

Research on the Influence Mechanism of Generative Artificial Intelligence on User Attention in News Communication

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ABSTRACT

The rapid development of AI-generated content (AIGC) is profoundly reshaping the global content industry. Micro-dramas—fast-paced, immersive, and mobile-adapted digital narratives—are rapidly rising worldwide and becoming a vital vehicle for cross-cultural communication. Focusing on generative AI's application in micro-drama creation and cross-cultural dissemination, this paper systematically explores the technology's role in global distribution and identifies its associated risks. The study finds that AIGC, by reconstructing the entire creation–production–distribution chain, significantly strengthens the cross-cultural penetration of micro-dramas. However, behind such technological empowerment lie structural contradictions, including cultural discount, creative homogenization, and legal risks, which demand breakthroughs through iterative technical tools, industry ecosystem optimization, and talent pipeline cultivation. Accordingly, this paper proposes a comprehensive risk governance framework that integrates technological governance, ethical norms, legal coordination, and global collaboration. It argues that the future cross-cultural communication of micro-dramas should pursue a combination of “agile globalization” and “deep localization.” While leveraging AIGC to expand global markets, a human-centered, culturally sensitive governance system with clearly defined rights and responsibilities must be established, thereby achieving harmonious coexistence between technology and cultural diversity, and better realizing the international expression of Chinese stories and the sustainable growth of cultural soft power.

KEYWORDS: Generative Artificial Intelligence, News Communication, Communication Psychology, Information Filtering, Attention Economy

1. INTRODUCTION

As digitalization advances and media integration deepens, new possibilities have opened up for journalistic practices. Through learning and modeling on large-scale datasets, generative artificial intelligence (GenAI) can currently produce texts, automatically generate images and even create videos, boasting highly diversified content forms. Technologies such as ChatGPT and Sora are transforming the fundamental modes of news production and will foreseeably keep shaping the future landscape of the whole industry. From early relatively simple automated news writing to the rise of various virtual anchors nowadays, generative artificial intelligence has injected transformative momentum into news communication with its unique technological attributes.

Attention constitutes the core component of media economy, and it represents a fiercely contested resource in today's media market. Therefore, investigating audiences' cognitive habits, behavioral patterns and underlying influence mechanisms from the perspective of attention has become a prominent research topic in communication studies. Within live-streaming media research, scholars have probed users' cognitive frameworks and participatory behaviors. They point out that mainstream new-media platforms represented by China Media Group Video tend to attract netizens eager to seek truth. By embedding 3D objects, virtual street views, ranking functions, bullet-screen comments and other diverse technical instruments into slow-live scenarios, platforms satisfy users' practical demands and significantly enhance user stickiness. Meanwhile, other studies have noticed the enormous potential of artificial intelligence in algorithmic mechanisms and content generation, which helps converge users' attentional focus onto specific domains. For instance, at the level of public policies, public data mastered by AI gives rise to a kind of "algorithmic power". By repeatedly capturing, sustaining and "monetizing" public attention, it amplifies its influence continuously, directing persistent public concern toward certain policy agendas and generating long-term effects.

In the scramble for attention, the technical characteristics of generative artificial intelligence have grown into an increasingly critical advantage. Nevertheless, how these technologies function in journalistic practices to draw user attention remains a question worthy of rigorous inquiry. Examining this issue from the perspective of communication psychology facilitates deeper understanding of the psychological processes behind audience attention. Accordingly, this research constructs an analytical framework based on core concepts of communication psychology. Via case-study approaches, it dissects the psychological motivations for generative artificial intelligence to obtain user attention within news-communication contexts, and attempts to offer theoretical insights and practical implications for the sustainable implementation of such technologies in the news industry.

2. COMMUNICATION-PSYCHOLOGY FOUNDATIONS FOR USER ATTENTION-ALLOCATION

In communication processes, audiences are the subjects providing attention resources. For communicators to acquire this scarce resource, they must fully comprehend audiences' psychological demands and cognitive habits so as to conduct precise audience segmentation. Discussions in communication psychology offer several valuable entry points for understanding how attention is allocated across different pieces of information.

