Original Research Article

An Investigation into the Exploitative Mechanisms of Generative Artificial Intelligence on Audiences: A Case Study of ChatGPT

Yuelu Liu

Northwest University of Political Science and Law, Xi'an, Shaanxi, 710010

Abstract: This paper delves into the potential exploitative mechanisms of generative artificial intelligence (AI) technologies, with a particular focus on ChatGPT. It commences by examining the widespread adoption of ChatGPT in the realm of social media and the convenience and personalized experiences it affords. However, the paper underscores that the application of these technologies is not without exploitation of the audience, encompassing infringements on data privacy rights, challenges to the authenticity of information, exacerbation of social inequalities, and the risk of cultural homogenization. Through empirical research, this study reveals issues arising from the application of ChatGPT in domains such as customer service, content creation, education, and psychological counseling, including privacy breaches, copyright infringements, declines in learning quality, and misdiagnoses. The paper concludes with recommendations for enhancing data protection, algorithmic transparency, content diversity, and public education to ensure the healthy development of generative AI technologies and the protection of audience rights.

Keywords: Generative Artificial Intelligence; ChatGPT; Exploitation of Audience

1. Introduction

The rapid advancement of technology has positioned generative artificial intelligence (AI) as an indispensable force in the domain of social media. Characterized by their robust natural language processing and content generation capabilities, these technologies are progressively permeating and reshaping users' social experiences. Generative AI not only emulates human linguistic expression but also generates highly personalized content based on user inputs or behavioral patterns, significantly enriching the information flow on social media platforms.

Among the myriad of generative AI applications, ChatGPT stands out for its exceptional performance and broad application scenarios, becoming a focal point in the social media landscape. Utilizing deep learning algorithms, ChatGPT engages in fluid and natural dialogues with users, offering a range of services including knowledge Q&A, textual creation, and code writing. On social media platforms, ChatGPT is employed not only as an intelligent customer service tool to enhance user experience but also integrates into various aspects such as content creation and marketing promotion, demonstrating substantial commercial value.

However, with the widespread application of generative AI technologies like ChatGPT, their potential impact on the audience is becoming increasingly evident. On one hand, these technologies offer unprecedented convenience and personalized experiences, making information and service acquisition more efficient and rapid. On the other hand, the overuse of generative AI technologies may also lead to new challenges for the audience in information filtering and decision-making. For instance, due to the rapid and voluminous nature of generated content, the audience may face issues of information overload and authenticity verification, thereby increasing cognitive load and Therefore, it is of significant importance to delve into the exploitative mechanisms

of generative AI technologies on the audience, exploring the underlying principles and behavioral logics to safeguard audience rights and foster the healthy development of technology. This paper will take ChatGPT as a case study to analyze the potential impacts of generative AI technologies on the audience from multiple dimensions, aiming to provide valuable insights for the formulation of relevant policies and the advancement of technology.

2. Generative Artificial Intelligence and Its Exploitative Mechanisms

In the discourse surrounding the exploitative mechanisms of generative artificial intelligence (AI) technologies such as ChatGPT, this paper endeavors to dissect the underlying principles and behavioral logics. ChatGPT, as a prominent representative of OpenAI, hinges on the training with vast user data to refine its language generation capabilities. While this process significantly enhances the interactivity and intelligence of AI, it also harbors the risk of the insidious exploitation of user data. Users, often unaware that their data will be utilized for model training when engaging with ChatGPT, contribute unconsciously to data exploitation, raising concerns about privacy breaches and data misuse.

The exploitative mechanisms, data privacy concerns, market fairness, information authenticity, and research innovation issues associated with generative AI technologies like ChatGPT, while offering convenience and innovation, cannot be ignored. A profound understanding and response to these challenges are crucial for ensuring the healthy development of technology and the maintenance of societal welfare.

3. Research Methodology

To quantify the usage patterns of ChatGPT among its audience, this study designed a survey questionnaire that encompassed the frequency and duration of ChatGPT usage. Based on the collected data from 500 valid questionnaires, it was observed that the average user engages with ChatGPT three times per week, with each session lasting approximately 20 minutes. This indicates that ChatGPT occupies a significant portion of users' daily routines.

In order to assess the specific impact of ChatGPT on the work efficiency of its audience, this study conducted a field observation study, selecting ten enterprises that have integrated ChatGPT as a customer service tool. The findings revealed that these enterprises experienced an average 30% improvement in customer service response times post-integration, highlighting the positive role of ChatGPT in enhancing work efficiency. However, it is also necessary to be vigilant about the potential displacement effect on human customer service positions.

Regarding information security, this study analyzed a case where a user inadvertently leaked personal privacy information while using ChatGPT, revealing the potential risks of information leakage associated with the technology. This case underscores the importance of strengthening user privacy protection and raising public awareness of information security.

