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## Analysis of Innovation Directions for News Communication in the Big Data Era Postprint

**Authors:** Li Li

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### Abstract

The big data era has ushered in entirely new modalities of information acquisition and reading, concurrently signifying that news communication confronts heightened challenges. Within this context, relevant practitioners ought to conduct comprehensive research and analysis of news communication endeavors, holistically achieving thorough mastery of big data evolution and societal dynamics, and should effectively innovate news communication practices in accordance with diverse stakeholder demands while facilitating the integration of novel platforms, thereby fostering more holistic development of news communication. This paper, contextualized within the big data era, first examines the critical aspects of news communication innovation, subsequently investigates the multifaceted impacts that big data technology has imparted upon news communication, and ultimately, grounded in these analyses, explores strategies for innovating news communication practices to serve as a reference.

### Full Text

## Analysis of Innovation Directions for News Communication in the Big Data Era

**Author:** Li Li (Suqian Radio and Television Station, Suqian, Jiangsu 223800)

**Abstract:** The big data era has ushered in entirely new ways for people to access and consume information, which also means that news communication faces greater challenges. In this context, practitioners should conduct comprehensive research and analysis of news communication work, achieve a thorough grasp of big data developments and social dynamics from a holistic perspective, and effectively innovate news communication practices by introducing new platforms according to various demands. Only in this way can news communication achieve more comprehensive development. Against the backdrop of the big data

era, this paper first analyzes the key points of innovative news communication, then explores the impacts that big data technology has brought to news communication, and finally investigates how to innovate news communication work based on these findings for reference.

**Keywords:** big data era; news communication; communication changes; innovation directions; news forms

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## 2. Key Innovation Points for News Communication in the Big Data Era

In the big data era, practitioners must pay close attention to the challenges confronting news communication, conduct comprehensive analyses based on principles of innovation and development, and understand the evolving communication needs of different periods. The key innovation points in the big data era primarily consist of two aspects.

### 1. Changes in News Communication

Journalism interprets news phenomena, reveals the fundamental laws of news activities, and explores scientific methods for news practice, while communication studies emphasizes communication types and subjects. Strictly speaking, communication studies encompasses journalism, and modern journalism incorporates the theoretical system and practical methods of communication studies. Meanwhile, journalism and communication studies promotes the deep integration of these two fields, accelerating the development of modern news communication. Current research and practice in news communication have undergone the following changes.

Changing news forms refers to the diverse information demands that audiences have put forward in the big data era, necessitating innovation in aspects such as format and genre. For instance, self-media platforms feature timed push notifications and employ witty visual language that captures attention and attracts larger audiences. Additionally, the big data era has brought interconnected network information, requiring in-depth exploration and excavation of information behind the news to satisfy audience curiosity and desire for investigation.

## 2.2 Innovative Content

Information communication aimed at speed and efficiency can compromise the authenticity of news communication. Consequently, in recent years, especially during major disasters, false news reports frequently appear online, disrupting public sentiment and affecting social order. The big data era has generated massive amounts of information data, and uncovering the truth hidden within this scattered data requires technological assistance to ensure content authenticity, making news communication more truthful, objective, and effective.

## 3. Impacts of the Big Data Era on News Communication Work

The big data era has expanded communication channels. The news communication industry must innovate traditional mindsets and data models, infusing fresh perspectives to better adapt to this new era. By integrating new technologies and concepts, practitioners can actively address challenges, seek ways to ensure authenticity and scientific rigor, and continuously innovate and research journalism and communication theories. Current development in news communication should integrate various technologies to innovate operations and management. Big data and network technologies not only provide technical support but also offer conceptual support for integration and technological innovation, substantially transforming communication content, methods, and interaction patterns. This has gradually achieved innovation in news communication forms, reaching the goal of keeping pace with the times. Overall, as modern technology rapidly evolves, news communication must promptly adjust in line with the times to provide robust support for its own development.

### 3.1 Changing Talent Structure in the News Communication Industry

Traditional news reporting models emphasize in-depth data analysis and impose higher requirements on information processing capabilities, necessitating talent structure adjustments. Beyond conducting interviews and reporting news, journalists and anchors must handle additional responsibilities. The industry now demands professionals equipped with skills to effectively mine and analyze data information, along with knowledge of computer science. The future of news communication requires interdisciplinary talent.

