

The Impact of Artificial Intelligence on Audience Behavior and Communication Effectiveness: A New Media Perspective

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ABSTRACT

Artificial Intelligence (AI) is increasingly integrated into new media environments, reshaping how audiences perceive, interact with, and are influenced by information. Audience perception—rooted in cognitive, emotional, and behavioral processes—plays a decisive role in the acceptance and effective utilization of emerging technologies. This paper examines AI's dual role as both an enabler and disruptor in communication processes, emphasizing how perception, cognitive schema, and emotional value mediate its effects. Drawing upon McLuhan's 'medium as extension' theory, the Technology Acceptance Model (TAM), and Human–Machine Communication (HMC) frameworks, the study analyzes AI's capacity to optimize media production, personalize audience experiences, and enhance communication efficiency. However, it also addresses potential risks, including creativity erosion, information overload, trust deficits, and epistemological challenges posed by AI-generated content (AIGC). Through an in-depth integration of theoretical perspectives, practical applications, and global case studies, this study provides a comprehensive understanding of AI's transformative potential and inherent challenges in the context of modern media. Recommendations are proposed for ethical integration, bias mitigation, and enhancing societal trust in AI, with a focus on fostering sustainable human–AI collaboration.

KEYWORDS

Artificial intelligence; Audience perception; Human–machine communication; New media; AIGC

1 The uncertainty brought by AI

Mass communication influences audience thinking and behavior through its content, with the audience's externalized behaviors naturally becoming the primary concern of media. McLuhan's theory of "the medium as the extension of man" emphasizes that media are the externalization and amplification of human senses and capabilities, and that any development of media should ultimately serve human needs. In the era of big data, new media leverage diverse information resources to enhance communication efficiency and precision. However, regardless of how advanced the technology is, its value depends on whether it satisfies the principles of effort minimization (obtaining information with minimal effort) and value maximization (providing information of actual relevance).

Yet even the most powerful technologies have an "Achilles' heel," where improper use can expose fatal weaknesses. Technological innovation accelerates the speed, scope, and reach of communication, reshaping established lifestyles and cognitive patterns. In human–machine collaboration, technology should act as the "carriage" rather than the "horse," serving human purposes. However, audiences vary in their perceptions of the usefulness, enjoyment, and empowerment potential of new technologies, leading to uncertainty in their acceptance and adaptation. Artificial Intelligence (AI) is currently facing this dilemma.

AI, an interdisciplinary field integrating computer science, psychology, philosophy, and more, encompasses machine learning, natural language processing, image recognition, and other technologies aimed at simulating and extending human intelligence. Studies indicate that from a functional dimension, perceived usefulness and ease of use are crucial; from a hedonic dimension, perceived enjoyment and novelty influence user experience; from a social dimension, social influence and relational networks exert significant effects. Individual traits, such as personality, and technical characteristics, such as anthropomorphic design, also shape adoption intentions.

In business and societal applications, AI can optimize feedback mechanisms, enhance user interaction, improve product design, increase efficiency, and reduce costs. However, it can also lead to job displacement, creating uncertainty in livelihood. AI perception correlates positively with employee job insecurity, burnout, turnover intention, and even depressive tendencies. Raisch and Krakowski (2021) distinguish between two types of AI applications: automation, which replaces human labor and heightens unemployment risks, and augmentation, which frees employees from repetitive tasks and allows them to leverage core competencies.

This dual effect means that the same individual may hold positive or negative attitudes toward AI depending on the context, shaped by their perception of AI's functional role in their career prospects and their value-based mental image of the technology. Positive perceptions can foster trust and collaboration, while negative perceptions may lead to resistance or aversion, ultimately influencing subsequent behavioral patterns.

Moreover, frequent AI use may erode creativity. For example, although AI painting technically mimics the process of human painting, it lacks the capacity to convey emotion and thought. As a result, AI artworks often imitate traditional

artistic styles, lacking originality and innovation. The soul of creation lies in the act of thinking—something current AI systems cannot replicate.

2 Audience perception from a psychological perspective

The attitudes of audiences or employees toward AI originate from their personal perceptions, which directly shape their acceptance of new technologies and concepts. Perception is the process by which humans acquire and interpret information through their senses, influenced by structural factors (physical attributes) and functional factors (psychological effects). Due to selective perception, individuals respond differently to the same information. This process parallels the attribution theory in communication psychology, whereby people infer unknown traits based on known characteristics to establish causal relationships.

The perception process involves exposure, attention, perception, and memory. However, this “cognitive bridge” is imperfect and is shaped by physiological (sensory range), psychological (emotions, experiences, expectations), and socio-cultural (values, language habits) factors, which may introduce bias. Cultural differences lead to variations in how people perceive elements such as color, time, and direction, and these differences similarly influence feelings toward and acceptance of new technologies like AI.

Perception is closely linked to information processing. Schema theory suggests that people use preexisting cognitive structures to interpret information, and these are easily influenced by cues—mass communication being a primary source. If AI’s advantages are effectively presented at the exposure or attention stage, favorable cognitive schemas can be built, reducing barriers to technology adoption. Conversely, information inconsistent with existing schemas is often discarded.

Psychology divides mental processes into cognition, affect, and conation: cognition as the foundation, affect and conation deriving from it. Together they form attitudes that mediate between external stimuli and behavior. Cognitive dissonance theory posits that inconsistency between attitudes and behaviors creates tension, prompting individuals to adjust cognition or behavior to restore balance. This underscores the importance of perception and cognition in shaping attitudes and behavioral patterns.

