From the Perspective of Media Evolution: A Feasibility Analysis of AIGC Empowering Mainstream Media Development (Postprint)

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Abstract

【目的】From the theoretical perspective of "media evolution," this study explores how AIGC can empower mainstream media to enhance their communication influence, thereby facilitating the overall process of Chinese-style modernization.

【方法】Employing methods of rational speculation and case demonstration, this paper analyzes the media advancement of AIGC and reveals its advantages in aiding the development of mainstream media, as well as the uncertainty risks it brings.

【结果】The media advancement of AIGC is manifested in three aspects: constructing a "human-like" human-machine interaction model, enhancing information production capacity for massive knowledge, and satisfying users' emotional needs. For mainstream media, utilizing AIGC for news production can effectively reduce production costs, improve "cross-modal" information transformation efficiency, increase user stickiness, and reduce obstacles in cross-cultural communication. However, AIGC can also impair news authenticity and induce potential risks such as intellectual property disputes and undermining journalistic objectivity.

【结论】AIGC plays a "double-edged sword" role in enhancing the communication influence of mainstream media. It is necessary to maintain clear awareness of the potential risks it may induce on the premise of fully recognizing its media advancement, thereby better promoting mainstream media to serve the construction of Chinese-style modernization.

Full Text

Abstract

This study employs "media evolution" as a theoretical lens to explore how AIGC (AI-Generated Content) can empower mainstream media to enhance their communication influence, thereby contributing to the broader process of Chinese-style modernization. Through rational speculation and case analysis, this paper examines the media advancement characteristics of AIGC and reveals both its advantages in supporting mainstream media development and the uncertain risks it introduces. The findings indicate that AIGC' s media advancement manifests in three dimensions: constructing a "human-like" human-machine interaction model, enhancing information production capacity based on massive knowledge reserves, and satisfying users' emotional needs. For mainstream media, leveraging AIGC for news production can effectively reduce production costs, improve cross-modal information conversion efficiency, increase user stickiness, and diminish barriers to cross-cultural communication. However, AIGC also poses potential risks, including compromising news authenticity, triggering intellectual property disputes, and eroding journalistic objectivity. The study concludes that AIGC plays a "double-edged sword" role in enhancing the communication influence of mainstream media. Only by fully recognizing its media advancement while maintaining clear awareness of its potential risks can we better promote mainstream media in service of Chinese-style modernization.

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1. Research Origin: AIGC Triggers Transformation of Social Communication Ecology

At the beginning of 2023, an AI conversational application named "ChatGPT" (Chat Generative Pre-trained Transformer) took the internet by storm, attracting widespread attention from all sectors of society. Developed by the American AI laboratory OpenAI and released in November 2022, this chatbot garnered over 100 million active users within just two months, becoming the fastest-growing internet application in history [1]. The emergence of ChatGPT signifies that AI-Generated Content (AIGC) has entered an entirely new developmental stage. From early robot journalism to AI-generated art, and now to the globally popular ChatGPT, AIGC has achieved qualitative leaps in flexibility, intelligence, and user experience, establishing itself as the most cutting-edge information content production model today.

Alongside ChatGPT's explosive popularity, debates about whether AIGC will replace traditional human labor have intensified, with the media industry undoubt-

edly ranking among the most concerned sectors. A Weibo post by CCTV.com titled "Top 10 Professions Most Likely to Be Replaced by ChatGPT" listed media professionals second [2]. Against this backdrop of AIGC's vigorous development, higher and more sophisticated demands have been placed on China's mainstream media influence enhancement initiatives. Therefore, how to accurately and comprehensively understand this new AIGC model represented by ChatGPT, how to leverage AIGC to empower future mainstream media development on the premise of accurately grasping its media advancement, and how to enable mainstream media to better serve Chinese-style modernization through AIGC technology—these are all critical issues urgently requiring solutions for both journalism practitioners and academics. This paper analyzes AIGC's media advancement characteristics from the perspective of media evolution theory and proposes that mainstream media can fully utilize AIGC to enhance their communication influence, ultimately contributing to the overall construction of Chinese-style modernization.

2. Analysis of AIGC's Media Advancement from the Perspective of Media Evolution

"Media evolution" is a media theory proposed by Paul Levinson, a representative figure of the media ecology school, which primarily focuses on the dynamic processes of various media's conception, emergence, development, convergence, and demise within the entire media system, as well as the structural relationships of competition, interaction, and symbiosis among different media [3]. Within this theoretical framework, Levinson views media development and evolution as a rational and natural dynamic selection process guided by humans [4]. Through humanized autonomous selection, media evolution exhibits a typical humanization trend, whereby new media representing the advanced direction of development inevitably better satisfy and serve human needs than old media [5]. Simultaneously, Levinson proposed the "Remedial Media" theory, which suggests that in the process of media evolution, the emergence of a new medium impacts existing old media, but such impact does not entail complete negation. Instead, new media absorb, learn from, and sublate old media, ultimately achieving functional compensation [6]. In Levinson's view, humanization and compensation constitute the most important theoretical connotations of media evolution theory. Regarding AIGC, its media advancement can be analyzed from these two theoretical perspectives.

