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NAVIGATING AI AND INFORMATION DISORDER: RECONSTRUCTION OF MEDIA LITERACY IN CHINA'S DIGITAL AGE

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ABSTRACT

This study examines how artificial intelligence (AI) technologies are reshaping the dynamics of disinformation and information disorder amid China's rapid technological advancement. The research reveals the challenges posed by algorithm-driven disinformation propagation and assesses the role of media literacy as a strategic countermeasure. This study employs a qualitative research methodology, grounded in semi-structured interviews with 13 experts across fields including journalism, communication studies, and AI policy. The analytical process draws upon Wardle's 'information disorder' framework and gatekeeper theory to elucidate how AI reshapes the creation, production and distribution of disinformation within the Chinese context. Through thematic coding, the research identifies patterns linking AI, disinformation flows, social media platforms, and public media literacy capabilities. Research findings indicate that AI accelerates and amplifies the scale and velocity of disinformation dissemination. This is particularly profound via social media, which acts as the primary platform of dissemination. However, the study also reveals that enhancing public media literacy can mitigate these risks to some extent. Experts interviewed emphasized the crucial need to develop a comprehensive response strategy encompassing technological, institutional and educational measures, while simultaneously advancing the coordinated enhancement of platform accountability and user capabilities. This study combines discussions on AI with digital citizenship, highlighting China's unique experience in addressing the challenge of disinformation. It highlights that media literacy is not merely an individual skill but also forms a collective effort that involves responsible engagement with social media platforms. This is crucial for building a sustainable and resilient information ecosystem across Asia.

Keywords: Artificial Intelligence, Disinformation, Media Literacy, Information Disorder, Social Media



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INTRODUCTION

The rapid advancement of artificial intelligence (AI) technology is reshaping all industries with unprecedented depth and breadth, and the field of journalism and communication is undergoing a profound ecological transformation (Gao et al., 2020). From automated news production to personalized content distribution, AI applications enhance information dissemination efficiency while introducing complex challenges (Ahmad, 2023). However, one of the most significant negative effects of this technology-driven transformation is its convergence with misinformation, exacerbating the global problem of “information disorder.”

The rise of social media platforms has long made the dissemination of fake news a global challenge (Ru, 2019). To systematically understand this phenomenon, scholars Wardle and Derakhshan (2017) proposed the ‘information disorder’ framework, categorizing it into disinformation, misinformation, and malinformation. They emphasize its continuous evolution through three stages which are the ‘creation, production, and dissemination’, all of which profoundly effects news dissemination systems (Wardle & Derakhshan, 2017). Within the Chinese context, AI technologies, particularly generative AI and deepfake tools, have significantly enhanced the ‘creation’ capabilities of disinformation. This has elevated it from traditional textual formats to audio-visual content that is exceptionally difficult to discern as false, rendering it unprecedentedly ‘realistic’ (Zhai & Zou, 2020).

Concurrently, the mechanisms of information dissemination have undergone a fundamental transformation. The traditional gatekeeper role, historically dominated by editors and journalists, has been supplanted by algorithms programmed by developers (Li, 2018). These algorithm-driven social media platforms distribute content based on user engagement metrics, with their core logic prioritizing neither factual accuracy nor public value. This has enabled low-quality and even factually flawed content to proliferate through systemic amplification effects (Li, 2018), establishing a new paradigm where ‘algorithms serve as gatekeepers’. Administrators of social networks and traditional gatekeepers in this environment commonly face multiple challenges, including insufficient professional expertise, limited verification capabilities, and difficulties in regulatory accountability. Collectively, these factors contribute to ‘gatekeeping failure’, further exacerbating information disorder.

Artificial intelligence has fundamentally disrupted traditional information governance logic by enhancing the verisimilitude of disinformation and amplifying its reach through algorithmic distribution. Therefore, transition must be implemented towards an integrated system that combines technological governance, platform accountability and citizen empowerment. Within this framework, the reconstruction of media literacy stands as a pivotal element in empowering the public and building



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societal resilience. Against this backdrop, this study aims to explore: which media literacy strategies can counteract information disorder?

The theoretical significance of this study lies in its integration of the information disorder framework with gatekeeper theory, thereby establishing an innovative analytical perspective for addressing misinformation governance in the era of artificial intelligence. On the practical front, the proposed multi-tiered governance system and pathway for reconstructing media literacy provide both theoretical underpinnings and practical guidance for China in confronting the challenges of the digital information ecosystem.

