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Intelligent Generation and Cognitive Reconstruction: A Study on the Influence Mechanism of AIGC News on Audience Information Behavior

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Abstract: The rapid rise of generative artificial intelligence technology is fundamentally reshaping the entire ecological landscape of news content from production, distribution to reception. This study, based on an interdisciplinary perspective integrating communication studies, cognitive psychology, and sociology of technology, constructs a theoretical analysis framework of “technology-text-cognitive mediation-behavioral response” specifically to explain the mechanism of AIGC news on audience information behavior. This framework can simultaneously cover the influence paths at multiple levels such as technological characteristics and text presentation. As a conceptual and theoretical study, this paper proposes that the three core characteristics of AIGC news—efficient production process, structured text presentation, and malleable traceability path—drive systematic changes in audience information acquisition behavior by reshaping their trust-building logic and information processing paradigms. As these characteristics fundamentally change the way audiences access news, their behavioral logic also changes accordingly. Specifically, at the perceptual dimension, audiences gradually develop algorithm-centered dependent trust; at the cognitive dimension, the tendency for shallow information processing is further strengthened—for instance, many audiences now only quickly browse news headlines without reading the main text in depth; at the behavioral dimension, a dual evolution direction of “passive feeding-style content consumption” and “technologization of information verification behavior” emerges. While these changes greatly enhance the efficiency of audience information acquisition, they also harbor potential crises, such as the continuous solidification of cognitive biases and the shrinking of public discussion space. Research suggests that long-term exposure to algorithm-recommended AIGC news may exacerbate opinion polarization among audiences, illustrating the existence of such risks. Therefore, on this basis, this paper further proposes a three-dimensional response system covering technological transparency design, cultivation of audience critical information literacy, and multi-stakeholder collaborative governance to mitigate these potential risks.

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1. Introduction

The leapfrog development of generative artificial intelligence is driving profound changes in the news communication landscape. AIGC technology has evolved from a simple tool assistant to an important subject of news content production, deeply embedded in the entire process from financial news flash generation to in-depth report data compilation. This transformation enables algorithms to simultaneously assume the dual roles of content production and distribution, challenging traditional gatekeeping theory and fundamentally altering the ways audiences access news and their cognitive pathways. This study focuses on the core issue of how AIGC news affects audience information acquisition behavior. From the interdisciplinary perspective of communication studies and cognitive psychology, it constructs an analytical framework of technological characteristics-cognitive mediation-behavioral response, systematically explaining the influence mechanism of AIGC news on audience perceptual trust, cognitive processing,

and behavioral patterns, aiming to provide theoretical reference for understanding the evolution of audience behavior in the era of intelligent communication.

1.1. Research Background: From Technological Possibility to Communicative Reality

At the end of 2022, ChatGPT rapidly gained popularity by breaking out of its niche, marking a milestone moment for generative AI to transition from laboratory technology to practical public use. In the field of journalism and communication, this technological innovation has long surpassed the scope of mere tool assistance, entering a new stage where humans and machines jointly dominate content production. The integration of AIGC tools into newsroom workflows has become increasingly prevalent, with applications ranging from automatically generating financial briefs and sports event updates to data analysis and multimodal content creation for in-depth reporting (Carlson, 2015).

As such technologies penetrate deeper into the industry, the field of communication studies has to reconsider the adaptability of traditional theoretical frameworks in the new environment. Take the classic gatekeeping theory, for example. Its core assumption is that human editors dominate the information screening process, but the intervention of AIGC systems has turned algorithmic gatekeeping into a covert but core control mechanism at the front end of news production (Diakopoulos, 2019). Moreover, when news producers shift from human journalists with clear professional ethics and legal responsibilities to neural network models trained on massive data, the foundations of news authenticity, chains of accountability, and public value orientation all face fundamental shocks. This situation reflects the diminishing explanatory power of traditional theoretical frameworks.

The information environment in which audiences find themselves is also undergoing essential changes, a factor that cannot be ignored. The news content users encounter is no longer limited to the work of human journalists but may also be personalized information streams generated in real-time by algorithms based on their individual interests and preferences. This shift from standardized content products to customized information services has profound and lasting impacts on audiences' information discernment, critical thinking abilities, and even the consensus foundation on which democratic societies rely (Graefe, 2016). For example, on some personalized recommendation platforms, users only see content that aligns with their preferences day after day, making them prone to falling into information cocoons, finding it difficult to access diverse viewpoints, thereby further exacerbating the risk of consensus fragmentation.

1.2. Problem Awareness: Behavioral Reconstruction under Triple Fracture

The widespread penetration of AIGC news has disrupted the original equilibrium of the traditional information ecosystem on three levels, thereby driving a systematic restructuring of audience information behavior—this is the core observation of this study.