Through a survey questionnaire, this study investigated the extent of audience dependency on ChatGPT. The results indicated that 40% of respondents reported a strong dependency on ChatGPT. This suggests that while ChatGPT provides convenience, it may also exacerbate dependency psychology among users, potentially affecting their ability to solve problems independently.

On the level of consumer behavior, this study utilized big data analysis techniques and discovered that 60% of users who engaged with ChatGPT increased their frequency of online shopping. This suggests that ChatGPT

has a certain role in promoting consumption and guiding shopping decisions, but it may also induce irrational consumer behavior.

Table 1. ChatGPT Survey form.

Research content	Research methods	Data and indings	Conclusions and impacts
Analysis of ChatGPT's application in the customer service field	Case Analysis	After ntroducing ChatGPT, the average response speed of customer service has increased by 30%.	Increased work efficiency, but may replace human customer service positions.
Frequency and duration of audience using ChatGPT	Survey questionnaire	500 valid questionnaires indicate that the audience uses ChatGPT an average of three times a week, with each session averaging 20 minutes.	ChatGPT plays a certain role in the daily lives of its audience.
The impact of ChatGPT on audience work efficiency	Field bservation research	After 10 companies dopted ChatGPT, the average response speed of customer service increased.	Increased work efficiency, but may lead to a reduction in human customer service positions.
Privacy information leakage risks of ChatGPT	Case Analysis	Analyze a case where a user discloses personal privacy information while using ChatGPT.	Emphasized the importance of strengthening user privacy protection and raising wareness of information security.
The impact of ChatGPT on the audience's independent thinking ability	Experimental research	Compare the independent thinking ability scores of the experimental group and the control group before and after using ChatGPT, the experimental group's score decreased by 10%.	It may weaken human ndependent thinking and judgment abilities, which requires vigilance.

Through empirical research on the application of generative artificial intelligence (AI) technologies such as ChatGPT across various scenarios, this study has identified multiple exploitative mechanisms and their specific manifestations targeting audiences. Taking ChatGPT's smart customer service as an example, its interaction with consumers has led to privacy leakage issues due to non-standard data collection practices, with the impact assessed as moderate. This phenomenon reveals the current weaknesses in data processing by generative AI, urgently necessitating the strengthening of data protection regulations to ensure user privacy and security.

In the field of content creation, the widespread application of technologies like ChatGPT has triggered serious issues of copyright infringement. Experimental results indicate that due to the lack of effective copyright protection mechanisms, the rights and interests of content creators are frequently violated, with far-reaching impacts. To address this issue, it is imperative to improve copyright protection technologies, such as introducing blockchain and other technological means, to ensure the traceability of original works and clarity of copyright ownership.

Attempts to apply ChatGPT in the field of psychological counseling have also revealed its limitations. Due to the lack of emotional understanding capabilities, ChatGPT may cause serious consequences such as misdiagnosis when providing psychological counseling. To address this issue, it is necessary to strengthen the collaboration between AI and human experts to ensure the professionalism and effectiveness of psychological counseling services, preventing secondary harm to those seeking help.

While generative AI technologies bring convenience to audiences, they also expose various exploitative mechanisms. In response to these issues, this paper proposes a multifaceted approach, including legal construction, technological improvement, quality control, and human-AI collaboration, to jointly promote the healthy development of generative AI technologies.

4. Conclusions and Discussion

This paper provides a systematic analysis of generative artificial intelligence, with a particular focus on technologies represented by ChatGPT, to delve into the exploitative mechanisms exerted upon audiences. The study reveals that while technologies like ChatGPT offer convenient and efficient information services, they have also subtly established frameworks for data dependency and personalized manipulation, thereby exploiting audience attention, privacy, and cognitive space.

Specifically, ChatGPT, through its large-scale pre-trained models, can accurately capture the nuances in user inputs to generate highly personalized responses. Behind this highly customized service lies the mass collection and analysis of user data. In this process, the boundaries of user privacy are blurred, and the commercial use of personal information becomes the norm, constituting a covert exploitation of audience privacy rights. Algorithmic recommendation mechanisms continuously reinforce user interest preferences, creating an echo chamber effect that limits the audience's exposure to diverse viewpoints. Over time, this may lead to the solidification of cognitive biases, representing a potential exploitation of audience cognitive autonomy.

In response to the current situation, this paper proposes the following recommendations: Strengthen data protection legislation to clearly define the boundaries of data collection, processing, and utilization in the application of generative AI technologies, ensuring the protection of user privacy rights; promote research on algorithmic transparency and interpretability to ensure the fairness and rationality of algorithmic decision-making processes and reduce the echo chamber effect; encourage the production and dissemination of high-quality original content, and use technological means to optimize content recommendation algorithms to promote information diversity; enhance public education and guidance to improve audience media literacy and critical thinking abilities, enabling them to maintain rationality and autonomy in the face of generative AI.

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