2.1 Information Filter

People are surrounded by massive volumes of messages in daily life. To avoid being overwhelmed, human beings have to filter out most information and retain only the "essentials", so that attention will not be dissipated. For individuals with insufficient media literacy, it is often challenging to sort and select information merely by personal judgment; misinformation reception may even bring adverse impacts. Hence, to deploy attention efficiently, individuals frequently resort to auxiliary tools for screening, allowing only the most direct and useful content into their field of vision.

In real-world news-communication operations, through agenda-setting and multi-level gatekeeping, media institutions intentionally or unintentionally screen and reconstruct facts: certain information is highlighted, while other pieces are subtly downplayed or filtered out. As Lasswell noted regarding the "surveillance of the environment" function of mass communication, one pivotal responsibility of media is to disseminate critical news concerning social operations, public interests and economic fluctuations, enabling the public to perceive changes in their surroundings. In this sense, media themselves serve as large-scale information filters, implicitly determining where the public should direct their gaze. In *Agents of Power*, Altschull mentions that the public hold

an “appetite” for news. People across the globe read newspapers, listen to radio programs and watch television, eager to learn about ongoing events. What the public perceive as newsworthy is largely the product of multi-layer screening by media filtering mechanisms.

2.2 Novelty-Driven Motivation and Group Conformity

Curiosity stems from human innate instinct, a natural psychological tendency to notice novel objects. Driven by such instinct, audiences readily turn their eyes toward unfamiliar things. In every link of attention competition, media often deliberately create a sense of freshness, for example by devising distinctive headlines to arouse readers’ willingness to explore, thereby channeling massive public attention toward specific news items.

Nevertheless, the definition of “novelty” is not purely a matter of individual psychology; it is also shaped by social-psychological forces. Individual perceptions of novelty are often subject to surrounding groups. French social psychologist Gustave Le Bon observed that once individuals are assembled into groups, their sentiments, ideas and behaviors diverge from those when they remain alone. Upon merging into a collective, individuals’ conscious personalities fade away, giving way to a form of “collective mentality”. Group members are analogous to hypnotized subjects, whose emotions and actions become highly contagious, resulting in a situation where “sentiments are drastically amplified while rationality recedes”. Translating this logic into media contexts: when people simultaneously focus on hot-button topics and engage in intensive discussions, temporary communities marked by strong emotional solidarity can form instantaneously. Within such communities, individuals tend to adopt behaviors consistent with the majority to integrate into groups and evade social exclusion. Ultimately, the formation of mainstream culture itself relies on continuous accumulation of attention fueled by herd mentality.

2.3 Cognitive Schemas and Positive Information Matching

Rather than absorbing information indiscriminately, people exhibit strong selectivity and inclination when exposed to messages. This is driven by personal needs, habits, values, social status and other factors—or more precisely, pre-existing “cognitive schemas” in people’s minds. According to the Elaboration Likelihood Model proposed by social psychologists Richard Petty and others, individuals generally adopt two distinct pathways for information processing: the central route characterized by deliberate, rigorous reasoning, and the peripheral route featuring superficial, heuristic processing based on intuitive cues.

Newly incoming information stimulates people’s original cognitive schemas either positively or negatively. Individuals interpret and respond differently according to the degree of congruence between new information and existing schemas. When information resonates with pre-established cognitive structures and generates positive stimulation, people are more inclined to activate the central route and conduct thorough, elaborate processing. Conversely, when information contradicts cognitive schemas, the brain tends to switch to the peripheral route and carry out only cursory processing. This is analogous to users subconsciously ignoring or shielding advertisement push notifications without clicking on them during web browsing. This phenomenon illustrates the mechanism of attentional-focus selection: individuals generally devote more mental energy to content consistent with their viewpoints. Following this logic, if news media can identify differentiated user cognitive schemas and customize “positive information portfolios” to deliver personalized news feeds, gathering user attention will become feasible.

3. PSYCHOLOGICAL PATHWAYS FOR GENERATIVE ARTIFICIAL INTELLIGENCE TO CAPTURE USER ATTENTION

With the continuous penetration of digital technologies into the news industry, AI applications have become commonplace. Such new media instruments exert multiple positive effects on journalism within the attention-economy context, which can be analyzed from three dimensions.

