPT and time section. This questionnaire contains 28 single-choice topics.The author used a combination of online and offline methods to distribute the questionnaire, like WeChat friend circle, Questionnaire Star or offline distribution.

3.1.2 Sample feature description

About 60% of the samples are girls, and 40.16% are boys, and the others are 0.39%. From the perspective of education levels, most of the samples have "college or undergraduate" degree, with a total of 151, accounting for 59.45%. From the perspective of age distribution, the samples of 18-25 years of age account for 35.83%; the proportion of samples under the age of 18 and over 60 years old is 0.79%and 1.57%, respectively. From the perspective of working conditions, most of the samples are "students" or "working", each with 88 and 133.

3.2In-depth interview method

3.2.1Outline of the interview

The interview issues are mainly divided into two parts.

The first part mainly involves the basic situation of the respondent, including its age, occupation, education level, and areas.

The second part is to reduce the dimension of research on the interview, including its social capabilities and the channels of understanding of artificial intelligence knowledge and ChatGPT knowledge.

In the process of interviews and research, researchers tried to avoid the four ethical issues and cross-rail behaviors that was emphasized by scholar Al-An Bryman: (1) damage to the participants; (2) not using informed consent documents or materials; (3) invading the privacy of study participants; (4) deceiving study participants. And if the interviewer has any questions or dissatisfaction during the interview process, it can keep silent or exit halfway. The interviewed materials that the respondent declared unwilling to disclose was not included and referenced in this study.

3.2.2Selection of interviewees

This study conducted a 10-minute semi-structural depth interview with 9 interviewers with different social capabilities. The interview began in April 2023 and ended in April 2023. The interviewees first include classmates, family and friends, and secondly the author raised more research samples through the Internet. According to the maximum sampling principle of the quality research method, when the 9th person was collected, the content of all interviews was sufficient to answer the research questions, and the sample collection cut off. The respondents were different in terms of age, occupation, education level, and regions, so they have low homogeneity. When we conducted further in-depth interviews and tried to get answers to questions about the relationship between social ability and AI and ChatGPT, we were surprised to find that the more socially competent people were, the more they knew about AI; the earlier they knew about ChatGPT, the more they knew about ChatGPT. The answers of the interview object confirmed my thoughts.

Interviews were conducted as telephone interviews, WeChat text interviews, and one-on-one face-to-face interviews. .The results of the interview were sorted into verbal drafts, and the number of words in the interview manuscript was 3969 words. The process was completed by Cui Mingyue. The basic information of the respondents is shown in the table 1.

Table 1 The Basic information of the respondents

Respondents	1	2	3	4	5	6	7	8	9
Age	19	47	21	27	35	20	20	60	21
Profession	student	worker	student	student	teacher	student	student	retire	student

Education level	Bachelor	Junior High School	Bachelor	PhD	College	Bachelor	Bachelor	Primary School	Bachelor
Area	Guizhou	Sichuan	Sichuan	Beijing	Heilongjiang	Zhejiang	Tianjin	Sichuan	Tianjin

4.Results and Discussion

4.1The strength of social ability affects people's understanding of artificial intelligence knowledge

From the perspective of communication, audiences with strong social ability can use social networks and communication channels better to obtain hot spot information and knowledge. This study first adopted a related analysis of Pilson. The data showed that social capabilities were positively related to the degree of understanding of artificial intelligence knowledge, with a correlation coefficient of 0.292. Then, using the regression analysis, we found that the two have a significant linear relationship, with a regression coefficient of 0.016, whose significance is 0.000. This shows that, in general, the stronger the social ability, the more you know about artificial intelligence.

The audience can build a wider and closer social relationship network through communication and interaction with more people, so as to gain and spread artificial intelligence knowledge more easily. In addition, such audiences usually have stronger information screening capabilities and evaluation capabilities, which can better judge the reliability and value of information, thereby gaining valuable artificial intelligence knowledge faster. Besides, they can use the communication channels to spread the acquired AI knowledge to others, such as through social media, blogs, forums, etc. What's more, audiences with strong social capabilities often have better persuasive ability and influence, which can better affect and guide the cognition and behavior of others, thereby promoting the spread of artificial intelligence knowledge. And audiences with strong social capabilities are often more likely to have the ability and advantages of acquiring and disseminating artificial intelligence knowledge, so that they can understand and apply artificial intelligence technology more deeply.

4.2The strength of the user's social ability is directly proportional to the time they know about ChatGPT

The more socially capable you are, the sooner you will know about ChatGPT. Auditors with strong social ability can receive and spread information faster and wider. This study first adopted a related analysis of Pilson and found that social ability is related to the time of knowing ChatGPT, with a correlation coefficient of 0.317. Then, the regression analysis was used, and the results showed that the two had a significant linear relationship. The regression coefficient was 0.015, and the significance was 0.000. The audience usually has a broader social network that can get

information in social media, gatherings and other social occasions. In addition, they will establish closer interpersonal relationships with others, which may provide them with opportunities to understand ChatGPT related knowledge faster. Under such circumstances, social capabilities help people gain the latest knowledge and information faster, and enhance the spread of ChatGPT knowledge.