METHODOLOGY

This study employs a qualitative research design to explore pathways for addressing information disorder and media literacy in the context of AI technology. Through purposive sampling, 13 experts from the fields of journalism and communication studies, AI policy, and media literacy education were selected as research subjects. This sampling strategy ensures diversity in professional backgrounds and information density, enabling rich and in-depth insights into the research questions. In the final few interviews, the information provided by participants began to show repetition, and no new core themes emerged, indicating that data saturation had been reached. Data collection primarily involved semi-structured interviews. These sessions engaged in in-depth dialogue on issues such as the relationship between AI technology and disinformation, the role of platform algorithms, and the current state of media literacy and its reconstruction. All interviews were audio-recorded with informed consent and subsequently transcribed into written materials, ultimately forming the analytical text.

This study employed thematic analysis following the six-stage framework proposed by Braun and Clarke (2006). Through systematic steps, including repeated text readings, initial coding, and thematic exploration and review, key patterns and insights were extracted from the raw data. To ensure the reliability and validity of the research, we employed data triangulation. This involved cross-referencing perspectives from experts across different fields to enhance the credibility of the findings.

RESULTS AND DISCUSSION

Based on in-depth interviews with 13 domain experts and literature analysis, this study reveals a media literacy strategy system for addressing information disorder in the AI era. Findings indicate that constructing a comprehensive media literacy framework encompassing technological cognition, critical thinking, and social participation is the key pathway to countering AI-driven information disorders. These



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discoveries not only validate Wardle and Derakhshan's (2017) information disorder framework but also deepen the application of gatekeeper theory in the digital age.

Establishing a Nationwide Media Literacy Education System

Research indicates that media literacy education should be extended to all segments of society, requiring collaborative efforts from governments, educational institutions, and various sectors. Through educational and disciplinary measures, citizens should be assisted in enhancing their media literacy and reducing their consumption of online information (Yin, 2021). Tully et al. (2020) emphasize that cross-sector collaboration is essential to address information disorder, particularly urging educational institutions to strengthen media literacy education. This perspective was fully corroborated in the interviews, with Informant 1 highlighting the critical role of media literacy in combating information disorder on social media.

Media literacy has become a critical skill for all individuals. Information disorder on social media is a major concern for governments, news organizations, the public, and other societal sectors. Maintaining media literacy awareness helps make sound judgments in the media environment (Informant 1).

As content providers, social media platforms bear the responsibility to help users enhance their media literacy. For content involving deepfakes or unverified information, warning labels are displayed beneath the content. (Informant 6)

The government plays a crucial role in this process of enhancing literacy. Informant 11 elaborated on the government's responsibility to promote media literacy and fact-checking.

The government plays a pivotal role in advancing media literacy. We have launched nationwide awareness campaigns encouraging citizens to fact-check before believing or sharing information. However, for these efforts to succeed, collaboration among media organizations, educators, and policymakers is essential. Fact-checking must become more widespread, and initiatives should focus on making digital verification skills accessible to all segments of society (Informant 11).

At the higher education level, Informant 6 offered an interdisciplinary approach that makes media literacy education more targeted and practical.

Media literacy education in universities should be integrated with professional education. We not only offer general education courses but also incorporate media literacy elements into teaching across all majors (Informant 6).



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Informant 10 mentioned a community he had interviewed that focused on media literacy for the elderly.

The community committee developed a media literacy training program addressing elderly people's susceptibility to believing self-media content. Through lectures and workshops, it helps older adults master basic skills for identifying online disinformation. Notably, we trained a cohort of 'Silver-Haired Internet Mentors' to serve as role models and guides among their peers (Informant 10).

This community-based educational model effectively compensates for gaps in school-based coverage. And it is noteworthy that different groups exhibit significant variations in their demand for media literacy education. Informant 7 focuses on media literacy research in rural areas.

In rural regions, media literacy education requires distinct strategies. We have found that disseminating media literacy knowledge through traditional channels such as village-level broadcasts and local opera performances proves more effective than classroom instruction alone. This underscores that media literacy education must account for the geographical characteristics and cultural backgrounds of its audience (Informant 7).