3.1 AI-Enabled Information Filtering

One major strength of AI lies in its capacity to organize massive, unstructured information. It aggregates, reorganizes, cross-checks and validates large-volume datasets, saving users considerable energy and enabling direct access to content matching their actual demands. Such capabilities hinge on the attention mechanism embedded in neural networks. To put it plainly, this mechanism was originally developed to address the bottleneck of traditional models in handling variable-length inputs. It drives models to allocate more computational resources to key segments within input information, optimizing the efficiency of the overall learning process. Essentially, it constitutes a resource-reallocation strategy coping with information overload. Simulating partial features of human attention, generative artificial intelligence transforms scattered user perceptions into focused processing within AI systems: key information is amplified while irrelevant content is downplayed, completing filtering procedures for users.

To some extent, such information filtering assumes the role of journalistic “gatekeeper”. It collects and reorganizes data, rearranges datasets following orientations set by journalists and editors, extracts narrative threads from specific perspectives, and generates news reports efficiently. This greatly shortens news production cycles and reduces human-labor inputs. As technologies evolve, AI finds expanding applications in news gathering and editing. Representative automated writing robots, such as Tencent Finance’s Dreamwriter, Toutiao’s Zhang Xiaoming and Southern Metropolis Daily’s Xiaonan, can rapidly accomplish information collection, preliminary processing and automatic drafting and polishing of straightforward news releases.

As generative artificial intelligence matures and gains popularity, traditional search engines are upgrading toward greater human-centeredness. Users lower the threshold for accessing hot-spot information by retrieving target content via keywords. Correspondingly, public news-reading habits are gradually shifting toward a technology paradigm centered on intelligent retrieval. Taking Douyin as an example, its AI-related functions cover nearly 80 % of monthly active users, and more than 40 % of search-result pages integrate AI-generated content.

Compared with one-way gatekeeping practiced by conventional media, user-initiated information-filtering modes are more likely to arouse public “appetite” for news and sustain attention on topics of personal concern.

3.2 Attention Aggregation Triggered by Technological Novelty

Since its emergence, artificial intelligence has carried inherent traffic and topical appeal. Adopting this new technology sometimes even becomes a major selling point for content creation. Some news reports explicitly label themselves “AI-generated” in headlines, drawing readers’ eyes by adding novelty via cutting-edge-technology tags. Research on audience acceptance of robot-authored news yields similar findings: many audiences accept robot-produced news partly out of a “techno-trust” fostered by the society-wide advocacy of scientific-technological innovation. In other words, users may not be genuinely interested in news content per se; instead, out of fascination and trust in emerging technologies, they are curious about what AI is capable of producing.

Take Sora as an example. This text-to-video large model converts concise textual descriptions into vivid video footage, substantially reducing heavy reliance on professional equipment and technical personnel. Searching for “Sora” on Bilibili returns over 99 related video entries. Comments under these videos mostly revolve around technical topics such as the authenticity gap between AI-produced outputs and real-world scenarios, whereas the information carried by the videos themselves receives less attention. The presence of “Sora” in titles serves as a prominent traffic-driving factor. Amid public pursuit and adaptation to technological iteration, audiences maintain strong curiosity about Sora’s text-to-video transformation mechanisms and outputs.

Apart from the novelty intrinsic to technologies that attracts readership via striking headlines, content- and form-level innovations brought by generative artificial intelligence also powerfully guide user attention. In terms of content innovation, *Ode to the Ages*, an AIGC documentary produced by Xinhua News Agency, stands as a typical case. Leveraging generative artificial intelligence, it translates artistic conceptions of classical poetry into concrete audio-visual representations. The integration of technology and humanity inspires creators to break conventional narrative logics and reshape expressive frameworks, interpreting historical contexts and emotional connotations behind poetry through innovative visual techniques and injecting distinctive content into markets. For formal innovation, People’s Daily released the interactive H5 production *AI Learning Companion for the Two Sessions* on the eve of the 2024 Two Sessions. Users could select key agendas including high-quality development, new-quality productive forces, people’s livelihood security and Beautiful China, and generate exclusive AI-powered policy-interpretation cards with one click. Deep integration of cutting-edge algorithms with major Two-Session agendas, combined with lightweight H5 interaction and AI generation, enhances the sense of immersion and communication efficiency of content through innovative formal design.