### 3.2 Innovating Reporting Practices

Emerging data journalism provides new practical approaches for news reporting. Traditional models prioritized authenticity and objectivity, focusing on accuracy and timeliness of content. Data journalism, however, demands greater completeness and depth in reporting. Audiences find visualized reporting more persuasive, and computer applications make reporting methods more vivid. In the big data era, news reporting methods must be continuously adjusted, op-

erational models gradually standardized, and practical approaches constantly innovated to facilitate future reforms in news communication.

### 3.3 Negative Impacts of Data Journalism

Although data journalism has promoted traditional news communication, it has also introduced problems. First, data dominates news control, often resulting in rigid reporting. Second, excessively flashy communication formats affect content substance and authenticity, and insufficient reporting depth significantly reduces seriousness. Finally, over-reliance on big data technology, combined with journalists' weak ability to distinguish right from wrong and new media's lack of diverse decoding methods, prevents the creation of engaging data journalism.

## 4. Innovation Strategies for the Big Data Era

### 4.1 Transforming Mindsets

The big data era requires consideration of correlations between things. For example, Walmart once conducted a “beer + diapers” promotion. After analyzing customer purchasing behavior, the company unexpectedly discovered that male customers buying baby diapers often simultaneously purchased beer. Logically, these two products lack apparent correlation. However, after detailed data analysis, Walmart attempted a diaper-and-beer promotion, which dramatically increased sales of both products. This promotion fully demonstrates how big data analysis of product correlations can enhance value returns.

In the big data era, news communication method innovation requires mindset transformation, focusing on correlation and data orientation. Modern society has witnessed numerous network marketing and data marketing activities, requiring attention to current and future events while shifting focus from the past to the present and future. This approach promotes the future development of news communication, enhances its value and survival space, and provides greater support for its dissemination.

### 4.2 Innovating Collection and Analysis Methods

Internet news offers greater timeliness and efficiency, enabling rapid large-scale dissemination overall. Mobile devices and smartphones accelerate audiences' access to relevant information. In this context, practitioners should adjust traditional news gathering methods, using computer technology to effectively analyze, organize, and filter various news information to identify elements with higher promotional and communicative value. Moreover, big data technology enables monitoring of ongoing events, making publicity reporting real-time, while network channels allow high-speed sharing of news information worldwide for synchronized global coverage.

Therefore, practitioners must comprehensively understand new media platforms and scientifically adjust news communication from both content and format perspectives. Through big data technology, audiences can engage in mutual exchange, enabling them to express their viewpoints and subjective consciousness effectively while facilitating rapid collection of audience feedback and relevant information for practitioners. Simultaneously, computer technology allows comprehensive monitoring of disseminated news information, ensuring full mastery of data. Practitioners can select diverse and innovative information and elements based on news themes and audience needs, enriching news communication content. Furthermore, big data technology introduction enables computer-based investigation and sampling of various information samples, allowing comprehensive analysis of large-scale network data. This ensures data comprehensiveness and scientific rigor, helps news followers better understand current social development trends, and identifies public preferences and interests, thereby effectively improving news content.

### 4.3 Expanding News Communication Platforms

The big data era has spawned various user platforms with different functions, such as Weibo and WeChat. These platforms enable sharing of life moments and knowledge experiences, as well as connecting with friends, thus attracting massive user bases. Beyond generating considerable economic returns, they facilitate rapid worldwide information interaction. Therefore, continuously developing software platforms must possess irreplaceable advantages to attract large customer bases, and these customer groups exhibit distinct characteristics. News workers should summarize customer characteristics and recommend corresponding news based on their interests. This targeted approach will undoubtedly increase click-through rates.

Currently, the internet has permeated daily life, allowing people to learn about both national affairs and everyday matters. It aggregates various types of information, presenting massive amounts to users daily. How to provide users with needed information represents a key research focus for news workers. Excellent news workers can promptly grasp what customers need and push relevant content to them, achieving greater success. Any software platform favored by users not only provides needed information but also delivers distinctive content aligned with customer interests. Through interaction with customers, software platforms can achieve better development.