The Theory of Reasoned Action (TRA) argues that behavioral beliefs and evaluations form attitudes, which, alongside subjective norms, determine behavioral intentions and ultimately behaviors. Based on TRA, the Technology Acceptance Model (TAM) identifies perceived usefulness and perceived ease of use as key beliefs influencing technology adoption, with perceived enjoyment also having a significant positive effect on usage intention. Consequently, perceived enjoyment is often incorporated into extended TAM research.

Beyond functional attributes, emotional value plays a vital role in perception. Emotional value arises from the positive emotional experiences brought by new technologies—such as joy, satisfaction, or a sense of respect—which can reduce stress and enhance acceptance. When AI combines usefulness, ease of use, and enjoyment, it can foster emotional connections that create favorable attitudes and loyalty, leading audiences to adopt technology not only for its functions but also for the unique emotional experiences it provides.

3 AI value creation in the new media era

When technological positioning is accurate and audiences adopt appropriate modes of acceptance, new technologies do not replace humans but instead augment capabilities and create value. The fundamental origin of technology lies in human needs—technology is the “carriage,” while human demand is the “horse” that drives progress. Throughout history, each wave of critical technological innovation has triggered industrial transformation and societal advancement. From the “Fourth Industrial Revolution” to the rise of artificial intelligence (AI), the Internet of Things, big data, and cloud computing, AI has emerged as a core general-purpose technology, accelerating manufacturing transformation while profoundly reshaping content creation, management, and communication in the new media sector.

In the context of new media, AI applications primarily focus on information production and optimizing communication outcomes, such as social robots, automated writing (e.g., ChatGPT), and targeted advertising. This form of human–machine communication (HMC) is not merely a mediating channel but functions as a quasi-“communicator,” advancing a shift toward human–machine interactive communication modes. For instance, social media platforms deploy AI algorithms to analyze user behavior, enabling personalized recommendations and sentiment analysis that enhance user experience and commercial value. Nevertheless, such capabilities can also produce negative effects, including information overload, user fatigue, distrust, and the creation of “filter bubbles” and societal polarization.

As professional-generated content (PGC) and user-generated content (UGC) struggle to meet the rapidly growing demands of the digital era, AI-generated content (AIGC) has emerged as a transformative force, enabling high-efficiency, low-barrier content production across finance, education, journalism, and other sectors. AIGC improves creative efficiency, offers personalized content, and facilitates immersive experiences. However, its rapid expansion also raises concerns over accuracy, copyright, misinformation, and plagiarism, as well as the monopolization of information visibility.

by algorithms. For example, CNET has repeatedly used AI to rewrite published news articles to maintain search engine ranking, yet repeated rewrites have led to factual errors, illustrating how algorithmic control increasingly determines information exposure.

Moreover, generative AI introduces what may be termed an “artificial epistemology confidence problem.” Despite disclaimers that models such as ChatGPT do not guarantee factual accuracy, users have quickly developed high trust and increasingly rely on AIGC for learning, work outputs, and decision-making. Diverging levels of trust will likely fuel long-term debates over the appropriate scope of use and the boundaries of human–machine collaboration. The hallucination effects, biases, stereotypes, and cultural predispositions embedded in generative AI outputs, if reabsorbed into training datasets, risk creating a self-reinforcing loop of inaccuracies, further eroding the distinction between truth and falsehood.

In summary, AI’s value creation in the new media domain lies in empowerment and innovation; however, its associated risks and trust challenges call for coordinated responses involving governance, technological refinement, and ethical oversight.

4 Recommendations for engaging with innovative technologies

From the perspective of audience perception, if AI is positioned appropriately and used correctly, its potential for value creation is immense, with the capacity to reshape audience behavior and communication models. However, before embracing new modes of human–machine collaboration, the public should possess a clear understanding of AI—what it is, its limitations, the extent to which its capabilities may be exaggerated, and the ways to prevent it from exacerbating social inequality or discrimination. It is also essential to recognize potential threats to privacy and freedom, given AI’s reliance on massive datasets for training and its potential to facilitate control or surveillance.

When AI is treated as a collaborative partner, ethical and accountability issues must be addressed. Does AI possess the ability to self-reflect and mitigate bias? When errors occur during human–AI collaboration, ultimate responsibility lies with the user. This means AI-generated content should not be accepted uncritically; verification remains the duty of the operator. Moreover, malicious actors can exploit AI for fraud or misinformation, which underscores the importance of relying on trustworthy information sources and exercising caution when sharing content.

In practical terms, AI should serve clear, goal-oriented purposes—such as news and content production, data analysis and prediction, audience targeting, or image generation—so as to enhance efficiency and align with specific needs. At a macro level, without effective governance, AI’s societal influence will extend into legal, political, social, and educational domains. Key concerns include the ease of generating false information, increased difficulty in verification, trust in AI agents, and the authenticity of interpersonal relationships. In parallel, legal issues surrounding AIGC, such as intellectual property rights and privacy, along with the maintenance of institutional credibility in the AI era, demand urgent attention.

To ensure productive and responsible human–machine collaboration, the following principles are recommended:

Understand the technological foundations — Gain knowledge of machine learning, deep learning, and how these methods can be applied to problem-solving and value creation.

Evaluate content quality — Develop the ability to identify the authenticity, accuracy, and quality of AI-generated outputs rather than accepting them uncritically.

Recognize bias and risk — Be aware of potential algorithmic biases stemming from race, gender, culture, or class, and adopt measures to mitigate their negative impacts.

Monitor societal impact — Assess AI’s influence on values, lifestyles, and societal development, particularly in the media and communication fields, to ensure its applications align with the collective interests and values of humanity.

Only through the coordinated advancement of understanding, responsibility, governance, and ethics can AI truly serve as a force for societal progress, rather than an uncontrollable source of technological risk.

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