The first rupture is a clear divergence in news production logic. Traditional journalism has always followed the professional operational paradigm of “fact collection—value judgment—narrative construction”; however, AIGC-driven news production is centered on the computational logic of “pattern recognition—probability prediction—sequence generation” (Lewis et al., 2019). For instance, when these two logical systems collide and intermingle, what impact will they have on the presentation form and content quality of news texts? This is a core issue that requires in-depth exploration.

The second rupture points to the deconstruction of trust between communicators and audiences. Audience trust in traditional media is rooted in long-term perceptions of the credibility of media institutions and the professionalism of frontline journalists. However, when the primary supplier of news content becomes opaque algorithmic models, how will the audience's anchor of trust shift? For example, will it turn toward recognizing the objectivity of the technology itself, or will it directly slide into a complete collapse of trust? This question has become a key reference indicator for interpreting anomalous audience behavior (Peng, 2021). Furthermore, the establishment of traditional trust systems takes a long time; when suddenly disrupted by technology, audience reactions often exhibit many unpredictable fluctuations.

The third rupture focuses on the alteration of audience cognitive processes. When the inherent human cognitive system confronts highly structured, emotionally neutral, and abundantly supplied AIGC news, what adaptive adjustments will its internal information processing strategies make? Is this adjustment an evolutionary iteration of cognitive abilities or a functional degradation? The answer to this question will directly affect the overall quality of knowledge production in the information society.

Synthesizing the realistic background of the above three ruptures, the core research question of this study is anchored here: How do the technical attribute characteristics of AIGC news, through various psychological mediating variables at the audience level, ultimately systematically reshape the audience's information acquisition behavior patterns?

It should be noted that this study is conceptual and theoretical in nature. Rather than conducting original empirical research, it synthesizes existing literature across communication studies, cognitive psychology, and sociology of technology to construct an integrated analytical framework. All propositions advanced in this paper are theoretical expectations derived from literature integration and logical deduction, pending further empirical validation.

1.3. Literature Review: Expanding Perspectives from Production to Consumption

Current academic research related to AIGC news is advancing along two main directions:

The first thread focuses on technological implementation and industrial innovation. For instance, early studies primarily concentrated on the text quality and production speed of news-writing robots; as technology gradually matured, academia shifted to exploring the practical value of AIGC in fact-checking, personalized content delivery, and immersive journalism. Carlson (2015) stated in his research that current discussions exhibit a technological determinism bias—because of an excessive focus on the functional boundaries of AIGC, insufficient attention has been paid to the ethical norms that should be followed in its application and the subsequent impacts that deserve attention.

The second thread revolves around the mechanism of algorithms' effects on audiences, with numerous research outcomes already achieved, including analyses of the relationship between algorithmic recommendation models and information cocoons or filter bubbles (Yu, 2023). However, previous studies mostly treated algorithms merely as carriers of information distribution. With the emergence of AIGC technology, algorithms also possess the attribute of content production entities (Chen, 2022). This closed-loop model, which deeply integrates production and distribution, directly breaks the traditional analytical framework that dichotomizes content and channels. For example, the filter bubble theory proposed by Pariser in 2011 describes a state where external heterogeneous information is filtered out. The intervention of AIGC may go deeper: directly generating homogeneous content that perfectly aligns with user preferences, thus creating a new phenomenon this study terms "generative bubbles." As this paper argues, generative bubbles represent a more potent form of cognitive insulation than traditional filter bubbles, a concept that will be developed in Section 2.3.

Due to the research gaps mentioned above, this paper proposes that it is necessary to construct an integrated analytical framework, defining AIGC news as a composite form possessing three attributes: technological tool, communication text, and information environment. Then, it systematically analyzes its cross-dimensional mechanisms of influence on audiences, from micro level cognitive decision-making to macro-level behavioral patterns.

2. The Paradigm Revolution of AIGC News: Core Features and New Communication Logic

2.1. AIGC News as a New Type of Text: Three Core Features

The first characteristic is the information surge brought about by efficient and mass production. Due to hard constraints such as a shortage of human resources and high time costs, the output scale of traditional news production has long been constrained. However, the emergence of AIGC technology has completely broken this bottleneck, generating several news articles in seconds. For instance, the Wordsmith intelligent writing system used by the Associated Press produces over 3000 corporate earnings reports per quarter (Hu & Liu, 2023). This explosive production capacity has led not just to an overwhelming amount of information but to an extreme state that nearly "drowns" people. The cognitive challenge facing audiences has also completely shifted—from how to select useful information from limited sources to how to effectively obtain information and make accurate judgments within an endless torrent of information.