4.3The strength of the user's social ability is closely related to people's understanding of ChatGPT

The stronger the social ability you have, the more you know about the ChatGPT. This study first adopted a related analysis of Pilson. The data showed that social capabilities were positively related to the degree of understanding of ChatGPT, with a correlation coefficient of 0.244. Subsequently, we used regression analysis, and the results showed that the two had a significant linear relationship. The regression coefficient was 0.011 and the significance was 0.000. From the perspective of communication, human social networks are one of the most important media for information transmission and dissemination. The more socially competent an audience is, the greater the likelihood of having a broader and deeper social network, which means a greater chance of learning about new information and news., At the same time, the more the new information has disseminated through the audience's social network. The stronger the audience's social ability, the greater the opportunity to understand the new information, and there will be more opportunities to spread this information to a wider social network. In other words, the stronger the audience's social ability, the easier to understand the relevant information of ChatGPT. The audience shares new information in social networks to help more audiences understand ChatGPT. This is why the person with stronger social ability are more likely to know ChatGPT.

From the above results, the correlation analysis was used to investigate the correlation between social skills and knowledge of AI, time of knowledge of ChatGPT, and knowledge of ChatGPT, and the Pearson correlation coefficient was used to indicate the strength of the correlation. For specific analysis, we can see that the degree of knowing artificial intelligence, the time of knowing ChatGPT, and the degree of understanding ChatGPT have a significant positive correlation with social capabilities. The correlation coefficients are 0.292, 0.317, and 0.244, respectively. The author use regression analysis to analyze social capabilities, the degree of understanding of artificial intelligence, the time of knowing ChatGPT, and a total of three causal relationships with ChatGPT knowledge. According to the specific analysis, it can be seen that the social ability has a significant linear correlation relationship with all three items, and the regression coefficients are 0.016, 0.015, and 0.011, respectively. The regression analysis is established, and and the research hypothesis has a causal relationship. Research hypotheses H1, H2, and H3 were supported.

4.4The characteristics of the audience are closely related to the effect of technological innovation diffusion

Rogers believes that "innovation is a new concept, practice or thing that is perceived by individuals or other adopting units. Innovation diffusion refers to a basic social process. In this process, the information about a new thing is spread through a social construction process, and the significance of its innovation has gradually emerged. "(Rogers,2003) In simple terms, innovation must achieve its own meaning from the basis of the process of spreading. ChatGPT has not only achieved breaking through innovation in technology, but also spreads to the world as a technical boom. It only took about two months to achieve the number of monthly active users reached 100 million, making it the fastest growing consumer app in terms of users. . Therefore, ChatGPT can have a broad and profound impact on today's society and is widely known. Of course, innovation diffusion is not only related to innovation itself, but also rely on a certain way of communication. The process of innovation diffusion is essentially a process in which new ideas, things, etc. are spread to each other through people communicating with each other and sharing information, in which both mass media communication and interpersonal communication affect the process of innovation diffusion." At the same time, as a recipient of information in the process of innovation diffusion, the nature of itself will also affect the effect of innovation diffusion. We can analyze interview materials from three perspectives: interpersonal communication, mass media communication, and audience nature.

4.4.1Interpersonal communication affects the spread of new technologies

This study found that interpersonal communication is an important way to spread artificial intelligence and ChatGPT related knowledge. "My roommate's major is computer information, and they often talk about these contents. I will talk to them in the dormitory, and I will take the initiative to learn a lot of knowledge." (S1)

"Friends around me often talk about these. In order to have a common topic with them, I will also go online to learn about this." (S4)

"I will collect a lot of hot spots to be used as some explanations in the classroom. Students will also introduce some new technologies before they give a speech in class." (S5)

One of the important motivations for interpersonal communication is to establish social collaboration relationships with others. Interpersonal relationships such as friends' relationships, teacher-student relationships, and other relationships need to be established and consolidated through continuous interpersonal communication. In interpersonal dissemination, people often selectively exposed to useful or interested information in order to improve communication efficiency. Selective exposure mechanism is one of the "mediating factors" considered by modern communication theories to govern and influence the effectiveness of media communication, including selective attention, selective understanding and selective memory. (Katz & Lazarsfeld,2005) The stronger the social ability, the more likely to selectively understand the hot information for the communication needs, and then obtain the relevant knowledge of artificial intelligence and ChatGPT intentionally or unintentionally.

