

Conceptual Innovation Pathways for News Gathering and Editing in the Context of Big Data: Postprint

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Abstract

The advent of the big data era has exerted a relatively significant impact on fields such as computer science, business, management, and healthcare, while also presenting the media domain with more thought-provoking research topics. The development of big data technology has posed new requirements for news gathering and editing operations, while concurrently offering novel development directions for news editorial professionals. This paper conducts an in-depth analysis of the current state of news gathering and editing within the big data context, focusing on exploring innovative pathways for news gathering and editing concepts, with the aim of providing valuable references and insights for relevant stakeholders.

Full Text

Exploring Innovative Paths for News Gathering and Editing Concepts in the Big Data Era

Abstract: The advent of the big data era has exerted significant influence on fields such as computer science, business, management, and healthcare, while also presenting the media industry with numerous thought-provoking topics. The development of big data technology has imposed new demands on news gathering and editing work, while simultaneously providing new development directions for news editing professionals. This paper thoroughly analyzes the current state of news gathering and editing in the context of big data, focusing on exploring innovative paths for news gathering and editing concepts, with the hope of offering valuable references for relevant practitioners.

Keywords: Big Data; News Gathering and Editing; Current Status; Conceptual Innovation; Paths

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In recent years, continuous scientific and technological innovation has ushered in the big data era, which has been widely applied across various domains and brought transformative forces to the news communication industry. During this period of information explosion, people can access information through multiple channels, while simultaneously demanding higher-quality services from the news industry. To meet the diverse needs of the public, news gathering and editing—as information disseminators—must undergo conceptual innovation to withstand the impact of constantly evolving science, technology, and social concepts.

Traditional news gathering and editing methods suffer from several critical limitations. Most significantly, they damage the core journalistic requirement of timeliness. Additionally, these conventional approaches present considerable difficulties in data organization. After laboriously collecting data, manual effort is required to eliminate worthless and erroneous information while classifying and integrating valuable data—a process that consumes substantial energy and time. Furthermore, the manual organization process in traditional journalism frequently leads to mistakes due to oversight, resulting in information distortion, bias, or loss that compromises the authenticity and comprehensiveness of data. Deficiencies in computational capacity and methodology lead to imprecise and superficial data organization, which likewise reduces information authenticity to some extent.

1. Current Development Status of the News Industry in the Big Data Era

1.1 Challenges Posed by Big Data to the News Industry It is widely acknowledged that in today's era, people can receive massive amounts of information data anytime and anywhere. In the big data context, virtually everything can be quantified, which means data is not only characterized by its vast quantity but also by its diverse types. Beyond text, formats such as images, audio, and video can all be quantified and transmitted. In the journalism field, all big data information—including digital images, news comments, text records, video documents, and social platform interactions—has become sources and subjects of news attention. Analyzing this complex data reveals that not all of it is meaningful; much of it lacks value, and some even contains errors, demonstrating the drawback of low value density in the big data era [1]. Moreover, with the development and popularization of computer and internet technologies, all data has been endowed with strong timeliness—almost as soon as data is generated, it spreads widely across various media platforms. In the big data context,

virtually every field experiences more or less influence. For the news industry specifically, this brings both tremendous pressure and valuable opportunities.

1.2 Opportunities Brought by the Big Data Era to the News Industry

In the big data context, the news industry faces not only enormous challenges but must also focus on discovering and seizing development opportunities. First, traditional news information collection channels were relatively limited, resulting in poor news timeliness. With the application of internet technology, information collection channels have been greatly expanded. The internet enables high-speed information transmission, which first satisfies the core characteristic of news communication—timeliness. Although some false information may be mixed in, careful screening can achieve the goal of obtaining authentic news. Second, after news is collected, it must be organized. The big data era has dramatically improved the efficiency and quality of data information organization. While traditional methods consumed substantial human resources and time, today's advanced technological equipment has significantly enhanced organization efficiency and quality. Finally, the big data era helps strengthen the core competitiveness of the news industry. Nowadays, new media such as mobile phones and tablet computers continue to emerge, enriching people's access to information and posing tremendous impact on the traditional news industry. However, the professional and scientific characteristics of traditional news media give it inherent advantages in the competitive communication market.