The second characteristic is the structured and aesthetically homogenized text style. News generated by AIGC often adopts fixed frameworks and sentence patterns. Although logically coherent, it lacks personalized narrative features. The tendency toward standardized, formulaic outputs in algorithmic news production has been noted in the literature (Bucher, 2018; Carlson, 2015). While this style can enhance information density and make content more accessible to ordinary readers, it may also lead to increasingly monotonous and impoverished narrative patterns in news. Ultimately, the core value of news—recording social stories, connecting public emotions, and shaping collective cognition—could be gradually weakened.

The third characteristic is the plasticity of sources and the dissolution of the aura of authenticity. Due to the inherent "hallucination" flaw in AIGC technology, it may generate news content with false details but seemingly coherent logic. Moreover, a more disruptive impact is that it fundamentally undermines the core foundation of news authenticity—the verifiable mechanism of information traceability (Tandoc Jr. et al., 2018). In traditional news production systems, media establish content authenticity through clear chains of source attribution. However, news generated by AIGC often derives its information from vague statistical associations in training data, making it impossible to form clear traceability paths. This directly alters the logic of judging news authenticity: instead of relying on the authority of sources, it now requires examining the internal logical consistency of the text and the credibility of the platform that generated the news.

2.2. Triple Transformations of the Communication Paradigm

The first transformation is the production paradigm shifting from human-led, machine-assisted to human-machine entanglement. The news production model has long moved beyond the old path of manual single-line operations, instead forming a closed-

loop collaborative mechanism of human-machine interaction. For example, human editors are responsible for anchoring the reporting agenda and narrative framework, while AIGC is used to complete the initial draft writing or material integration; subsequently, editors conduct fact-checking and value-level gatekeeping of the content, and AIGC iteratively optimizes the output based on feedback (Zuboff, 2019). Under such a mechanism, the role of journalists has shifted from direct content creators to designers of AI prompts and auditors of content quality, and the core professional capabilities they need have undergone fundamental adjustments. The capability requirements for practitioners have thus changed significantly.

The second transformation is the distribution paradigm forming a closed-loop ecosystem of generation-equals-recommendation. Due to the deep integration of AIGC technology and recommendation algorithms, a new content distribution ecosystem has been spawned. User behavior data is systematically organized into precise interest preference profiles, based on which AIGC generates customized content tailored to individual needs, and users' interactions with the content generate new data sources that feed back into the system (Kuang, 2021). For instance, some news apps can now generate localized news summaries that match users' interests in real time based on their historical reading trajectories. This demand-centric real-time production model blurs the boundaries between the public and private attributes of news, so the traditional mass communication model is gradually being broken down into a large number of personalized communication micro-cycles. Moreover, if users' interests change, the system can quickly adjust the direction of content generation, further enhancing the flexibility of the entire closed loop.

The third transformation is the consumption paradigm shifting from consuming products to interactive processes. The audience's identity has shifted from a passive receiving terminal for fixed news products to a dynamic variable participating in the news production process. Behavioral data such as each user's click operations and page dwell time are transmitted in real time to the AIGC system and become important bases for adjusting the direction of subsequent content generation (Graefe, 2016). The original news consumption behavior thus evolves into a dynamically adjustable human-machine interaction process. Although this transformation gives audiences a sense of content control they have never experienced before, because the algorithm's logic inherently has a certain bias, it also subtly integrates audiences more deeply into the logical system of algorithm operation. For example, some users may find that the news content they see every day is increasingly limited to a few specific areas, which is the logic at work.

2.3. Generative Bubbles: Conceptualization and Distinction

This study introduces the concept of "generative bubbles" to describe a new phenomenon enabled by AIGC technology. Defined as a closed information environment in which AIGC systems not only filter but actively produce content that reinforces users' existing preferences, generative bubbles represent a more potent form of cognitive insulation than traditional filter bubbles.

The operational mechanism of generative bubbles operates through a positive feedback loop. User behavioral data are collected and analyzed to construct precise interest profiles. Based on these profiles, AIGC systems generate customized content specifically designed to align with users' preferences. As users consume and engage with this content, their existing preferences are reinforced. This engagement generates new behavioral data, which feeds back into the system and further strengthens the direction of future content generation. The loop is self-reinforcing and operates without users' explicit awareness.

The conceptual distinction between generative bubbles and traditional filter bubbles is threefold. First, filter bubbles operate through selective presentation—they filter out existing content that does not match user preferences. Generative bubbles, by contrast, operate through active creation—they generate new content that never existed before, specifically tailored to match user preferences. Second, filter bubbles are constrained by the available content pool; generative bubbles are constrained only by the training data and generation parameters of the model, making them potentially more extensive in their homogenizing effects. Third, filter bubbles tend to produce passive information narrowing; generative bubbles may produce active cognitive construction, as users are presented with information that has been not just filtered but deliberately crafted to resonate with their worldview.