This multi-stakeholder collaborative governance model embodies the synergistic nested structure of the “institutional level” and “social systemic level” within Shoemaker and Vos's gatekeeping theory, forming a broad strategic logic of “gatekeepers.” In practice, the development of a national media literacy education system is transitioning from concept to implementation, evolving from pilot programs to systematic construction, demonstrating robust vitality. However, achieving true nationwide coverage requires sustained efforts in standardizing curricula, building teaching capacity, and ensuring equitable distribution of educational resources. Informant 5 mentioned that the media literacy education system requires continuous updating.

With the rapid development of AI technology, our educational content and methods must continuously evolve. For instance, we must now begin considering how to educate the public to identify AI-generated content, which requires close collaboration between the education and technology sectors (Informant 5).

Moving forward, the national media literacy education system must keep pace with technological advancements. This forward-thinking perspective signals that media literacy education will require continuous adaptation in light of the changing dynamics in technology and its relations to the media environment.



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Deepening Critical Thinking and Media Literacy

In an era where algorithmic recommendations dominate information distribution, cultivating the public's critical thinking and media literacy has become a crucial issue in addressing information disorder. Yang (2022) systematically proposes that at the foundational level of media literacy, the public must master the ability to classify and identify information, clearly distinguish between news content, informational content, and opinion content, and accurately understand the various manifestations of information disorder. At a higher level of critical thinking, the public should deeply comprehend the complex political, economic, and cultural drivers behind information disorder and recognize the tactics, strategies, and media tools employed in its dissemination. This perspective was further expanded upon in expert interviews. Informant 8 outlined future directions for media literacy development.

With the proliferation of artificial intelligence technologies and algorithmic recommendations, future media literacy education must encompass three critical dimensions: identifying AI-generated content, recognizing algorithmic biases, and understanding information recommendation mechanisms. We need to advance smart media literacy education simultaneously in schools and communities—an inevitable choice for addressing the information challenges of the digital age (Informant 8).

Informant 4 mentioned that at the practical implementation level, the study identified multiple effective intervention pathways.

We observed that users with cross-platform information verification habits were significantly less susceptible to the effect of misinformation (Informant 4).

Following the states proposed by Yin (2021), it gathered follow-up reports on news events from diverse sources and cross-verified information across traditional and new media to avoid blind acceptance and emotional dissemination. Notably, cultivating critical thinking requires tailored strategies for different demographics. Informant 5 shared his observations on media literacy among primary and secondary school students.

In media literacy education for primary and secondary students, we employ contextualized teaching methods, using case studies to help students develop a questioning mindset. For instance, we guide students to ponder: Why did this information surface at this specific moment? Who stands to benefit? Such training effectively enhances the younger generation's immunity to information disorder (Informant 5).



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Informant 12 proposed a technically innovative solution.

We are developing an 'Algorithm Transparency Tool' to demonstrate the logic behind information recommendations to users visually, so that users can intuitively see how their clicks affect subsequent content recommendations, and they become more consciously reflective about their information consumption habits (Informant 12).

These practical recommendations align closely with Wardle and Derakhshan's framework of information disorder. By enhancing capabilities at the “interpreter” element, it effectively reduced public susceptibility to ‘misinformation’ and “malicious information.” Crucially, measures such as establishing reporting mechanisms, implementing content labelling systems, and regulating platform traffic flow have significantly curbed the secondary dissemination of harmful content at key stages of information propagation.

China's experience demonstrates the critical importance of constructing a multi-tiered information governance system. Fact-checking mechanisms primarily address the challenge of “misleading information,” and media literacy education focuses on enhancing the public's ability to discern “misinformation.” At the same time, laws and regulations concentrate on regulating the dissemination of “malicious information.” These three factors, when combined into a collaborative system, are able to achieve an organic response to all three types of information disorder. More importantly, Informant 7 noted that cultivating critical thinking must be integrated with concrete social practice.

We encourage the public to translate their online information literacy skills into offline community action. For example, organizing residents to jointly verify online rumors relevant to their local area not only enhances media literacy but also strengthens community cohesion (Informant 7).

Overall, deepening critical thinking and media literacy is a systemic endeavor that requires coordinated advancement through school, social, and family education. Only through multifaceted interventions and sustained efforts can the public maintain clear judgment in complex digital environments and effectively withstand the impact of information disorder.