4.4.2New media users are easier to contact ChatGPT than users using old media

"The new communication technology has become an important factor in understanding how individuals and society use the media and affected by the media." (Duan,2020) The media itself has certain characteristics, and the effect produced by different channels of information dissemination will be somewhat different. "I like to browse Weibo, circle of friends, and Xiaohongshu. I especially love to give comments." (S1)

"I generally watched Douyin and mobile news." (S2)

"There will be a screenshot of friends in the circle of friends who chat with Chatgpt." (S3)

"Look at TV news." (S6)

With the changes in the environment and the development of the communication environment, the audience has continuously increased their understanding of society through various media. The audience with stronger social capabilities often continue to expose new social hot spots with various media such as Weibo, WeChat and Xiaohongshu or TV news. The more audiences are exposed to social hot spots, the more they are exposed to information in a wide range of fields, and the more likely they are to be exposed to knowledge about artificial intelligence, which is a hot field nowadays.. At the same time, with the rapid development of communication media, the new mass communication media make the dissemination of information more extensive, faster, more continuous and opener than before. .Therefore, users who use the new medium of mass communication to learn about social hotspots generally learn about AI knowledge and ChatGPT earlier than users who use other traditional old media to learn about social hot spots.

4.4.3The specific characteristics of the audience affect the spread of new technologies and information

Audiences as individuals are very different, they have different ideologies, literacy levels and interests, so the reception of information varies from audience to audience. According to the degree of attention to information and the scope of content, the audience can be divided into general audiences and specialized audiences. Compared to general audiences, special audiences should meet higher special requirements when receiving messages. For example, S9, as an audience that does not have strong social skills, is very knowledgeable about AI and ChatGPT. This is inextricably linked to the attribute that this audience has a study experience in engineering. Such audiences are more purposeful and utilitarian in participating in specific communication activities.The strength of social ability does not have a decisive impact on their acceptance of artificial intelligence knowledge and ChatGPT knowledge.

"I don't love socialization, I don't like it whether it is online or offline ... Academic papers, I usually love to look at various papers when I have nothing to do. As long as I can read the papers, no matter what the profession is, I look to understand. This habit is very helpful to understand the cutting-edge and professional knowledge of each discipline. "(S7)

"I like watching TV news, I don’t know my mobile phone very much ... ... I don’t read it, I don’t understand it.” (S8)

"I usually don't like socialization, and there are not many friends on WeChat ... Classrooms and academic papers, I am major in engineering, and I will understand it more." (S9)

According to the habits and degrees of receiving a certain media content, the audience can be divided into basic audiences and potential audiences. For example, S7, who has become a loyal and stable audience of the media content of the cutting-edge and specialized knowledge of various disciplines, i.e., the basic audience, is frequently exposed to such media content. At the same time, he is the potential audience of artificial intelligence knowledge and ChatGPT knowledge, and has potential willingness to know this media content. On the other hand, he receives hot information by reading papers on the CNKI platform. The CNKI project is an informatization construction project with the goal of realizing the communication and sharing of knowledge resources and value-added utilization of the whole society. Its data sources are publicly issued newspapers. Although the S7 does not have strong social capabilities and rarely uses social platforms, it can contact hot information through professional information platforms. However, compared to the new media of mass communication, the information of traditional medium represented by newspapers and magazines is relatively delayed.

The audience itself has the inherent diversity characteristics, so we need to analyze the specific situation in the process of information dissemination, pay attention to the specific characteristics of the audience in different communication, and choose the appropriate communication strategy. In the new media environment, we need to pay more attention to the cultivation and improvement of the media literacy of children, adolescents and elderly. For example, S8, the elderly rely on traditional media, have discomfort in contact with new media, and insufficient acceptance. What's more, the level of cultural level has also become one of the constraints for the elderly to accept new technologies. Therefore, we must make traditional media more timely and more effectively to spread hot information, and we need to lower the threshold of understanding hot information through new media, so as to help the elderly to better understand hot information even with their limited literacy level..

5.Conclusion and Reflection

This study conducted theoretical research on the theory of innovation and diffusion of artificial intelligence media literacy through the questionnaire survey and in-depth interview, and tried to answer the impact of social ability on the influence of social intelligence's artificial intelligence knowledge media literacy. Through research, the stronger the audience's social competence, the more they know about AI knowledge; the stronger the audience's social competence, the earlier they know about ChatGPT; the stronger the audience's social competence, the more they know about ChatGPT..

