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## Innovative Development of Video News Driven by Big Data Technology (Postprint)

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### Abstract

With the advent of the Internet era, the proportion of video news across the entire Internet continues to increase. The development of big data brings both adjustments and tremendous development opportunities to video news. How to transform the topic selection, production, and presentation methods of traditional video news by mining the massive information from big data will be an important direction for the innovative development of video news. This paper primarily explores the opportunities that big data brings to video news, as well as how to enhance the core competitiveness of big data-driven video news.

### Full Text

### Preamble

**Title:** Innovative Development of Video News Driven by Big Data Technology

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**Abstract:** With the advent of the Internet era, the proportion of video news across the Internet continues to increase. While the development of big data presents challenges to video news, it also brings tremendous opportunities for growth. How to leverage the vast information contained in big data to transform the traditional processes of topic selection, production, and presentation in video news represents a crucial direction for innovative development. This paper primarily explores the opportunities that big data brings to video news and how to enhance the core competitiveness of big data-driven video news.

**Keywords:** big data; video news; Xinhua News Agency; new technology

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Video news refers to the use of modern electronic and digital technologies, employing moving images and sound as communication symbols and the Internet as the dissemination channel, to provide visual reporting on recent or ongoing events. As the most comprehensive, intuitive, and vivid information carrier, video has become the dominant form of future news development. The proportion of video across Internet content continues to grow, gradually becoming the primary medium through which people access news. For news organizations, developing video news represents both a market imperative and an inevitable choice for news resource development.

## 1.2 Big Data Provides More Presentation Forms for Video News Dissemination

Xinhua News Agency's video news currently consists primarily of real-time live reporting and on-site video and audio coverage. Live reporting involves direct interaction between radio and television anchors and Xinhua correspondents at the scene, delivering real-time coverage of major domestic and international news. On-site reporting mainly involves Xinhua journalists gathering video and audio reports at news scenes for distribution to radio, television, and online platforms. As the big data era arrives, innovating the presentation forms of video news dissemination becomes necessary, and news practitioners have continuously pursued new, more effective, and more engaging formats.

In the big data era, achieving data visualization technology is essential, covering extensive technical fields including computer programming, image processing, and human-computer interaction. Visualization technology perfectly combines data and news, releasing information through infographics or dynamic information graphics and providing rich presentation forms for data journalism. News editors must fully utilize data visualization techniques from computer science and art fields to transform complex, abstract, and dry data into simple, concrete, and vivid news reports, unlocking the potential of data in news coverage while mixing video, audio, and images according to narrative logic. In the Internet era, video news can also employ "interaction" to enhance user experience—interactive video represents a novel fusion method that, by combining video with interactivity, transforms the traditional linear narrative into one where audiences control their own reading pace and direction, saving time while improving audience attention.

## 1.1 Big Data Makes Video News More Realistic and Objective

Truth and objectivity are the lifelines of journalism. As a scientific method, big data can bring video news closer to reality and objectivity. The applica-

tion of big data in video news produces a new data paradigm for video data journalism. In traditional video news production, content creation was dominated by manual topic selection, whereas big data-driven video news generates new formats through the accumulation and mining of data volumes, solving the mismatch problem between news providers (media) and news audiences and enabling video news to better align with viewers. Moreover, because big data is based on mining massive datasets, it breaks through traditional single-structure news resources and offers far greater objectivity than individual viewpoints and opinions.

Big data enables full-sample analysis with large data volumes, providing more comprehensive observation than traditional individual-angle, single-level perspectives. Big data news relies on “cloud computing” for speed and efficiency, overcoming the traditional journalism shortcomings of time-consuming statistical data acquisition and poor timeliness. Compared to personal opinions, big data can more authentically reflect people’s states and intentions to a certain degree.

### **1.3 Big Data Can Enhance Interactivity in Video News**

The arrival of the big data era is inseparable from the Internet. Before this era, news dissemination platforms generally included television, newspapers, radio, and other traditional media. These conventional news carriers required manual screening and production after receiving news topics, then disseminated news through traditional channels. When audiences received this news, they typically accepted the values that media producers wanted to convey, but the audiences’ own thoughts and opinions could not be perceived by media producers. After the Internet became widespread, computers and mobile phones gradually became the primary carriers for information dissemination, enabling video news to be commented upon online. Audiences are no longer passive recipients of value indoctrination and guidance but can express their own views. These large volumes of comments and viewing data accumulate into big data, and media practitioners can improve topic selection and production processes in video news creation by collecting and mining this data, thereby achieving the goal of attracting and guiding audiences.

### **2.1 Leveraging IT Means to Provide Data Mining Capabilities**

Given that big data encompasses massive information with enormous volume and diverse types, scattered and hidden data holds no value. Before producing big data-driven video news, large amounts of data must be processed and organized—scattered data must be integrated, and useful information must be analyzed and extracted from complex datasets to provide users with new, valuable news content and readable news stories. During data processing and organization, news editors must first eliminate data with obvious errors or incomplete

information. Second, big data news teams should be composed of journalism professionals alongside product developers and data analysts, with the latter fully integrated into the media production process. Finally, for this emerging phenomenon of big data, we must maintain an open attitude while not forgetting calm reflection. It is not enough to simply disseminate facts; what matters is making objective interpretations and rational analyses of these facts, as only such analysis carries the most influence.