2.1 Returning to the Origin: Constructing a "Human-like" Human-Machine Interaction Model

In the theoretical system of media evolution, Paul Levinson argues that evolving media increasingly support "pre-technological era" human communication patterns [7]. These pre-technological communication patterns refer to the most fundamental, direct, and naturally aligned information dissemination activities, such as face-to-face conversations between people. Current AI programs can al-

ready authentically restore this direct information transmission mode, creating highly "human-like" human-computer interaction models.

In traditional human-computer interactions, users often felt they were communicating with a "machine" rather than a "natural person." Whether on traditional computer terminals or subsequent mobile phones, this sense of artificiality imposed by technical limitations was difficult to overcome. With the continuous development of AI technology, new forms of AI content production represented by ChatGPT can now create human-computer interaction modes approaching "real-person dialogue," reducing users' perception of the machine nature of AI. For instance, ChatGPT can highly restore oral conversation processes between people through a "question-answer" format. By providing immediate responses to user questions, combined with highly intelligent language organization and expression capabilities, users feel as though a real person is answering their various inquiries, thereby greatly enhancing the authenticity of human-computer interaction. As scholar Yu Guoming points out, ChatGPT' s core breakthrough lies in its leapfrog development in simulation fidelity. Compared to other types of AI, ChatGPT better provides users with a sense of natural interaction [8]. In summary, under the 加持 of new AI technology, existing AIGC programs can already effectively restore face-to-face information transmission modes from the pre-technological era, fully embodying the humanization trend in media evolution.

2.2 Restoring Reality: Information Production Capacity Based on Massive Knowledge Storage

Beyond restoring fundamental human information exchange, the humanization trend in media evolution also manifests in media' s inherent replication and extension capabilities. Paul Levinson notes that media evolution trends aligned with humanization characteristics are reflected in continuously improving levels of real-world representation [9]. This representation emphasizes media information' s ability to restore and replicate the real world. For current-stage AI, powerful knowledge storage capacity already enables high-fidelity restoration of the real world. According to publicly available information, the ChatGPT application alone utilized approximately 45TB of internet data, including numerous online documents and digital books [10]. This knowledge constitutes the data foundation for ChatGPT' s high intelligence and forms the basis for its ability to answer different types of questions. Precisely because of this massive knowledge reserve, ChatGPT can maximize its capacity to answer various questions users pose about the real world during human-computer interaction, completing the replication and representation of reality.

Moreover, current-stage AI possesses extremely strong self-learning capabilities, accurately learning users' personalized language habits and value orientations during interactive exchanges, and applying these habits or biases to subsequent content production to complete customized information behavior with private attributes. Driven by this learning function, AI can accurately imitate or repro-

duce those language expressions and information contents most readily accepted by users, enhancing user acceptance of AIGC. This highly intelligent learning capability also demonstrates AIGC' s powerful replication capacity regarding the real world.

2.3 Emotional Compensation: Satisfying Users' Emotional Needs

Beyond the two points above, the ability to satisfy user groups' emotional needs similarly demonstrates AIGC' s media advancement characteristics. According to Levinson' s remedial media theory, media development is a process of new media continuously compensating for old media—for example, television compensating for radio' s lack of visual images, and the internet compensating for various traditional media [11]. New AI programs represented by ChatGPT also compensate for non-intelligent network media and early AI technology' s difficulty in satisfying users' emotional needs. Providing emotional-level satisfaction constitutes an important manifestation of AIGC' s media advancement.

Sociologist Turner once noted that humans are the most emotional animals, with rich and colorful emotional characteristics endowing humanity with unique charm [12]. In daily life, individual humans generate substantial emotional needs and satisfy them through various social interactions and information acquisition behaviors. Reviewing early AI technology, it consistently suffered from the drawback of outstanding intelligence capabilities but insufficient emotional capacity. In human-computer interaction, it was essentially a machine without feelings conducting content production activities, lacking the ability to engage in emotional interaction with users. However, with technological progress, current-stage AI can integrate different types of emotional expressions into information production activities. Through technical simulation of user groups' thinking patterns and language expression habits, AI programs gradually possess certain emotional recognition capabilities and emotional discourse expression abilities. For example, ChatGPT can provide users with caring and greeting words when answering health-related questions, transforming originally "cold" machine programs into "warm" entities that bring emotional satisfaction to users. Thus, current AI content production can already perceive human emotional expressions through its own learning, refer to past experiences to provide appropriate responses, and ultimately achieve the goal of satisfying user groups' emotional needs. This progress at the emotional level can be regarded as AIGC' s compensation for non-intelligent network media and early AI technology, reflecting its inherent media advancement.