Observable manifestations of generative bubbles include reduced diversity of viewpoints encountered by users, decreased tolerance for opposing perspectives, diminished information verification behavior, and growing difficulty in engaging with content that challenges one's worldview. These manifestations are expected to be more pronounced in environments where AIGC-generated content constitutes a substantial portion of users' news consumption. Future empirical research is needed to validate these theoretical expectations.

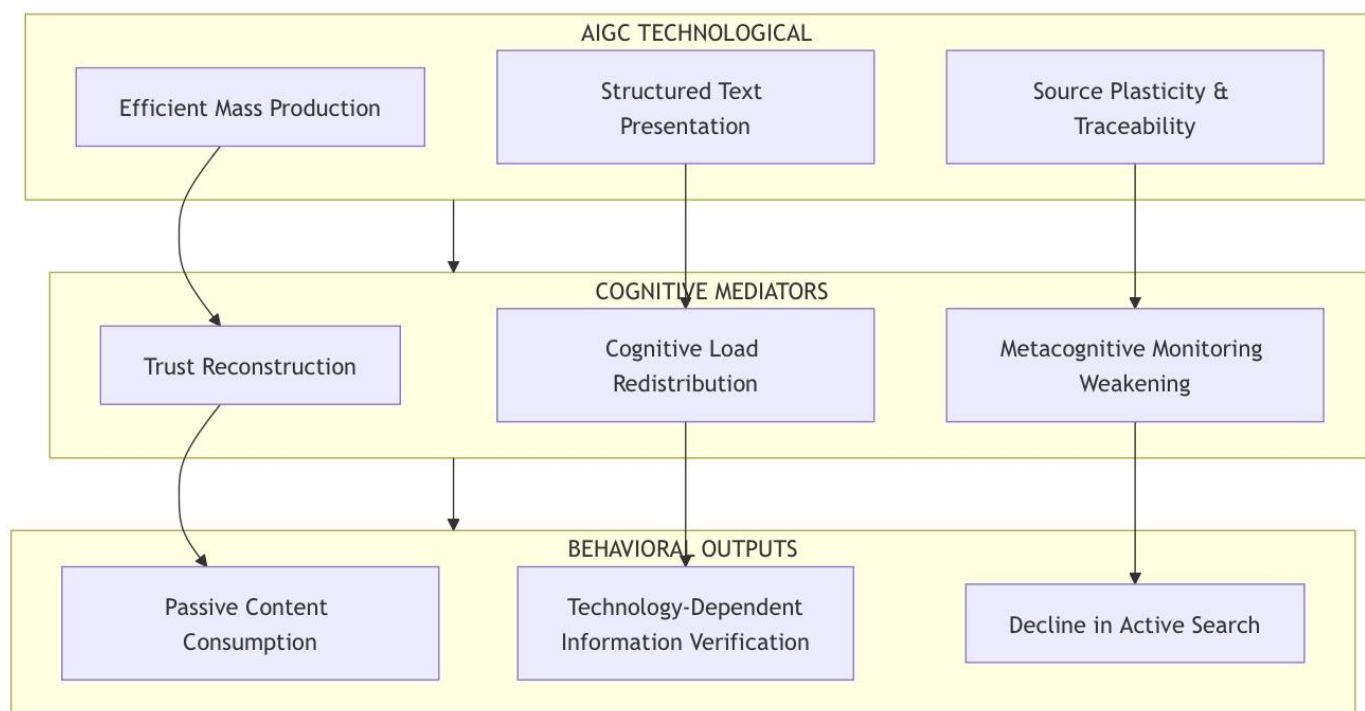


Figure 1. Analytical Framework: AIGC News Influence on Audience Information Behavior. Note: Arrows indicate hypothesized causal pathways. This framework posits that AIGC's technological features influence audience behavior through three mediating psychological mechanisms. The model is theoretical in nature and awaits empirical validation.

3. Theoretical Construction: An Integrated Model of AIGC News Influencing Audience Behavior

3.1. Theoretical Foundations

From the perspective of media ecology, AIGC can be defined as an invasive species in the news communication ecosystem—it not only undergoes self-attribute evolution but also restructures the entire ecosystem framework through interactive relationships such as competition and symbiosis (Lewis et al., 2019). For instance, this research perspective helps us clarify how AIGC influences audiences by adjusting two core dimensions of the information environment: species diversity corresponding to the composition of information sources, and nutrient structure corresponding to the logic of information flow.