1.3 Problems in News Gathering and Editing in the Big Data Context

In the big data context, news gathering and editing have revealed several prominent problems: First, poor timeliness. For traditional news media, data information exhibits considerable lag with very limited volume, yet information in the big data era develops explosively. This requires news gathering and editing professionals to confront this change, advance with the times, and actively explore new development methods. Second, the separation of news editing and gathering. In some current news organizations, news editors and gathering personnel belong to different departments, making it difficult to ensure information timeliness and causing communication problems that lead to inconsistent opinions. Third, narrow problem perspectives. News gathering and editing personnel have significant influence on news communication, but currently, news broadcasting generally employs a unified perspective. While this avoids principled errors, it simultaneously suffers from narrow problem perspectives, reducing the scientific rationality of news information.

2. Innovative Paths for News Gathering and Editing Concepts

2.1 Innovate Gathering and Editing Methods to Enhance News Communication Timeliness China's news gathering and editing work is still in the initial stage of the big data era, making it imperative to comprehensively apply digital work and management methods across all aspects. First, the speed of data collection, editing, and distribution must be continuously accelerated to

strengthen the core characteristic of news communication—timeliness. News gathering and editing personnel should recognize the current big data context, focus on enhancing their application capabilities, and continuously innovate gathering and editing methods to promote the media industry's development toward digitalization. In the big data context, it becomes easier for news gathering and editing personnel to grasp hot social news in real time. They must enhance their data application capabilities, constantly monitor changes in relevant data information, and respond promptly. News industry managers should also establish modern big data awareness and update their work concepts. On the one hand, they must develop ideas for data collection, management, and research, fully recognizing in their thinking the improvements big data technology brings to news gathering and editing. On the other hand, they must strive to establish and improve big data information platforms [3], transform the gathering and broadcasting process, and enhance the mining and practical application of big data technology by constructing and continuously improving data information systems.

2.2 Update Gathering and Editing Concepts to Enhance News Communication Diversity News gathering and editing personnel should employ big data methods to conduct in-depth field investigations of the people's diverse news needs and provide news services that satisfy these needs based on careful analysis. In practical work, news gathering and editing should achieve effective integration of visual and auditory elements, accurately expressing news through various symbols including text, sound, and images. Simultaneously, editing staff must increase their research in psychology and propaganda artistry to truly grasp the psychological needs of the people, analyze viewing patterns, and thereby provide targeted information and propaganda methods [2]. For instance, they can utilize Weibo and WeChat public platforms on the internet for interaction, striving to enhance the influence of news information communication.

2.3 Tap Data Potential to Enhance News Communication Acceptability In today's big data context, news gathering and editing work can employ visualization technology to promote full integration of news and data, clearly and vividly presenting relevant information graphics or dynamic charts to make news expression more substantial. Consequently, news gathering and editing work must pay greater attention to the application of computer visualization technology, transforming dull data into rich and vivid news reports that allow news data to better fulfill its potential. This technology also provides convenience for personnel with weaker application capabilities. For example, the ManyEyes website offers free visualization services to users—users simply upload relevant data to quickly obtain corresponding visualization charts. The website also provides visualization solutions such as TreeMap for displaying hierarchical data. Similarly, Google provides a series of data fusion tables that enable batch data operations [4]. With the help of such software, news gather-

ing and editing personnel do not need strong professional capabilities, providing considerable convenience for practical work.

2.4 Focus on Big Data Adaptation to Enhance News Communicator Capabilities The impact of the big data era on news communication involves every aspect from news discovery, interviewing, production, to dissemination. Sifting through massive and complex data to uncover potential news value, producing news works suitable for audience acceptance characteristics, and achieving maximized communication through digital means all present brand-new challenges to journalists. Journalism professionals must undergo capability reconstruction and build a new professional competency system.

In the big data environment, news gathering and editing personnel should focus on giving full play to the unique advantages of big data technology, applying it to their practical work. They must adhere to their professional standards, fully recognize their own value, and understand that news editing work is a spiritual activity within the cultural industry. During big data analysis, they must also increase content focus to achieve optimized design of text editing work and knowledge systems [5], striving to enhance news value and content quality to meet audience diversity needs.

3. Conclusion

In summary, in today's big data context, both the methods and content of news editing have undergone significant changes, bringing tremendous impact to the news industry while also containing valuable development opportunities. As a traditional channel for information dissemination, relevant enterprises and organizations in the news industry must deeply recognize the development trends of the big data era, allowing the excellent value of big data technology to play its role in the news industry. News gathering and editing personnel must continuously innovate their work concepts and enhance their professional capabilities to adapt to the changes of the new era, providing the general public with more timely, comprehensive, and authentic news and information services.

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

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