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Postprint: Applications of Big Data Technologies in News Gathering, Writing, and Editing

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Abstract

In recent years, with the rapid development and progress of science and technology in China, emerging technologies typified by big data technology have continuously emerged, and the application scope of big data technology has become increasingly extensive under the impetus of information technology. Driven by big data technology, almost every industry is moving towards informatization and digitalization, which has exerted a tremendous influence on journalism, particularly manifesting in news gathering, writing, and editing. This paper offers a brief exploration of the application of big data technology in news gathering, writing, and editing.

Full Text

Application of Big Data Technology in News Gathering, Writing, and Editing

Abstract: In recent years, with China's rapid scientific and technological advancement, emerging technologies represented by big data have continuously emerged, and their application scope has expanded increasingly under the impetus of information technology. Driven by big data technology, nearly every industry is moving toward informatization and digitalization, profoundly impacting journalism, particularly evident in news gathering, writing, and editing. This paper explores the application of big data technology in news gathering, writing, and editing.

Keywords: Big Data Technology; News Gathering and Writing; News Editing

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The emergence and development of information technology, along with its widespread penetration across various social domains, has brought tremendous influence and transformation to modern life, work, and learning. The advent of big data technology has further intensified this impact and change. While presenting opportunities for the news industry, big data technology also poses challenges. How to apply big data technology in news gathering, writing, and editing to advance journalism has become a major research topic for media professionals.

1. Overview of Big Data Technology

At the macro level, big data technology primarily refers to data sets of such enormous scale that they cannot be processed using conventional data software. Big data technology exhibits several key characteristics: first, massive volume, as big data demonstrates unprecedented scale; second, diversity, encompassing a wide range of data types; and third, high velocity, with data being generated at extremely rapid speeds. Additionally, a more formal definition describes big data as a collection of data that cannot be processed within a specified timeframe using conventional software in the current era. Typically, news operations mainly include interviewing, editing, writing, commentary, photography, and other aspects, among which interviewing, writing, and editing are the most significantly affected.[1]

2. Benefits of Big Data Technology in News Gathering, Writing, and Editing

2.1 Enhancing News Predictability

From an essential perspective, big data technology involves the large-scale acquisition, management, storage, and analysis of massive datasets. Scientific analysis of these vast data resources helps enhance their value. Therefore, applying big data technology in news gathering, writing, and editing can improve the accuracy of predicting news across various domains, thereby enhancing news predictability, improving news quality, and enabling audiences to obtain effective news content.

2.2 Enhancing Targeting in News Gathering and Editing

Big data possesses strong capabilities in extracting and analyzing various types of news information. Applying big data technology in news gathering and editing helps analyze audience reading habits and news preferences, thereby innovating news gathering and editing methods and enhancing their targeting. Additionally, through information mining and analysis using big data technology, potential audiences can be identified from multiple perspectives. Combined with audience needs, this enriches the content of news gathering and editing, helping to improve audience engagement.

2.3 Improving Quality of News Gathering and Editing

Since the advent of big data technology, news media can utilize this technology to collect and organize public comments about news media from major websites and conduct objective analysis of these comments. This helps news media grasp overall audience feedback on news, identify deficiencies in news gathering and editing work in a timely manner, take targeted measures for improvement, and gradually enhance the quality of news gathering and editing.

2.4 Enhancing Timeliness of News Gathering and Editing

For news, one of its most important characteristics is timeliness. The stronger the timeliness of news, the greater its impact. It is no exaggeration to say that timeliness has become the lifeblood of news. Therefore, accurately predicting news points and releasing them promptly is key to ensuring news timeliness, and this is also the mission of every news gathering and editing professional. Since the advent of big data technology, its application in news gathering and editing has made both obtaining news clues and conducting predictive reporting evidence-based, providing a fundamental guarantee for enhancing news timeliness.[2] Traditional news gathering and editing work mostly relied on experience to speculate about news points, a method with low accuracy that could result in news events failing to attract audience attention. The application of big data technology successfully compensates for these shortcomings. Big data technology can analyze various data from massive amounts of seemingly unrelated information, identify connections between data, and excavate valuable news clues, thereby enhancing the timeliness of news gathering and editing and fully meeting audience needs.