Within the analytical framework of the extended technology acceptance model, the core requirement is to integrate trust variables and perceived risk variables. Audience acceptance of AIGC-generated news is not solely determined by the practicality and convenience of the content; it is more deeply rooted in their trust judgments regarding algorithm transparency and fairness, as well as their perception of the risk of misinformation dissemination (Zhao & Zhao, 2019). If audiences doubt the fairness of algorithms, this directly reduces their willingness to accept such news.

Analyzing from the dual-process theory of cognitive psychology, the functional division between System 1 and System 2 is a crucial step: the former represents a fast, intuition-driven, and emotionally biased information processing pathway, while the latter refers to a slow, logic-dominated rational thinking mode (Zhou & Luo, 2025). Moreover, the textual form and presentation characteristics of AIGC news may lower the threshold for audience cognitive engagement, guiding them to rely more on System 1 for superficial information processing, thereby altering the overall quality of information processing. Variable Derivation and Selection. The selection of the three mediating variables in this study follows a systematic derivation from the theoretical foundations above. The extended technology acceptance model directly informs the selection of trust reconstruction as the first mediating variable, because this framework identifies trust as a prerequisite for technology adoption and acceptance (Zhao & Zhao, 2019). When applied to the AIGC context, where traditional source-based trust is disrupted, trust becomes a critical psychological mechanism mediating the relationship between technological exposure and behavioral outcomes. The dual-process theory of cognitive psychology grounds the selection of cognitive load redistribution as the second mediating variable. This theory distinguishes intuitive (System 1) from analytical (System 2) processing and helps explain how the volume and format of AIGC news may shift cognitive resources away from deep interpretation toward information screening and verification (Zhou & Luo, 2025). Metacognitive theory underpins the selection of metacognitive monitoring weakening as the third mediating variable. This theoretical perspective addresses individuals' capacity to monitor and regulate their own cognitive activities. The fluency heuristic triggered by polished AI-generated texts is expected to weaken this monitoring capacity, leading audiences to terminate deep processing prematurely. These three variables

serve as the mediating chain through which AIGC's technological features translate into observable behavioral changes at the audience level. Their selection is thus grounded in established theoretical frameworks and derived through logical deduction rather than ad hoc identification.

3.2. *The Cognitive Mediating Mechanism of the Model*

This model can be established based on three crucial psychological mediating variables:

Variable one is the reconstruction of trust forms. Traditional news trust is mostly built on media brands, but in the stage of AIGC development, this trust model is likely to evolve in two directions: one is process-oriented trust focusing on the transparency of generation logic, and the other is outcome-oriented trust based on the accuracy of past outputs (Peng, 2021). If the generation process remains a black box, audience trust may degenerate into blind reliance on the technology service provider's brand, gradually fostering a tendency toward algorithmic authoritarianism.

Variable two is the redistribution of cognitive load. AIGC technology can reduce the intrinsic cognitive load required for audiences to read a single news article through methods such as content summarization and clearer structure. However, the overwhelming information supply and the need to verify content authenticity significantly increase two other types of cognitive load: one is the extraneous cognitive load of selecting information and making decisions, and the other is the germane cognitive load of cross-referencing and verification (Zhou & Luo, 2025). Audiences' cognitive resources are thus redistributed from deep interpretation of content to extensive screening and risk prevention of information.

Variable three is the weakening of metacognitive monitoring. The core meaning of metacognition is "reflection on thinking," i.e., the mechanism by which individuals monitor and regulate their own cognitive activities. News generated by AIGC is often fluent and carries a sense of professional authority, which easily triggers audiences' fluency heuristic—mistaking the ease of processing information for the truthfulness of the content and their own depth of understanding, thereby prematurely terminating deep thinking processes.

4. Influence Mechanism: A Logical Analysis from Text Features to Behavioral Change

4.1. *Perception Level: Algorithmic Migration of Trust and Blunting of Risk Perception*

The first mechanism manifests as a shift in the core of trust anchors: the audience's focus has shifted from the identity of the information publisher to the judgment of the type of information generation system. For example, research suggests that if the same news article is labeled as "original by our reporter" versus "generated by an AI system," the credibility ratings given by the audience show significant divergence, and the trend of divergence varies with the topic of the news. In the context of financial data reporting, AI-generated content tends to receive higher credibility scores—because the audience generally believes that such systems are free from subjective emotions and produce more neutral output. However, in socially controversial reporting, human-written content is more recognized (Peng, 2021). The process of trust shifting to AI thus exhibits clear domain-specific characteristics.

The second mechanism can be summarized as blind worship of the technical black box and the resulting blunting of risk perception. Due to the complexity of the technology itself, it is easy to foster a tendency toward "technological mysticism": the audience directly regards the technical system they cannot understand as "more advanced and reliable" (Tandoc Jr. et al., 2018). Previous research on algorithmic perception has indicated that users may overestimate the objectivity and accuracy of AI systems, while underestimating the risks of systematic biases embedded in training data (Tandoc Jr. et al., 2018). Additionally, the normalization of AIGC news may gradually reduce the audience's sensitivity to its potential risks—such as deepfakes—thus gradually forming a psychological effect of "risk normalization."