This study proposes the issue of the audience's artificial intelligence knowledge media literacy, and reflects the development of artificial intelligence in the media-based society. It has huge benefits and potential risks. With the continuous development of artificial intelligence technology, chat robots have become more convenient and intelligent information tools, while ChatGPT is one of the most popular chat robots. In the social network and digital media environment, ChatGPT is increasingly used as an important tool in people's daily communication and information acquisition.. In this context, ChatGPT's influence on social ability and media literacy has become

the focus of attention. First, ChatGPT helps improve people's social capabilities. On social media platforms, ChatGPT can help the audience to answer some questions such as Q & A, knowledge categories, etc. to increase the convenience of social interaction. And in the process of communication, it is also conducive to improving the audience's communication and expression ability and communication skills. Secondly, ChatGPT helps improve the audience's media literacy. In a modern information society, media literacy has become a necessary ability.. By using ChatGPT, people can better understand and apply media technology, and at the same time, they can also understand and evaluate media information more clearly to improve their media literacy. What's more, the improvement of social ability and media literacy can also have a positive impact on people's use of ChatGPT. The improvement of social capabilities and media literacy can make the audience more effectively use ChatGPT and more adapting to the digital media environment.

However, there are also issues of concern in this relationship, such as the digital divide and data monopoly. In a digitally mediated environment, inequalities in information and resources can occur between different classes and groups. Some people who lack the ability to use technical medium such as ChatGPT will face marginalization, which will also cause obstacles to the improvement of the social ability and media literacy of such audiences. In addition, people with weak social capabilities may not make full use of the help provided by ChatGPT due to the lack of timely understanding of the technical medium, which will affect their social ability and the level of media literacy.

In response to the above problems, this study proposed appropriate solutions. First of all, for the digital gap, we need to promote the popularization of digital media technology and knowledge and strengthen the cultivation of citizens' digital literacy. At the same time, society should give more attention and support to disadvantaged groups in the popularization and application of media technology. Secondly, for data monopoly, relevant government departments should pay attention to their disadvantages and regulate in the process of using ChatGPT. Only by using ChatGPT reasonably to strengthen supervision and ensure user rights and data security, can we better play the role of ChatGPT in the medium society.

In general, social capabilities and media literacy have an important impact on the use and application of ChatGPT, and the relationship among them also requires us to study and explore more deeply. We must improve our social ability and media literacy level, focus on helping and supporting of vulnerable groups, strengthen social interactions, and improve the overall social media literacy level. At the same time, it is also necessary to strengthen the norms and supervision of artificial intelligence technology in order to better apply and develop digital media technology. However, this study also has insufficient number of samples and insufficient selection of samples. In future studies, researchers in the field of media literacy may need to pay more attention to the phenomenon of audience's AI knowledge media literacy, as well as to expand the research and practice on the influence of social competence on AI knowledge media literacy..

References

[1].Grieco M,R.2014.Why history matters for media literacy education.Journal of Media

Literacy Education(5)3:P.2.

[2].Mohammadreza Farrokhnia & Seyyed Kazem Banihashem & Omid Noroozi & Arjen Wals. (2023).A SWOT analysis of ChatGPT: Implications for educational practice and research. Innovations in Education and Teaching International 0:0, pages 1-15.

[3].Neil Postman.(2005). Amusing Ourselves to Death: Public Discourse in the Age of Show Business,New York:Penguin Books.

[4].Nicholas Burbules &Thomas Callister.(2000).Watch IT: the risks and promises of information technologies for education, Boulder: Westview Press, 2000: 66.

[5].Everett M. Rogers.(2003).Diffusion of Innovations,New York:Free Press.

[6].Elihu Katz & Paul Lazarsfeld.(2005).Personal Influence: The Part Played by People in the Flow of Mass Communications,New Jersey: Transaction Publishers.

[7].Duan Peng.(2020).Communication Basics:History,Frame and Extention,Bei Jing:Communication University of China Press.(in Chinese)

[8].Li Lingtao & Zhang Yi. (2022). The evolution and promotion of media literacy in the digital era. Contemporary Communication (02), 107-109.(in Chinese)

[9].Wang Jianlei & Cao Huimeng. (2023). ChatGPT's communication characteristics, logic, paradigm.Shenzhen University Journal (Humanities and Social Science Edition), 2023,40 (02): 144-152.(in Chinese)

[10].Zhou Baohua. (2023). Or Database: Smart ChatGPT. Modern Publishing (02), 21-32.(in Chinese)

[11].Buwei. (1997). On the significance, content and methods of media education. Modern Communication-Journal of Beijing Broadcasting College (01), 29-33.(in Chinese)

[12].Lin Xiaohua. (2008). Investigation of the current status of the media literacy of ethnic minorities. Contemporary Communication (02), 63-65.(in Chinese)

[13].Cai Qi & Li Ling. (2013). New media literacy in the era of information overload. Modern Communication (Journal of Communication University of China) (09), 120-124.(in Chinese)

[14].Wang Yiwen. (2021). Innovation and diffusion theory, the spread of the WeChat public account of the WeChat public account under the theory of innovation. Master's degree thesis. China:Bohai University.(in Chinese)