3.3 Positive Cognitive Matching under Algorithmic Prism

Against communication contexts where information surges constantly and distracts human attention, personalized news recommendation opens up new possibilities. Based on the Selective Exposure Theory, generative artificial intelligence leverages natural-language-processing capabilities to comprehend human expressions and deliver high-quality human-like responses. Consequently, it can perceive user demands, cater to audience preferences, and push information that aligns with users’ pre-existing cognitive schemas and delivers strong positive stimulation, gradually transforming the paradigm from “people searching for information” to “information approaching people”.

Drawing on user behavioral traces such as browsing histories and collection records, generative-AI-powered algorithms deploy neural-network models to decode complex chains of user behaviors, identify interest inclinations, and optimize generated content in a targeted manner. This improves the matching degree between information supply and demand, providing solid support for targeted news production and distribution. Meanwhile, platform algorithms continuously update and iterate recommendation strategies based on multiple indicators including click-through rates, dwell time, completion rates and personal settings. They help users locate preferred news items faster and shorten aimless searching amid vast information landscapes, thereby locking in user attention. Within traditional-media contexts, the Individual-Differences Theory emphasizes discrepancies in audiences’ comprehension and absorption of news information. Nevertheless, as media environments grow increasingly informatized, two-way interactions have formed between audiences and content. Under such circumstances, the theory highlights that in the face of massive information, audiences actively select content according to personal interests and needs, exhibiting distinct personalized traits. Algorithmic-recommendation mechanisms emerge precisely to cope with such differentiation. News is no longer purely human-produced output

but collaborative outcomes of human beings and algorithms. Supported by robust algorithms, Toutiao has secured a prominent position among news applications by responding to public demands for personalized news consumption.

Interactive news represents further advancement of algorithm-recommendation logic. Take Xiaofeng, a chatbot launched by Cover News, one of China's pioneering interactive-news applications. It pioneers a new communication model of "obtaining news via chatting". Functioning as a personalized information assistant, the AI news chatbot gradually identifies users' information preferences through one-on-one conversational exchanges and delivers tailored news content. Dialogue-driven news narratives reshape the underlying modes of information production and circulation. Rather than passive recipients, users become participatory conversational agents. When users raise specific questions in chat boxes, generative artificial intelligence generates customized news responses or complete narrative stories in real time via large-model capabilities, accomplishing dynamic construction of news narratives and deep user engagement within interactions.

4. DEEP-SEATED EFFECTS OF GENERATIVE ARTIFICIAL INTELLIGENCE ON USER ATTENTION

Generative artificial intelligence is permeating every sphere of daily life, and its influences on attention extend far beyond short-term effects. While generative artificial intelligence indeed helps media capture substantial attention at present, excessive long-term user reliance on such technologies may trigger a series of attention-related problems.

4.1 "Digital Degradation" and Subjectivity Disintegration

If user attention is confined long-term to AI-produced content, human beings as technology users face risks of "degradation".

In daily contexts: people gradually cede decision-making power over attentional objects to AI. Viewed from another perspective, long-term user reliance on AI renders humans instrumental for automatic calibration and iteration of AI systems. Unwittingly, people become part of technological evolution and sources of training-data inputs instead of maintaining dominant positions. Every browse and click augments and refreshes AI training datasets. Individuals surrender decision-making authority over their own lives. Attention symbolizes the orientation of human thinking; its free flow constitutes a vital marker of intellectual freedom and personal autonomy. Once excessive technological dependency develops, the direction of human gaze is dictated not by individuals themselves or naturally-formed group consensus, but by the "technology-capital" alliance. The transfer of attention ownership to machines essentially means loss of control over personal life. Technologies intrude upon spheres originally reserved for individual freedom and fundamental human dignity.

In public-life domains: serious public discourse grows increasingly fragmented. If media prioritize profit-seeking over factual accuracy and normative standards and merely cater to "what users want to see", social responsibilities will recede into the background. Genuine news ought to feature substantial reports concerning complex public events rather than superficial quips or casual reposts. When journalism slides toward entertainment, audiences are left with hollow numbness, foreshadowing scenarios depicted in *Amusing Ourselves to Death*.