In summary, examining the current development of AIGC from the perspective of media evolution confirms that it already possesses advancement characteristics representing media development trends, thereby providing sufficient practical conditions for it to assist mainstream media development and serve Chinese-style modernization.

3. Advantages of AIGC in Assisting Mainstream Media' s Participation in Chinese-Style Modernization

As AI technology develops, AIGC' s applicable scope continues to expand. Scholar Lu Xiaohua believes that current intelligent content production will likely enter the news communication field, which profoundly influences the public's spiritual life, affecting media content production activities and driving major transformations in operational paradigms, working methods, and professional boundaries within journalism [13]. Under these circumstances, mainstream media can regard AIGC as an important technological force for enhancing their communication influence, applying it to daily news production activities to better contribute to the overall process of Chinese-style modernization. Overall, AIGC' s advantages for mainstream media development primarily manifest in the following aspects.

3.1 Reducing Information Production Costs and Enhancing Communication Efficiency

Mainstream media can effectively reduce information production costs in daily news production by leveraging the AIGC model. With massive data storage and powerful learning capabilities, current-stage AIGC can already complete many fundamental text creation tasks. Under these technical conditions, news organizations can entirely delegate conventional, standardized news reports—such as current affairs, sports events, financial briefs, and weather forecasts—to AI. This AI-driven news production model not only maximizes news reporting timeliness but also effectively reduces manpower costs for media organizations. Simultaneously, using AIGC can transfer simple summarization and repetitive tasks to AI programs, freeing journalists from tedious daily text work and ensuring they can devote more time and energy to in-depth investigative reporting requiring higher professional standards. In short, employing AIGC enables more rational division of labor in news production within mainstream media, promoting overall communication efficiency.

3.2 Improving Cross-Modal Information Conversion Efficiency

"Modal" refers to information discourse patterns perceivable by information recipients, typically including text, images, audio, video, and other content [14]. Cross-modal refers to transforming original modal information into another modal information through certain technical means, such as converting text information into corresponding images or videos. From the current development state, AIGC can already complete production activities for different types of media information, achieving automated generation of text, images, video, audio, etc., as seen in image generation programs like Midjourney and audio-video generation programs like Fliki. This multi-modal information production capacity can provide tremendous assistance for media's cross-modal information conversion work.

In today's increasingly visual communication landscape, media users have grown accustomed to accepting visual content such as images and short videos while avoiding pure text information. To better adapt to this visual reading trend, media organizations often need to convert large amounts of text information into images or videos when publishing information. AI technology makes this cross-modal application of information production more efficient and convenient. Through AIGC, journalists' written text can be transformed into image or video information that conforms to user groups' reading habits within a relatively short time, better satisfying users' visual reading needs and ultimately achieving the goal of enhancing media communication influence.

3.3 Providing Emotional Companionship and Strengthening User Stickiness

Generally, users' media contact or usage behavior often contains certain emotional needs, hoping to obtain emotional support from media. Based on the previous analysis, it can be determined that AIGC represented by ChatGPT already possesses the ability to provide emotional support, which can precisely become an important breakthrough for promoting mainstream media development. When using AIGC for information production, attempts can be made to strengthen AI programs' emotional learning capabilities, transforming them into users' exclusive "emotional partners." By perceiving users' emotional changes and engaging in corresponding emotional communication with users anytime and anywhere, this satisfies users' emotional-level needs. For users, this AI program with emotional attributes is not merely a provider of knowledge and information but more like a portable friend capable of providing immediate emotional guidance and long-term emotional companionship. Over time, this gradually strengthens users' trust and favorability toward the AIGC program and its affiliated media organization, ultimately forming path dependence in information contact. Therefore, for current mainstream media, AIGC's emotional perception and expression capabilities can be utilized to enhance user stickiness, thereby strengthening their own communication influence.

3.4 Reducing Barriers to Cross-Cultural Communication

AIGC's assistance to mainstream media development also manifests in effectively reducing cultural obstacles and enhancing the effectiveness of cross-cultural communication. First, compared to traditional content production activities, AIGC holds greater advantages in cross-language writing. By possessing vast amounts of foreign language knowledge, AI programs have mastered multiple languages proficiently, enabling them to produce foreign language information more accurately and efficiently while reducing information loss or misinterpretation caused by manual language conversion. Simultaneously, with strong learning capabilities, AI programs can continuously strengthen their understanding and cognitive levels of a language through interaction with users of other languages, accurately grasp language development status, and improve their language expression' s

proximity to foreign cultural groups, particularly foreign youth groups.

