

The Internal Logic and Path Exploration of News Communication in the Era of Intelligent Media

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Abstract: The advent of the intelligent media era has profoundly transformed the landscape of news dissemination. This paper conducts an in-depth analysis of the inherent logic of news communication in this new age, examining its characteristics through technological empowerment and evolving user demands. It addresses pressing challenges including the proliferation of misinformation, algorithmic bias, and privacy security issues in contemporary news dissemination. The study proposes optimization strategies focusing on technological innovation, content quality enhancement, reconfiguration of user relationships, and empowerment through media literacy education. By emphasizing the foundational role of educational initiatives in strengthening the communication ecosystem, this research aims to provide theoretical support and practical guidance for the healthy development of news dissemination in the intelligent media era. These efforts seek to better serve societal needs and audiences while adapting to evolving demands of our time.

Keywords: Intelligent media era; News communication; Internal logic; Exploration of meaning; Problems; Strategies; Media literacy education

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1. Introduction

With the rapid advancement of emerging technologies like artificial intelligence, big data, and the Internet of Things, the news media landscape has entered the intelligent media era. These smart technologies have deeply integrated into every aspect of news production, distribution, and reception, fundamentally reshaping the ecosystem of information dissemination. While the era of intelligent media has achieved unprecedented expansion in speed, reach, and depth of news coverage, it also presents new challenges and issues. A thorough examination of the inherent logic and development pathways of news communication in this era, particularly optimization strategies incorporating educational dimensions holds significant importance for understanding industry trends and driving innovation and transformation in the field.

2. The significance of news communication research in the era of intelligent media

2.1. Theoretical significance

Enriching the theoretical framework of journalism and communication studies. The era of intelligent media has introduced

groundbreaking communication models and phenomena such as algorithmic recommendations and AI-powered content creation. Researching these emerging trends not only expands the scope of journalism studies but also infuses traditional theories with fresh perspectives, driving theoretical innovation and development. By analyzing the operational mechanisms of intelligent technologies, which deepen the understanding of fundamental theoretical issues like the communicator-audience relationship and information flow dynamics ^[1]. Furthermore, integrating media literacy education into research frameworks will help refine the theoretical system of communication studies within the context of intelligent media.

This interdisciplinary framework creates opportunities for cross-disciplinary research. In the age of smart media, news communication integrates multiple fields including computer science, data science, and sociology. The incorporation of media literacy education further highlights the cross-disciplinary value of pedagogy and psychology. Such research breaks down disciplinary barriers, providing comprehensive theoretical perspectives and research methodologies to address complex real-world challenges ^[2].

2.2. Practical significance

To guide the transformation and development of news media. Traditional news media face intense competition in the era of intelligent media and need to explore new growth areas through digital and intelligent reforms. Relevant research can provide practical guidance for media organizations to utilize smart technologies to optimize production processes and enhance content quality. It also clarifies the integration path of media literacy education, helping media leverage educational functions and strengthen industry competitiveness.

Enhancing the professional competence of journalists. The era of intelligent media imposes a composite requirement of “professional skills + technical literacy + educational awareness” on journalists. They must not only master traditional news gathering and editing techniques but also possess technical application and data analysis capabilities, while being able to guide audiences in improving media literacy ^[3]. Relevant research can clarify the development direction of practitioners’ competencies, promote reforms in journalism education, and cultivate high-quality talents that meet the demands of the new era.

Protecting public information rights and enhancing media literacy. In the age of smart media, citizens face challenges like information overload and rampant misinformation. Thorough research on communication pathways helps regulate dissemination patterns and improve information quality. By integrating media literacy education, we can empower people to discern information and protect privacy, safeguard their right to access authentic and valuable content, and ultimately promote social information equity.

3. Problems in news communication in the era of intelligent media

3.1. False information and reduced information credibility

In the age of smart media, information spreads rapidly with low barriers to entry. Some self-media outlets fabricate fake news to boost traffic, while intelligent algorithms fail to effectively identify misinformation, fueling its proliferation. For instance, after trending events, unverified rumors quickly emerge online, misleading public perception and undermining media credibility ^[4]. Compounding this chaos is the public’s insufficient media literacy and lack of discernment in identifying false information.

3.2. Algorithmic bias and information narrowing

Algorithmic recommendation has become the cornerstone of news distribution in the intelligent media era. However, data biases and poorly designed algorithms often lead to recommendation bias. Some systems excessively promote homogeneous content, trapping users in “information cocoons” that restrict access to diverse information sources, thereby limiting public cognitive horizons and compromising the quality of social information exchange ^[5]. As audiences lack understanding of algorithmic logic, they struggle to break free from algorithmic constraints, underscoring the urgent need

for media literacy education.

3.3. Privacy infringement and data security issues

The news dissemination process involves the collection, storage, and analysis of massive user data. However, some media and platforms have vulnerabilities in data management, leading to privacy breaches. Unscrupulous businesses illegally exploit private data for marketing and fraud, while cross-border data flows also pose potential risks ^[6]. Furthermore, users' weak data security awareness and lack of self-protection capabilities have become key factors contributing to the frequent occurrence of privacy violations.