3. Strategies for Applying Big Data Technology in News Gathering, Writing, and Editing

3.1 Actively Transforming News Gathering and Editing Thinking

With the emergence of big data technology, the ways of news information dissemination have changed. In this new situation, news gathering and editing should actively transform their thinking and innovate gathering and editing methods by combining the characteristics of big data technology. Big data technology has posed great challenges to traditional news gathering and editing thinking. Driven by information technology, news media must deeply realize the limitations of traditional news gathering and editing methods, apply big data technology effectively, achieve innovation in news gathering and editing thinking, and better adapt to the development of new media. As the prerequisite and foundation for news production, news gathering and editing need to keep pace with the development of big data technology, applying big data technology for predictive analysis to better cope with the challenges that big data technology brings to traditional media. At the same time, news gathering and editing professionals must dare to innovate in thinking and reform the original news

gathering and editing models. As the sole criterion for measuring the influence of a news item, news value requires journalists to analyze audience interests using big data technology in addition to considering the content of the news event itself and their own experience, enabling precise news delivery.

3.2 Building a Centralized Data Analysis System

In the information age, news media should fully rely on big data analysis technology to build a centralized and integrated data analysis system, and take effective measures from a resource analysis perspective to improve the efficiency of news gathering and editing. Building a centralized data analysis system can help media accurately obtain valuable information in a competitive environment, then edit it to form news content, and efficiently and rapidly push news information to audiences. When establishing a centralized data analysis system, it should be organically combined with the work platform of news gathering and editing personnel, accurately mining data by platform, region, and time period, selecting different news themes according to different audience needs, and timely transmitting news information to big data analysis servers with the support of the Internet to improve the information collection efficiency of the centralized data analysis system.[3]

3.3 Building Big Data Technology Equipment Support

After experiencing the first-generation file system-based news gathering and editing system, the second-generation relational database-based system, and the third-generation multimedia database-based system, the fourth-generation news gathering and editing system, which is supported by Internet technology and uses browser data as its interface, is now initially operational, marking the arrival of an era where data serves as the primary element of media. The technical core of the fourth-generation news gathering and editing system is cloud computing, which determines the need to use large-scale analysis software to process data while also requiring server clusters for information storage. Therefore, under big data technology, news gathering and editing should also build equipment support that conforms to the characteristics of big data technology, enabling media workers to capture useful information in the first place, quickly assess news value, then edit and produce news content, achieving efficient and convenient news transmission. Big data technology equipment can obtain effective information by connecting to the Internet and can also connect with the work platform of news gathering and editing personnel. In this way, the centralized data analysis system can promptly deliver useful information to news gathering and editing personnel, and video information collected by news gathering staff can also be transmitted back to the information center for processing and analysis to obtain the most valuable topic search keywords, ensuring the efficiency of news gathering and editing.

3.4 Targeted Mining of Data Resources

News gathering and editing should be supported with information resources from different platform systems and technical levels. Additionally, the news industry should identify the most valuable news data sources based on differences in audience interests and reading habits, combining audience characteristics in news gathering and editing to improve efficiency and quality. Currently, China has fully entered the information age. In this new era, news gathering and editing work should focus on the targeting of data mining. The data platforms discussed above are merely subject-oriented service tools, which leads to a lack of targeting in subjects and uncertainty in services, reducing the efficiency of news information gathering and editing to some extent. Therefore, under big data technology, to improve gathering and editing efficiency, it is also necessary to accurately grasp user needs and conduct in-depth data mining. For television stations, correlation and statistical analysis technologies in cluster environments can be applied to analyze the internal connections between various structural and non-structural data in terms of audience formats, group targets, media characteristics, and news dissemination methods, achieving comprehensive news information integration and management, and mining the most valuable news data from massive datasets.

3.5 Comprehensively Improving Technical Skills of Journalists

The application of big data technology in news gathering and editing requires journalists to use big data technology to filter information that audiences like from massive data, process it, excavate the news events behind the information, and then visualize the events, which undoubtedly places higher demands on the technical skills of news gathering and editing personnel. As excavators and disseminators of social information, journalists must filter information that audiences care about from massive data for editing, which should not only conform to the reality of social development but also play a role in enlightening audiences. This requires journalists to have sensitive data awareness and be able to view data rationally, avoiding pure “data-only-ism.” Additionally, applying big data technology in news gathering and editing has changed traditional gathering and editing methods, and relevant staff must understand their own roles, actively transform their roles in news gathering and editing to better meet the requirements of the big data era. Furthermore, as news gathering and editing workers, they should continuously enhance their capabilities, mastering more data processing and analysis methods to strengthen their professional skills.[4]

Conclusion

In summary, in the context of big data technology, news gathering and editing should not remain isolated from the times, nor should they turn a blind eye to big data technology. Instead, they should actively and fearlessly learn and apply big data technology. Through strategies such as actively transforming

news gathering and editing thinking, building a centralized data analysis system, constructing big data technology equipment support, targeted mining of data resources, and comprehensively improving the technical level of journalists, big data technology can be better applied in news gathering and editing, improving the efficiency of news gathering and editing, thereby meeting the personalized and diversified news information needs of audiences and promoting the development of journalism.

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

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