4.2. *Cognitive Level: Crowding Out of Deep Thinking and Solidification of Bias*

The third mechanism is essentially the tendency toward fast-food information processing and cognitive laziness. The condensed news content generated by AIGC perfectly meets the current demand for fragmented reading on mobile phones. Research suggests that AI-generated summaries may reduce the depth of readers' cognitive engagement with news texts, as such content tends to encourage faster, more cursory reading patterns. At the same time, readers' ability to identify presuppositions and potential logical contradictions hidden in the text may significantly decline (Zhou & Luo, 2025). This pattern is consistent with the cognitive miser theory: when information appears in a deeply processed and condensed form, recipients are more willing to turn off the energy-intensive System 2 deep analysis mode.

The fourth mechanism involves the amplification of confirmation bias through personalized content generation. Unlike traditional algorithmic recommendations that only filter existing information for users, AIGC can directly generate entirely new content, and this content deliberately reinforces users' pre-existing views, making it a more potent vehicle for opinion empathy (Yu, 2023). Moreover, if a user holds a conservative stance on a specific political issue, they may continuously receive AI-generated news briefs

that extensively cite research conclusions supporting that conservative stance, even if such research is not widely recognized by the academic community. This process goes beyond mere information filtering; it is actually a biased construction of people's cognitive framework of facts.

4.3. Behavioral Dimension: Systematic Shift in Information Acquisition Paradigm

The first behavioral shift is the decline in active search and the tendency to passively receive algorithmic recommendations. As Graefe (2016) observed, the logic of public information acquisition has shifted from actively pulling information on demand to passively receiving platform pushes, with the core logic changing from "self-need-oriented" to "platform-supply-centered." This state of passive reception is gradually weakening the public's ability to actively construct public issue agendas.

The second behavioral shift is reflected in the technological dependence of information verification and the decline of social attributes. When questioning the authenticity of a piece of information, the audience's verification path has undergone a clear change. In the past, people often used cross-referencing different sources or consulting professionals—methods requiring interpersonal interaction. Now, many users choose to use AI-based authenticity detection tools or wait for AI-driven fact-checking information from official channels (Kuang, 2021). The entire verification process is gradually dominated by technological means, and the original social interaction attributes are continuously dissolving, further compressing the discussion space in the public sphere.

The third behavioral shift is manifested in the instrumentalization of sharing motivation and the weakening of emotional connection. Because AIGC-generated news inherently lacks personalized expression characteristics, users' sharing behavior tends to focus more on the practical instrumental attributes of the information—such as supporting specific viewpoints—rather than emotional resonance triggered by the content or support for the journalist who created it (Diakopoulos, 2019).

5. Discussion: Double-Edged Effects, Ethical Dilemmas, and Governance Pathways

5.1. A Dialectical Examination of the Impact: The Paradox of Efficiency Enhancement and Erosion of Publicness

The positive development potential of AIGC news is an aspect worth focusing on. For example, for local media, its low-cost content production capability can be used to fill the "news blind spots" that traditional media have not covered. In the field of cross-border information dissemination, it can quickly generate multilingual content versions, promoting the cross-border flow of information. Additionally, it can liberate journalists from repetitive and mechanical tasks, allowing them to devote more energy to in-depth investigative reporting projects (Hu & Liu, 2023).

However, the various risks hidden within it also require vigilance. From a cognitive perspective, it may give rise to a group of audiences who are only accustomed to browsing surface-level information and lack narrative perception and empathy. From a social dimension, it could erode the foundation of consensus facts on which democratic societies rely—when every individual is exposed to differentiated information content tailored to their own preferences, effective dialogue at the societal level becomes increasingly difficult (Zhang & Tang, 2018). Looking at the development of the industry, the survival landscape of professional news organizations may be further squeezed, causing the entire industry to fall into a vicious cycle: "AIGC mass-produces low-cost content to grab traffic → professional media shrink in scale → overall information quality continues to decline."

5.2. Core Ethical Dilemmas: Transparency, Responsibility, and Fairness

The first dilemma is the "trilemma" in the process of transparency implementation. For instance, this "trilemma" essentially refers to three mutually constraining demands that cannot be satisfied simultaneously: if absolute transparency is pursued, the model architecture, training dataset, and content generation logic must all be disclosed, but this may leak the core business secrets of the enterprise and even leave loopholes for malicious actors to manipulate the system; if information disclosure is completely rejected, it directly violates the ethical principles of journalism that pursue openness and fairness; and if a limited transparency approach is adopted, it often fails to address public doubts about the credibility of the technology due to insufficient disclosure of information (Zuboff, 2019). Therefore, finding a feasible balance among these three factors has become an urgent and thorny issue.

