

## Big Data and News Reporting Postprints

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**Date:** 2023-10-08T00:00:00+00:00

### Abstract

As individuals utilize the internet for widespread social interaction and news browsing, certain usage traces and informational data are generated and retained by the network. This data is of paramount importance to news media; through in-depth analysis, it can both deepen the narrative dimension of journalism and enable accurate, effective judgment of facts.

### Full Text

### Preamble

**ChinaXiv Partner Journal: Digital Communication Research**

### Big Data and News Reporting

**Abstract:** When people use the internet for social interaction and news browsing, their usage traces and information are retained by the internet. This data is crucial for news media. Through in-depth analysis, it can both deepen news narratives and enable effective verification of facts.

**Keywords:** big data; news reporting; research

**CLC Number:** G212

**Document Code:** A

**Article ID:** 1671-0134(2017)12-121-02

**DOI:** 10.19483/j.cnki.11-4653/n.2017.03.031

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### 1.2 Cautious Data Processing in News Reporting

Currently, the application of big data in news reporting in China remains at a preliminary stage requiring continuous improvement and exploration [1]. Data

for news reports primarily originates from various website portals and social organizations. However, some of this information is not primary source data but has been processed, incorporating the processors' subjective opinions and thereby reducing the objectivity of the data itself. Regardless of the source, news producers must maintain a skeptical attitude and demonstrate a strong sense of responsibility through meticulous analysis of data information. For any given event, the collected data may include significant amounts of interfering noise. To ensure accuracy and uncover the truth, useful information must first be filtered from this vast dataset before undergoing deep processing with specialized software [3]. While computer software can greatly facilitate the utilization of collected data to produce high-quality news reports, the analytical procedures still require human configuration. Consequently, news producers must possess high subjective initiative. To verify data accuracy, data cleaning is essential: newly collected data should be formatted to match existing datasets, cross-validated, and any inaccurate information removed. This process involves eliminating invalid data, correcting erroneous or corrupted data, and filling in missing information.

Whether analyzing logical relationships within data, integrating information for news work, or developing awareness of emerging issues, the demands are substantial. For data collection, journalists must first organize logical relationships, often by creating specific scenarios, which requires professional competence. Additionally, journalists should deeply explore issues within the data through their own problem awareness, carefully analyzing impact, significance, and social function to comprehensively organize data information. By effectively integrating data obtained from one database with that from other databases—comparing, superimposing, and synthesizing information across different datasets—mutual revelation and compensation can be achieved, making data information more comprehensive in news reporting and largely restoring the full picture of events.

## 1.1 Multi-Channel Acquisition of Massive Data

News production primarily employs two methods: First, analyzing large volumes of data information according to relevant principles to identify problems, then using the discovered data to dissect and analyze these issues. Second, systematically analyzing problems to identify gaps, conducting further analysis, and then obtaining data after conducting extensive research on the problem. Both approaches essentially require substantial data information. In news production, both the quantity and quality of data information are critical, affecting production outcomes and news tracking capabilities [2]. Therefore, data support must be sufficient. The current era is characterized by both information development and big data development, offering numerous means of data acquisition while improving data authenticity and timeliness. Data on the internet is not only vast in scope but also transmitted rapidly. Moreover, with the development of network technology, the number of searchable information websites continues to increase. When producing news, journalists can widely search these sites for

needed data and information, then collect, organize, and process it, deleting obsolete data to enable analysis and identify patterns.

Commonly used data in news production includes: First, large volumes of information collected and processed from various websites, which researchers analyze carefully to identify patterns and problems. Such information offers good authenticity, timeliness, and rigor. Second, information data released by various social sectors, which, being unprocessed, offers good plasticity and strong timeliness.

### **1.3 Multi-Angle Presentation of News Reporting Data**

In the current big data era, data information in news reporting is displayed through diverse methods. In big data news reporting, dynamic charts, data maps, and infographics constitute three primary expression forms. Data maps are mainly applied to spatial geographic data, effectively displaying geographic information and enabling readers to intuitively understand and grasp issues within the data. Infographics can simplify complex news data.

## **2. Potential Problems in Big Data News Reporting**

### **2.1 Incomplete Big Data May Cause One-Sidedness in News**

Big data is not truly comprehensive and does not represent complete data. In news reporting, journalists must seek the most advantageous resources from various information sources while respecting the objectivity and comprehensiveness of information resources. Unlike traditional statistical methods, big data offers more original resources. In modern information society, various phenomena can be represented by data, providing more effective resources for big data [4]. Therefore, ensuring objectivity and data comprehensiveness in news reporting is crucial. Once big data becomes incomplete, news content can easily become distorted and one-sided.

### **2.3 Journalistic Ethics**

With the rapid development of network technology, data acquisition has become much easier. However, media organizations are not typically direct holders of data information. Therefore, journalists must meet high professional ethical standards. When personal privacy is involved in data content, scientific decision-making is required. Although journalists' conduct is regulated and constrained by the current social 舆论 environment, this also affects the factual basis of published news and the responsibilities journalists bear.

### **2.4 Big Data Reports Not Updating with Time**

For media organizations, news reporting serves as a key promotional focus. Understanding social development dynamics and grasping the latest news in

society is essential. News reporting should analyze data from multiple angles and comprehensively. Content that is too singular cannot change with time. How to make news content resonate with people is the key to news reporting, not merely the content itself. This requires news to keep pace with temporal changes, report the latest information, and thereby adapt to public needs.

### **3. Strategies for Big Data News Development**

Currently, big data news programs are gradually developing, conducting comprehensive spatial and temporal comparisons and presenting both dynamic and static forms to the public. From a societal perspective, big data news must continue to innovate and reform to achieve stable development.

#### **3.1 Actively Breaking Conventions**

In contemporary society, China's scientific and technological development is rapid, driving the swift advancement of network information technology. Public demand for news is also changing significantly. When reporting news, journalists should break away from traditional forms limited to text and images, and pursue innovation. News formats with strong interactivity and intuitiveness better attract audiences. Therefore, to provide better user experiences, journalists should emphasize the use of short videos, interactive features, and dynamic charts in news presentation to achieve better results. To attract public attention, more reporting should be devoted to previously unreported content.

#### **3.2 Building a New News Production Team**

In big data collection, teams must include not only journalists but also computer professionals and IT personnel to provide more materials for news reporting. With the rapid development of modern media, news production teams are expanding. The organic integration of IT professionals and journalists has formed a new type of team. With technical assistance from IT personnel, journalists gain access to more materials, making news reporting more diverse and enriched.

### **4. Conclusion**

In summary, in the current big data era, news reporting has changed significantly over time, with major transformations in both news publishing workflows and data information collection and organization. Effective utilization of big data in news reporting not only strengthens authenticity but also greatly improves reporting efficiency.

After obtaining big data information, news staff must analyze and summarize its content. All things are interconnected. If news data is used without analysis, it will seriously affect authenticity. Therefore, when using big data, scientific methods must first be established before careful analysis to improve news reporting accuracy.

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

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