Innovation in Literacy Education to Address AI Technology Challenges

Amid the rapid advancement of artificial intelligence technology, literacy education faces unprecedented challenges and opportunities. Shi (2023) emphasizes that in an era dominated by algorithmic recommendations, it is imperative to guide the public in developing a new form of information literacy. This literacy should encompass



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a comprehensive understanding, effective utilization, and deep critical analysis of information and technology. Specifically, public media literacy education must be strengthened, focusing on cultivating the ability to discern and evaluate news materials while enhancing understanding of AI and machine learning technologies. Particular emphasis should be placed on improving recognition and identification skills for news content generated by technologies like ChatGPT. Informant 9 discussed the effect of AI on media literacy and public awareness.

With the rise of AI-driven content generation technologies like ChatGPT, public understanding of media literacy must extend beyond traditional fact-checking. Individuals should comprehend how algorithms affect the news they consume and develop critical evaluation skills for AI-generated content. Strengthening public education will empower users to navigate the evolving media landscape with greater discernment and caution (Informant 9).

The study further revealed that addressing AI challenges requires advancing literacy education innovation across multiple dimensions. Informant 4 offered specific recommendations.

We are developing AI literacy curricula tailored to different age groups. For adolescents, interactive games help them recognize characteristics of AI-generated content; for adults, workshops teach technical skills to identify deepfakes. This tiered educational strategy more effectively enhances nationwide AI literacy (Informant 4).

Informant 6 mentioned media literacy programs at the policy level. Respondent 12 mentioned that as technology continues to advance, literacy education must also be continuously improved.

We are integrating AI literacy into the national digital literacy framework and plan to advance it through three channels: school education, vocational training, and social education. Crucially, we aim to establish a dynamic curriculum adjustment mechanism that keeps pace with technological advancements (Informant 6).

Faced with the challenge of deepfake videos and audio, literacy education must keep pace with technological advancements and even possess a degree of foresight." This signals that literacy education innovation will be a long-term process requiring continuous evolution and deepening (Informant 12).

These research findings clearly demonstrate that addressing AI-driven information disorder requires the development of a comprehensive literacy framework integrating technological cognition, algorithmic understanding, and critical evaluation.



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This framework must not only help the public grasp the fundamental principles of AI technology but also cultivate their ability to maintain independent judgment and critical thinking within this new technological landscape. As generative AI technologies become more widespread, this integrated literacy is evolving from a specialized requirement into an essential quality for every digital citizen. Future innovations in literacy education must also track the latest technological developments.

Establishing a Multi-Layered Integrated Governance System

Research indicates that addressing information disorder in the AI age requires constructing a multi-layered, integrated governance system encompassing education, technology, and institutional frameworks. In China's practice, this governance system has gradually formed a distinctive “multi-stakeholder gatekeeping mechanism.” Informant 6 elaborated on this mechanism.

The nation is establishing a governance framework characterized by government leadership, platform responsibility, social collaboration, and public participation. The Cyberspace Administration of China issued the Regulations on the Ecological Governance of Online Information Content in 2020, followed by the Action Plan for Enhancing Digital Literacy and Skills Among All Citizens in 2021, which outlines arrangements for improving the digital literacy and skills of the entire population. In 2023, the Cyberspace Administration of China promulgated the Regulations on the Management of Deep Synthesis Services for Internet Information Services. These regulations stipulate that providers of deep synthesis services must comply with laws and regulations, respect social ethics and moral standards, and encourage relevant industry organizations to strengthen self-regulation. They also require guidance for deep synthesis service providers and technical supporters to establish and improve operational standards, conduct business in accordance with the law, and accept social oversight (Informant 6).

This horizontally coordinated governance strategy exhibits remarkable comprehensiveness. Research indicates it not only comprehensively covers all three phases of Wardle and Derakhshan's information disorder framework (i.e. regulating deepfake services through technical standards during the “creation” phase, establishing content moderation systems during “production,” and implementing traffic control measures during “distribution”). But also, fully embodies the multi-level gatekeeping logic from individual to societal systems outlined in Shoemaker and Vos's gatekeeping



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theory. Informant 3 highlighted the platform's comprehensive governance mechanism spanning the entire chain from content production to distribution.

We have established a comprehensive governance mechanism spanning the entire chain from content production to distribution. At the content creation phase, we require labeling of AI-generated content. During distribution, algorithms identify potential misinformation and restrict its reach. Simultaneously, we have established rapid response channels for user reports. The synergistic effect of these three phases has significantly enhanced governance effectiveness (Informant 3).