Second, regarding content production forms, AIGC can efficiently integrate different modal information, achieving comprehensive application of text, images, video, data, charts, and other content to enhance news products' attractiveness, readability, and interest, making mainstream media' s news products more competitive in cross-cultural communication. Finally, AIGC can gradually cultivate foreign cultural users' usage habits toward Chinese media. Currently, new AI content production represented by ChatGPT, with its "human-like" human-machine interaction model, cross-language writing capabilities, and certain emotional communication abilities, has already achieved "one-to-one" communication for users. Compared to traditional "one-to-many" communication models, this new "one-to-one" model possesses stronger intervention and service capabilities. It not only provides user groups with better media usage experiences but also gradually cultivates foreign cultural users' usage habits toward Chinese media, achieving expansion of cross-cultural communication channels.

4. Analysis of Uncertainty Risks in AIGC Empowering Mainstream Media Development

AIGC also exhibits the "double-edged sword" characteristic of technological development, bringing certain practical problems while providing convenience. If used improperly, it may negatively impact the overall social communication ecology and even become a risk factor in the process of Chinese-style modernization. For mainstream media, while utilizing AIGC to assist their development, they must also remain vigilant about potential risks and hidden dangers.

4.1 Challenging News Authenticity

The most prominent controversy arising from applying AIGC to news production is the difficulty in ensuring news content authenticity. As the lifeline of news, authenticity is a red line that all media must not cross. However, AI programs represented by ChatGPT still face real problems of difficulty distinguishing truth from falsehood in content production. For instance, scholar Guo Quanzhong notes that although ChatGPT frequently makes errors in professional knowledge and basic common sense, it can achieve a convincingly realistic effect through consistently logical reasoning and rapid response capabilities [15]. Some users even jokingly refer to ChatGPT' s content production as "talking nonsense with a straight face." Long-term exposure to such false information produced by AI may subtly influence users' judgment regarding news authenticity, accuracy, and authority, reducing their sensitivity to false information. It can be said that AIGC possesses a powerful ability to make fake news appear more authentic. From the perspective of mainstream media itself, when applying AIGC to daily news production, it is essential to strictly control the content production mechanisms and technical operation logic behind the program to avoid problems of fake news.

4.2 Triggering Intellectual Property Disputes

Intellectual property issues constitute another major controversy triggered by AIGC. Since AIGC's content production behavior is based on internet knowledge storage behind the scenes, it essentially involves rearranging and recombining existing knowledge content. However, this "secondary processing" of original knowledge can easily trigger intellectual property-related disputes. If AI program developers fail to obtain authorization from relevant content providers in a timely manner, it may lead to intellectual property disputes. As renowned linguist Chomsky once commented on ChatGPT, it is nothing more than a high-tech plagiarism tool [16]. Nowadays, intellectual property disputes triggered by AIGC still occur frequently. For example, Dow Jones & Company under the global News Corp recently issued a statement condemning OpenAI for unauthorized use of *The Wall Street Journal* news reports as training material sources for ChatGPT [17]. In summary, when mainstream media use AIGC for news production, they need to pay special attention to intellectual property-related issues to avoid unnecessary copyright disputes.

4.3 Eroding Journalistic Objectivity

In its continuous communication with users, current-stage AIGC constantly adjusts and improves its content production activities according to users' personal value orientations and reading preferences to achieve personalized customization of communication content. However, this information push activity based on users' personal interests, while effectively improving information distribution efficiency, may also cause negative problems such as "information cocoons" [18]. If AIGC is applied to news production, under the influence of this communication mechanism, it may damage news objectivity and reinforce users' inherent biases. Meanwhile, this risk of reinforcing biases may also appear in cross-cultural communication fields. When facing foreign cultural users, these "information cocoons" created by AIGC could easily become accomplices in reinforcing their existing political prejudices, which is not conducive to China' s national image construction work. Therefore, for mainstream media, how to ensure that journalistic objectivity is not damaged by AIGC is also a problem requiring long-term consideration and continuous improvement.

5. Summary and Reflection

From ChatGPT to the recently released GPT-4, and then to Baidu' s Wenxin Yiyan, AIGC' s development continues. General Secretary Xi Jinping has explicitly stated that artificial intelligence is an important driving force for a new round of technological revolution and industrial transformation, and that accelerating the development of new-generation AI is a strategic issue concerning whether China can seize the opportunities of this new round of technological revolution and industrial transformation [19]. For China' s mainstream media, on the one hand, they must fully recognize AIGC' s media advancement characteristics and actively explore utilization pathways. On the other hand, they

must also maintain a relatively clear understanding of its potential social risks and strive to find avoidance methods. Only by adhering to a comprehensive and correct dual epistemology can we maximize strengths and minimize weaknesses, enabling AIGC to better assist mainstream media development and, in turn, better serve the overall process of Chinese-style modernization construction.

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Note: Figure translations are in progress. See original paper for figures.