## 2.2 “Content is King” for Effective Data Dissemination

The concept of “content is king” has long existed, emphasizing the importance of content construction. However, in the new media context, especially when fragmented information dominates people’s lives, some have pitted “content” against “form” and “channel” in a false dichotomy. Nevertheless, as the saying goes, “with the skin gone, to what can the hair attach?” Regardless of how media develops, no matter how “new” or “old,” the principle of “content is king” remains universally applicable—the essential foundation for media survival and success. We must remain vigilant against the tendency to “determine content by form” and the practice of prioritizing gimmicks over substance.

Publishing short videos on overseas social media constitutes an important component of Xinhua News Agency’s international reporting. Targeting the age structure and education levels of overseas social media users, many domestic and foreign media outlets desperately produce soft, entertaining short videos about cute pets, food, and humor, prioritizing visual appeal under the assumption that this is what young people prefer on social media. However, the actual situation may not be so simple. Once-popular “fast-food content” has lost its appeal. It is not that young people are unwilling to watch in-depth, opinion-rich content, but rather that there is currently a shortage of short videos that are both visually appealing and intellectually substantive.

Information explosion, fragmented dissemination, and the short attention spans of overseas social media users present challenges for producing “substantive” video reports. In Xinhua’s reporting, we consistently apply “deep thinking” throughout our video production process. Deep thinking relies on a holistic perspective, information integration capabilities, and rigorous logical thinking to maintain sharpness in identifying issues, pinpoint critical pain points, and explain matters clearly and thoroughly. Simultaneously, during the collection and editing process, we must pay special attention to organically combining the depth of the news event itself with the depth of the reporting, preventing coverage of major events from remaining superficial.

## 2.3 Integrating New High-Tech Means with Big Data

The importance of presentation methods for video news requires no elaboration. Reports on major themes and serious subjects will have significantly diminished communication effects if not presented in forms that audiences find appealing.

In major 2017 reporting efforts, Xinhua’s video coverage employed multiple methods, such as producing a series of short films using 360° panoramic shooting materials. Previously, in large-scale coverage like the Two Sessions, the Audio-Video Department had used panoramic video shooting techniques, but primarily to provide audiences with an immersive experience in visually rich scenes. More recently, we have embraced panoramic video as a narrative method, emphasizing storytelling content within panoramic environments. This series consists of five thematically independent yet interconnected panoramic micro-documentaries that combine traditional documentary elements including on-camera reporters, voice-overs, music, and subtitles, focusing on information delivery and view-point expression to encourage audiences to think through multi-dimensional exploration.

In the near future, the combination of big data and new technologies will enable video news to present abstract data to audiences more intuitively and vividly while simultaneously enhancing audience interest.

The arrival of the Internet era has brought higher requirements for news production. The application of big data will significantly impact the news industry’s development, and big data-driven video news reporting will possess distinct advantages. Therefore, the news industry should correctly understand the impact generated by big data and adopt effective response strategies to achieve further development and innovation in video news.

The key to enhancing the core competitiveness of video news lies in fully cultivating the Internet and big data mindset within news teams, excavating valuable news content behind data, and leveraging the collaborative capabilities of news teams. Big data-driven video news production involves numerous stages, requiring extensive participation from both journalism and IT personnel and the full functional performance of editors. Therefore, to improve the core competitiveness of data news, we must strengthen the cultivation of collaborative awareness between news and IT teams, emphasizing the development and enhancement of team collaboration capabilities. In producing data news, each member should fulfill their potential, complete their own work effectively, and promote the healthy and stable development of the team, thereby building a video news production team full of core competitiveness.

## References

- [1] He Jiajin. Practice of Domestic Data News—Taking Xinhua Net Data News as an Example[J]. *Youth Journalist*, 2017(5): 87-88.
- [2] Wang Ning. Analysis of Innovative Directions in News Communication in the Big Data Era[J]. *News Research Guide*, 2016, 7(03).
- [3] Liu Donghua, Guan Yuxia, Wei Lijie. Television News Innovation in the Big Data Era—Taking CCTV’s “Speaking with Data” Series as an Example[J]. *News and Writing*, 2014(4): 8-11.

[4] Lang Jinsong, Yang Hai. Data News: An Innovative Path for News Visualization Communication in the Big Data Era[J]. Modern Communication—Journal of Communication University of China, 2014(3).

[5] Liu Junyao, Yu Yang, Peng Lan. Interactive Video: A New Presentation Method for Convergent News[J]. Press Circles, 2014(07): 57-60.

[6] Liu Gaoying. Research on Data News Production Models and Development Directions[J]. Media, 2016(12): 86-89.

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

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