3.4. Journalism professionalism is under attack

Smart technologies have automated and fragmented news production processes. Some practitioners have become overly reliant on these tools, leading to weakened fundamental skills like interviewing and investigative reporting. Media outlets prioritize timeliness over truthfulness and objectivity ^[7]. Robot-generated articles often lack depth and humanistic touch, failing to meet audiences' demand for high-quality journalism. Meanwhile, journalism education has lagged behind industry development, with curricula failing to adequately integrate technology applications and media literacy education. This disconnects between talent cultivation and practical needs has created a significant gap in the field.

4. Optimization strategies of news communication in the era of intelligent media

4.1. Technological innovation and rational application

To advance AI technology development and application, news media should increase investments in artificial intelligence, refine robot-generated content algorithms, and leverage technologies like image recognition and video analysis to enhance production quality and efficiency ^[8]. Simultaneously, optimizing algorithmic recommendation systems through human oversight will establish a content review mechanism. This ensures diverse and objective recommendations while empowering users with autonomous selection rights, effectively breaking through the "information cocoon" ^[9].

By exploring the integration of emerging technologies, leveraging blockchain to enhance news traceability and ensure content authenticity and immutability, while utilizing VR and AR to boost immersive journalism experiences ^[10]. By embedding educational elements into tech applications, such as pairing algorithmic recommendations with privacy protection and information verification content, and transform technology into a vehicle for media literacy education.

4.2. Content and quality improvement

Adhere to the principle of news authenticity, establish and improve a strict information verification mechanism, and conduct cross-verification from multiple angles on news leads and interview content ^[11]. Be alert to the risk of false information brought by intelligent technology, and strengthen the professional judgment and ethics of practitioners.

By prioritizing in-depth reporting and exclusive content creation by organizing professional teams to investigate trending events and social issues, crafting premium content with core competitive advantages ^[12]. By leveraging our media strengths, we implement differentiated content strategies to establish a unique brand identity ^[13]. Furthermore, we integrate media literacy education into our content, such as explaining algorithmic principles and misinformation identification methods in news reports, thereby maximizing the educational value of our content.

Strengthen the humanistic care of news, pay attention to the audience's emotions and needs, and abandon the distorted mentality of putting traffic first ^[14]. In disaster coverage, respect the feelings of victims and spread information through a warm and humane perspective to achieve social value appreciation ^[15].

4.3. User relationship reconstruction and education guidance

Establish a robust user feedback mechanism to collect suggestions through social media, comment sections, and surveys,

enabling timely adjustments to communication strategies^[16]. Encourage user participation in news production by launching initiatives like ‘Citizen Journalists’ to leverage user-generated content (UGC), thereby enhancing user engagement and fostering a sense of community^[17].

Target users’ personalized needs through big data analysis of their interests and behavioral patterns to develop customized communication strategies^[18]. Implement differentiated media literacy education for different demographics: deliver cybersecurity awareness through short-form videos for teenagers, and provide guidance on identifying misinformation for middle-aged and elderly groups, thereby enhancing educational effectiveness.

An interactive platform for user education will be established. Media can popularize knowledge about information identification, privacy protection and algorithm cognition to users through online lectures, interactive questions and answers, public service advertisements and other forms, so as to improve the media literacy of the whole people.

4.4. Industry norms and supervision improvement

To establish industry standards for news dissemination in the era of intelligent media, news industry associations should clarify regulatory requirements for production, distribution, and data usage processes, while formulating algorithm recommendation industry standards to ensure algorithmic fairness^[19]. Relevant government departments should improve regulatory mechanisms, intensify crackdowns on illegal activities such as disinformation and privacy violations, and standardize data collection, storage, transmission, and usage practices^[20].

To strengthen industry self-regulation, media organizations should establish content review committees and data security management systems to protect user data^[20]. Simultaneously, reforms in journalism education should be promoted. Universities should optimize curriculum design by introducing courses such as artificial intelligence applications, algorithm ethics, and media literacy education, while enhancing practical teaching to cultivate versatile professionals with professional expertise, technical competence, and educational awareness.

To establish a comprehensive media literacy education system, we will create an educational framework characterized by “government leadership, media promotion, school implementation, and social collaboration”. The government will introduce supportive policies and enhance resource allocation. Schools will integrate media literacy education into the national education system, cultivating students’ ability to discern information and use it safely from the foundational education stage. Media organizations will leverage their platform advantages to provide high-quality educational resources. Through collective participation from all sectors of society, we will foster a positive educational environment.

In summary, the era of intelligent media has brought tremendous opportunities for news dissemination while presenting significant challenges. To promote healthy development in news communication, we must implement comprehensive measures including technological innovation, content quality enhancement, user relationship restructuring, and industry regulation improvements. Of particular importance is integrating media literacy education throughout the entire communication process. By refining educational systems, strengthening content education functions, and establishing interactive educational platforms, we can elevate public media literacy. Only through the coordinated efforts of technology, content, and education can news dissemination better fulfill its social functions in the intelligent media era, effectively promoting information dissemination and fostering harmonious social development.

Disclosure statement

The author declares no conflict of interest.

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