The second dilemma is the ambiguity and diffusion of responsibility attribution. When news generated by AIGC contains false content and causes actual harm, which party should bear the responsibility? Is it the technology company that develops and provides the underlying model, the media organization that uses this tool to produce content, the editor who designs the generation instructions, or the final reviewer who fails to fulfill the review obligation? Because the current legal system is still based on the responsibility framework of traditional content production, it is difficult to adapt to the blurred chain of responsibility in the context of multi-agent participation.

The third dilemma is the further widening of the global information inequality gap. Due to the current high concentration of AIGC technology resources in the hands of a few international tech giants and media organizations in developed countries, this uneven resource allocation may further tilt the already fragile global news ecosystem—the discourse power of developing countries

in the setting of international public opinion agendas will be further weakened. For example, some regions may even give rise to new forms of digital colonialism (Lewis et al., 2019).

5.3. Multi-Stakeholder Collaborative Governance: Building a Resilient Information Ecosystem

The first path is value-sensitive design at the technical level. If ethical principles are embedded deep into the core technical architecture at the initial stage of developing an AIGC news system, there will be no need to add norms after the system is formed, saving a lot of subsequent trouble. For example, relevant requirements can be achieved through rigid technical constraints: all AI generated news content is required to carry exclusive digital watermarks or metadata tags that enable full-chain traceability; additionally, a diversified prompt guidance mechanism can be established to fundamentally avoid the output of algorithms falling into excessive homogeneity (Zuboff, 2019). This recommendation directly addresses the trust reconstruction mechanism identified in Section 3.2: transparency provides the visibility necessary for process-oriented trust to develop, preventing trust from degenerating into blind reliance on opaque systems.

The second path is human-machine collaboration standards at the industry level. Industry organizations in the news field should take the lead in formulating a unified list of criteria for the application of AIGC technology. First, specific scenarios where AIGC is prohibited or restricted should be clearly defined, such as in-depth investigative reports and commentary on sensitive social issues, where the authenticity and value orientation requirements are extremely high, and AI alone can easily cause problems. Then, the core links where human intervention is mandatory should be delineated. Among them, the key processes of fact-checking and the steps for judging value orientation must not be left to AI to complete independently. Therefore, standardized information disclosure rules should also be established. In addition to marking content as AI-generated, the specific functions of AI in the entire news production process should be clearly stated (Chen, 2022), such as assisting in data research, drafting initial content, or extracting core news summaries. This recommendation targets the cognitive load redistribution mechanism: by clearly assigning fact-checking and value judgment to humans, these standards reduce uncertainty and help audiences allocate cognitive resources more effectively.

The third path is algorithmic critical literacy education at the public level. Since traditional media literacy education can no longer keep up with the current algorithmic environment, it must be comprehensively upgraded to an algorithmic critical literacy system. This includes explanations of the basic operational logic and inherent limitations of AIGC technology, systematic training in methods for identifying AI-generated content, and strategies for maintaining individual cognitive autonomy in an algorithm dominated information environment (Zhao & Zhao, 2019). For example, such literacy training should be incorporated as a core component of the national civic education system to achieve normalized popularization, enabling more people to possess the ability to discern AI content. This recommendation responds to the weakening of metacognitive monitoring mechanism: literacy education equips citizens to recognize fluency heuristics and restore their capacity for metacognitive oversight of AI-generated content.

The fourth path is an agile regulatory framework at the governance level. Regulatory agencies can introduce flexible management models such as sandbox regulation, which can reserve sufficient room for trial and error for AIGC news technology innovation while simultaneously conducting risk prediction and prevention (Tandoc Jr. et al., 2018). Since the pace of technological iteration often outstrips legislative updates, the legislative level should first clarify the core principles of AIGC news production, including full-chain traceability of content, non-discriminatory application of algorithms, and human responsibility for final output. At the same time, adjustment clauses that accommodate rapid technological iteration should be reserved in the legal provisions to avoid legislation lagging behind technological development. This recommendation connects to all three mediating variables by providing systemic infrastructure that supports traceability (trust), quality standards (cognitive load), and human oversight (metacognitive monitoring).

6. Conclusion and Prospects

6.1. Research Conclusions

This study constructs an integrated theoretical analysis framework to comprehensively explain the deep logic of how AIGC news affects audience information behavior. This influence does not follow a simple linear transmission path; instead, it first reconstructs the structural attributes of the information environment; then changes the audience's psychological processing methods, and ultimately drives a systematic transformation of their behavioral patterns.