At the operational level, this governance system demonstrates precise division of labor and collaboration. As the research indicates, fact-checking mechanisms primarily address 'misleading information' by establishing national internet rumor-debunking platforms and regional verification alliances to clarify online rumors promptly. Media literacy education focuses on enhancing the public's ability to discern 'false information,' integrating digital literacy into the national education system. Legal regulations, meanwhile, concentrate on regulating 'malicious information,' creating a deterrent effect through the punishment of typical cases.

We have pioneered an 'online-offline integrated' governance model. Online, we implement content tagging management and recommendation mechanism interventions; offline, we conduct community education activities. This dual-track approach has yielded significant practical results (Informant 5).

Informant 11 noted that in the technological governance dimension, the system exhibits increasingly refined characteristics.

We are advancing 'governance technology' development, such as creating deepfake detection platforms and establishing cross-platform information-sharing mechanisms to achieve more precise identification and faster responses through technical means. Simultaneously, we require platforms to provide algorithm transparency reports, helping the public understand how recommendation mechanisms operate (Informant 11).

Informant 13 mentioned that in terms of implementation outcomes, this integrated governance system demonstrates strong adaptability.

The system's greatest strength lies in its dynamic adjustment capabilities. Facing new challenges from rapid AI technology iteration, various governance entities can coordinate swift responses. For instance, after generative AI became widespread, relevant



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departments promptly issued management measures, platforms updated review standards, and educational institutions adjusted literacy education content. This collaborative response mechanism ensures governance effectiveness (Informant 13).

Informant 8 noted that from a global perspective, the governance model China has explored demonstrates unique value.

China's exploration of a multi-tiered governance system provides an essential reference for global digital governance. Particularly in balancing technological advancement with security safeguards, and innovation-driven development with orderly regulation, China's practices have accumulated rich experience (Informant 8).

Overall, this multi-tiered integrated governance system builds a multidimensional, dynamically evolving governance ecosystem through the organic integration of institutional design, technological empowerment, and social participation. It not only effectively addresses current challenges of information disorder but also reserves space for responding to potential future risks. As AI technology continues to advance, this governance framework requires ongoing refinement and innovation. Nevertheless, its fundamental structure and core principles have demonstrated remarkable vitality and adaptability.

Summary

This study employs qualitative research methods to explore governance pathways for information disorder and strategies for reconstructing media literacy within the Chinese context of the AI era. Findings indicate that addressing AI-driven information disorder requires an integrated literacy framework combining technological cognition, algorithmic understanding, and critical thinking. This study highlights that an integrated literacy framework must be realized through a multi-level governance system.

Theoretically, this study innovatively integrates Wardel and Derakshan's "information disorder" framework with Shoemaker and Vos's "gatekeeping theory." Concurrently, gatekeeping theory is further expanded and validated within this research. This transformation not only addresses the capacity-building needs at the "interpreter" level within the information disorder framework but also reflects the trend toward internalizing gatekeeper roles at the individual level. By cultivating every digital citizen into a rational information "gatekeeper," society's overall immunity to information disorder can be effectively enhanced.

Notably, China's governance practices demonstrate unique systemic advantages. Through a multi-stakeholder governance framework characterized by government leadership, platform accountability, social collaboration, and public



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participation, a comprehensive governance network spanning the entire information production, distribution, and consumption chain has been established. This network adheres to the multi-level logic of gatekeeper theory while enabling end-to-end intervention across all three stages of information disorder, offering valuable insights for global digital governance.

Looking ahead, this study recommends deepening future research in the following areas. Firstly, introducing transnational or cross-cultural comparative dimensions to validate and refine the existing theoretical framework by examining differences in news media structures, policy regulation, platform governance, and public media literacy between China and other nations and secondly, tracking the latest developments in AI technology, particularly the potential effect of generative AI and multimodal content on information disorder to update media literacy education content and methodologies continuously.

In summary, addressing information disorder in the AI era remains a critical challenge demanding sustained attention and in-depth research. Through the synergistic interaction of theoretical innovation and practical exploration, coupled with the coordinated advancement of institutional frameworks and technological development, it can build a clearer and more resilient digital information ecosystem. This represents both the mission of academic research and an imperative of the age.

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