4.2 News Fatigue and Attentional Drift

Advances in information technology enable people to acquire news from diverse channels at high speed. Decentralized content production generates massive volumes of materials, yet it is accompanied by problems including content homogenization, fragmentation, pan-entertainment, compromised authenticity and undermined

objectivity. Such issues gradually give rise to news fatigue, which signals declining perceived importance and necessity of news among audiences and sounds alarms for the whole news ecosystem.

Compared with relatively unitary and sequential information-dissemination patterns in traditional-media eras, fragmented communication features expanded content volume, transmission speed and coverage. Personalized-matching mechanisms based on user-profiling further enhance communication targeting and reach large-scale audiences. Algorithms continuously push streams of news notifications, making it difficult for users to disengage from information surges. Individuals expend growing mental resources coping with incoming content, and scarce attention is constantly pulled by new stimuli. AI lowers barriers to information access. Users tend to overtrust machines and algorithms while neglecting self-management of personal attention. Human eyes struggle to sustain focus on single subjects; fragmented reading erodes capacities for in-depth reflection, and most information receives only superficial glances before users scroll onward.

4.3 “Limited Originality” and Aesthetic Fatigue

Despite remarkable capabilities and broad application prospects, generative artificial intelligence remains under continuous technical refinement. A large proportion of AI-produced outputs can be readily recognized by audiences. For instance, AI-synthesized anchors often deliver stiff voice broadcasts lacking natural intonation fluctuations observable in human conversations. Such discrepancies between synthetic outputs and authentic human expressions easily trigger audience resistance. AI-generated images appear realistic at first glance but contain perceptible flaws upon close inspection: tree leaves may exhibit unnaturally regular arrangements inconsistent with real-world randomness; malformed fingers and distorted arm angles frequently appear in human-figure renderings; complex backgrounds are occasionally processed as flat planes, resulting in disjointed connections between trees and buildings. Over time, sustained exposure to such AI-crafted content accumulates alienation stemming from perceived inauthenticity and evolves into aesthetic fatigue, prompting deliberate user avoidance.

Furthermore, large-model parsing of data tends toward standardization and formulaization, predisposing AI outputs to homogenization. During creation processes, generative artificial intelligence frequently adopts algorithmic templates. Reports covering analogous themes follow highly similar generative logics. After consuming substantial AI-produced news, readers experience a sense of *déjà vu*: creative outputs converge, lacking vivid human-centered vitality. While automated mass production by generative artificial intelligence boosts reporting efficiency, it effaces unique aesthetic textures of journalistic works and exacerbates pre-existing aesthetic fatigue amid information overload.

5. CONCLUSION

From the perspective of communication psychology, this study takes practical cases including intelligent writing robots, AI chatbots and AI-produced short dramas as analytical objects, and dissects how generative artificial intelligence mobilizes audience psychological mechanisms to efficiently gather attention within news communication. Overall, generative artificial intelligence captures public attention via three major pathways.

First stands the intelligent-production pathway. It completes information filtering through attention mechanisms, shielding users from irrelevant noise and directing attention straight to core content, functioning as an algorithmic “gatekeeper”. Second is the novelty-driven spectator pathway. Here technology serves not merely as a tool but also as a selling point of content itself. The label “AI-generated” brings novelty value and attracts audiences out of

curiosity. Third refers to the preference-inference pathway. Algorithms deduce user interests from behavioral traces, tailor content to fit individual cognitive schemas, and retain user gaze through positive stimulation.

Meanwhile, potential risks triggered by unrestrained proliferation of generative artificial intelligence should not be overlooked. Algorithm-driven dependency may place attention under joint control of technology and capital; fragmented information undermines in-depth-thinking capabilities; and homogenized content wears down user engagement.

Looking ahead, generative artificial intelligence possesses extensive application potential in news communication, and its attention-driving effects should not be underestimated. To facilitate better application of generative artificial intelligence in journalistic practices and improve communication outcomes, the industry needs deeper understanding of relevant technologies as well as further R&D and scenario-expansion efforts. Fundamentally, practitioners should conform to psychological principles of attention attraction in real-world deployment, continuously supplying users with effective information filtering, innovative experiential forms and customized news content, and empowering the further development of news communication with generative-AI capabilities.

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