The core theoretical propositions advanced by this study include the following. First, AIGC news, with its efficient output, standardized frameworks, and flexible adaptability, builds a new set of information stimulus scenarios. For instance, some platforms use AIGC to batch-generate vertical news, quickly covering the segmented needs of different users. Second, under the influence of such new scenarios, the audience's trust logic is gradually shifting from human-centered to system-dependent, and cognitive processes are increasingly oriented toward intuitive processing, weakening their own metacognitive monitoring ability (Peng, 2021). Third, from the perspective of the audience's explicit behavior, it can be observed that their behavior shows tendencies such as

increased passivity, technologization of information verification methods, and utilitarian motivation for content sharing. Coupled with the boosting effect of algorithmic recommendations, this tendency is more pronounced among younger user groups. Fourth, because the above series of changes result from the interaction of multiple factors, it has a dual impact: on the one hand, the speed and efficiency of audience information acquisition are greatly accelerated; on the other hand, the public nature of news, the depth of cognition, and the foundation for building social consensus are all significantly challenged.

6.2. Research Limitations and Future Directions

This study still has some limitations, the most central of which is that the research process relies mostly on theoretical deduction and literature integration analysis, without introducing large-sample longitudinal data for empirical testing. It should also be noted that the external data cited in this study—including survey statistics, experimental findings, and observational data from the cited literature—are drawn from studies conducted under specific temporal, geographical, and sample conditions. The generalizability of these findings is accordingly constrained by their original research contexts. Readers are advised to consider the scope conditions and potential statistical biases of the original studies when interpreting the evidence cited in this manuscript. Given the conceptual nature of this study, however, the theoretical arguments advanced do not depend on any single empirical finding but rather gain cumulative support from the weight of convergent evidence across multiple studies.

Subsequent research can be further expanded and explored from the following dimensions. In the dimension of longitudinal tracking research, a 6-to-12-month study could be conducted with a cohort of 200–300 participants, recording monthly measures of AIGC news consumption frequency, information verification behaviors, and self-reported opinion diversity, with pre-registration of hypotheses and analysis plans recommended. In the dimension of cross-cultural comparative research, samples could be recruited from the United States and China ($n \geq 200$ per country) to examine whether cultural differences in cognitive styles moderate the relationship between AIGC news exposure and trust formation mechanisms. In the dimension of technology intervention research, a 2×2 between-subjects experiment could be designed manipulating transparency level (high vs. low) and information literacy (high vs. low, measured as a blocking variable), with dependent variables including trust ratings, comprehension accuracy, and self-reported cognitive effort. Finally, in the dimension of positive application exploration, intervention studies could develop and test tools designed to counteract generative bubbles, such as “opposing viewpoint generators” that produce balanced summaries of contentious issues, or “consensus visualization maps” that help users locate their positions relative to broader public opinion, evaluated through randomized controlled trials.

6.3. Final Reflections

The profound impact of AIGC on the news field ultimately stems from the collision between the operational logic of technology and the logic of news communication. The technological logic prioritizes efficiency improvement, scale expansion, and personalized matching as core objectives, while the journalistic logic adheres to fundamental principles such as truth restoration, in-depth exploration, and the transmission of public value. For instance, algorithms continuously push similar content to maximize traffic, which is a typical manifestation of technological logic, whereas news media’s insistence on uncovering the complex causes behind events represents the practical application of journalistic logic. The equilibrium point for the adaptation of these two logics is not fixed; thus, it requires dynamic exploration through ongoing social consensus dialogue, industry ethical reflection, and iterative technological functionality (Diakopoulos, 2019).

If we focus solely on the future news communication ecosystem, we should neither fall into a zero-sum competition between human practitioners and algorithmic systems, nor remain at the simplistic collaboration level of “human-led, algorithm-assisted.” Instead, we must evolve toward a new form of deep human-machine symbiosis (Chen, 2022). Human practitioners can fully leverage their unique advantages in value judgment, ethical deliberation, and emotional empathy and connection, while algorithmic systems can provide support through their powerful capabilities in data integration and processing, potential pattern recognition, and personalized content adaptation. Moreover, within such a symbiotic system, information audiences are no longer passive receivers and consumers of information but active participating citizens with the ability to critically evaluate algorithmic logic, collectively maintaining a diverse, inclusive, healthy, orderly, and depth-oriented public information sphere.

Constructing such a future news ecosystem involves multiple dimensions, including technology, industry, policy, and the public, and thus requires the collective contribution and wisdom of technology developers, news industry practitioners, policymakers, and every citizen within the information environment. This may be the profound challenge and opportunity that the AIGC era presents to the entire society.

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