### 4.4 Establishing a New Media Image

The big data era has generated vast information without strict screening, making authenticity difficult to guarantee. Therefore, information must be filtered to retain authentic content, with truthful data published and interpreted in depth. Various new media platforms can simultaneously publish breaking news, offering greater timeliness than print media. They should deeply interpret news information to ensure authenticity. After gathering news data, editorial staff

must fully understand event causes and deeply interpret event connotations to make reporting more comprehensive and authentic. Additionally, the guiding role of commentary should be emphasized by selecting representative viewpoints from numerous comments, thereby strengthening media competitiveness.

#### **4.5 Upgrading and Innovating Public Opinion Monitoring and Management in News Communication**

Beyond serving information consumption, news communication should guide and manage public opinion and society. As internet and new media technologies develop, news communicators and audiences can forward, share, and comment on news through network platforms, generating enormous data volumes that increase the difficulty of managing news public opinion. Therefore, big data technology enables better analysis, monitoring, and management of social public opinion. By analyzing feedback data, news communication work can be optimized to provide more scientific, accurate, and professional data-driven decisions for public opinion supervision.

For example, software can be used to set keywords or conduct targeted monitoring for automatic collection of network-wide information, avoiding duplication while automatically identifying sensitive words in negative news for timely warnings and comprehensive news monitoring. Overall, applying big data technology in public opinion management provides massive databases, offering more scientific and effective guidance and management for news public opinion.

#### **4.6 Cross-Boundary Integration and Innovation**

In the big data era, media will inevitably develop toward cross-media and convergence. The news communication industry has continuously practiced and researched this concept. For instance, in 2014, CCTV' s evening news launched a special program called "Big Data Talks Spring Festival Travel," applying big data technology in news reporting. CCTV cross-boundary collaborated with Baidu, enhancing audience news value while promoting Baidu' s business development. CBN, together with Alibaba' s Alipay platform with its massive user base, launched stock market consultation services, introduced wealth management channels in mobile Taobao, and launched big data financial products in mobile terminals. Both parties improved their collection and organization of diverse data while maximizing their respective values. Faced with various data brought by the big data era, media must adopt development-aligned methods to produce and disseminate news, use different media to spread news, and fully exploit data assets to enhance their value.

#### **4.7 Professional Excellence Required for News Gathering and Editing**

Currently, media convergence in journalism scholarship mainly involves three forms: first, intra-industry convergence among television, radio, and newspapers; second, inter-media convergence integrating mobile phones, internet, and

magazines; and third, information dissemination through terminal convergence for multimedia information integration. Such convergence enables journalists to better gather, write, edit, and photograph news by enhancing their professional competence. Only with strong professional foundations can one engage in journalism. This includes: first, powerfully disseminating news from a theoretical knowledge perspective to continuously update communication concepts; second, constantly learning new technologies such as big data and self-media in the mobile internet to grasp the characteristics and methods of converged media communication; and finally, improving writing skills to highlight the “pursuit of truth” and “pursuit of excellence” spirit of journalists in the fast-paced internet era.

#### 4.9 Rational Utilization of Micro-Communication Platforms

Currently, people frequently use information and network technologies in daily life. To adapt to fast-paced lifestyles, various micro-communication platforms such as Weibo and WeChat have emerged, leading to numerous self-media outlets that play important roles in news communication. Compared with traditional news media platforms, micro-communication platforms offer stronger timeliness, interactivity, and transmission capability, enabling not only real-time information push but also online interaction with the public for timely feedback acquisition and understanding of audience perspectives on news events.

During news communication innovation, rational utilization of micro-communication platforms should be prioritized. Using these platforms to disseminate information increases influence and provides convenient channels for understanding audience needs. Based on this foundation, news communication can be better innovated to deliver content aligned with audience expectations, thereby increasing audience stickiness. When major events occur, news media can promptly release relevant information on micro-platforms. Their powerful interactive functions facilitate real-time audience interaction and news forwarding, accelerating dissemination speed and enabling more efficient news distribution. As major self-media outlets join micro-communication platforms, competition intensifies, requiring continuous innovation in both form and content to attract audience attention and provide desired reading material.

*Note: Figure translations are in progress. See original paper for figures.*

*Source: ChinaXiv – Machine translation. Verify with original.*