

Exploring Development Approaches for Big Data and Media Convergence: Postprint

Authors: Chen Xiaohong

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

Abstract

The Big Data era has exerted a noticeable impact on various domains, and has also found extensive application in the field of communication. This paper conducts an in-depth exploration of how Big Data applications enhance media's news content, channel construction, and service value, and points out that the core role of Big Data in media convergence is to achieve the professionalization of communication subjects, the three-dimensionalization of communication channels, and the intelligentization of service platforms.

Full Text

Research • Integration and Development: Exploring the Development Path of Big Data and Media Convergence

ChinaXiv Cooperative Journal

Abstract: In the era of big data, the impact on various fields has become increasingly evident, and its application in the communication domain has also gained widespread traction. This paper delves into how big data applications enhance news content, channel construction, and service value in media organizations, and identifies the core role of big data in media convergence: achieving professionalization of communication subjects, three-dimensionalization of communication channels, and intelligentization of service platforms.

Keywords: big data applications; traditional media; integrated development; intelligence

Classification Code: G206

Document Code: A

Article ID: 1671-0134(2017)12-040-02

DOI: 10.19483/j.cnki.11-4653/n.2017.12.008

Author: Chen Xiaohong

In recent years, the rapid development of mobile internet, big data, and cloud platform technologies has brought unprecedented opportunities and challenges to traditional media, making transformation and convergence an inevitable trend for future development. In a sense, the greatest driving force behind media transformation comes from technology, and big data will become the core resource for the entire media industry.

1. How to Understand Big Data

From the perspective of news authenticity, traditional practices rely on experience or established conclusions to anticipate and judge the representativeness of events, inevitably introducing the journalist's subjective bias into event interpretation. In contrast, big data employs full-sample collection methods, using comprehensive data to provide accurate reflections and thereby reveal factual truth, effectively enhancing news authenticity. Regarding predictive analysis in journalism, the formation, outbreak, and evolution of social hotspots constitute a dynamic process. Traditional news analysis can only passively follow these developments, and correlation or associative analysis cannot depart from factual foundations, otherwise it may be subject to questioning. Big data's multi-point correlation analysis methods, however, can establish richer associations, allowing pre-event predictions and post-event tracking to mutually corroborate, enabling the public to draw analytical conclusions from possibility to inevitability and strengthening cognitive understanding. Concerning resonance and value identification in news works, excellent journalism not only disseminates factual truth but also explains social principles, achieves value identification, and creates strong resonance among readers. The "intelligent news" that big data brings to the human world is undergoing changes we can hardly predict, transcending the previous "seeing essence through phenomena" cognition and representing a new mode of thinking that "returns to origins through essence."

Viktor Mayer-Schönberger, the British Oxford University professor hailed as "the prophet of the big data era," points out that "big data" represents a new capability unique to today's society—obtaining immensely valuable products and services or profound insights through analyzing massive datasets in an unprecedented manner. McKinsey & Company defines big data as datasets whose scale exceeds the capture, storage, management, and analysis capabilities of typical database software. The purpose of big data is to serve decision-making by providing decision-making references for various industries, thereby effectively enhancing institutional decision-making capacity. It must be understood that conventional processing methods cannot effectively handle big data; it requires empowerment and support from high technologies such as cloud computing. Furthermore, big data is a core resource that can capture valuable components from massive datasets, integrate fragmented data, and summarize fundamental patterns—it refers to far more than just large scale.

Big data represents an entirely new mode of thinking that offers significant advantages over traditional approaches. First, big data possesses highly intelligent analysis and judgment capabilities, enabling timely and rapid provision of high-quality, data-mining-based viewpoints for decision-making and achieving intelligent information collection and analysis. Second, in terms of resource allocation, it can achieve effective matching between data and user needs. Third, due to extensive use of technological means, it provides broad application space for cloud computing and large-scale distributed computing capabilities at relatively low cost. The application of big data is becoming a key term in the transformation and upgrading of various industries, gradually revolutionizing traditional organizational methods and operational models. For the communication domain, big data applications are accelerating the process of media convergence and shaping the future direction of media.

2. The Impact of Big Data on Media Convergence

Against this new era backdrop, big data's impact on the media industry manifests primarily in three aspects.

2.1 Big Data Applications Enhance News Content Value

The news value latent in big data and cloud computing technologies lies primarily in improving news insight through intelligent data processing, helping audiences penetrate information fog. Through full-sample collection and global data analysis, big data reveals factual truth and enhances news authenticity. Its multi-point correlation analysis methods enrich associative relationships, allowing pre-event predictions and post-event tracking to mutually corroborate, thereby strengthening public cognition. Moreover, big data enables “intelligent news” that transcends traditional “seeing essence through phenomena” cognition, representing a new thinking mode that “returns to origins through essence.”

2.2 Big Data Applications Enhance Media Channel Value

Currently, national mainstream media such as People's Daily, Xinhua News Agency, and CCTV, as well as local media including Hunan TV, Henan Radio and Television, and Zhejiang Daily Media, have all established all-media convergence platforms known as “central kitchens.” In this circular physical space, a single platform can integrate multiple content forms, enabling interconnectivity among media of different mediums and intelligent matching of information with user needs. Internet professional teams maintain the platform system, news planning and editing teams are reorganized, workflows are reengineered, duty editors conduct centralized scheduling and command, news content is planned integratively, collected once, distributed across multiple platforms, and disseminated through multiple channels with personalized push. All news content published across the entire platform is clear at a glance and under complete control. This layout and process significantly optimizes content production and

channel construction.

2.3 Big Data Applications Enhance Media Service Value

For a long time, the audience for traditional broadcast, television, and print media has been a generalized, abstract concept determined by linear one-way communication technology that was difficult to change. The so-called information services we provided to audiences relied on manual implementation, which was neither comprehensive nor precise or detailed. The fine-grained intelligent deduction provided by big data technology, manifested through “user profiling,” can even render each user’s image clear and three-dimensional. Whenever needed, we can effectively grasp what content each user prefers and which communication platforms they favor. Therefore, service innovation for users—truly achieving meticulous, thoughtful care—will become a key competitive project for media organizations in future market competition, where the competition lies in technological application, interactive experience, and humanized management.

Currently, various types of intelligent information platforms are developing diverse forms of smart services, including lifestyle information services, precision advertising services, public opinion analysis services, and others, all focusing heavily on intelligent matching. In lifestyle information services, we can identify users’ effective demands for products through precise analysis of lifestyle information needs and guide users to place orders directly to experience services. In precision advertising, platforms can achieve intelligent matching between clients’ marketing information and user needs based on accurate grasp of each user’s consumption preferences, producing significant marketing effects and enormous advertising value. In public opinion analysis, we can utilize intelligent platforms to provide services for publicity departments and relevant ministries, promptly identifying public demands and responding to them, thereby continuously enhancing government management capabilities and satisfying citizens. Through these services, information value monetization can be achieved.

3. How to Apply Big Data to Achieve Media Convergence

The big data era presents a completely new revolution in news production and services. The primary task for current mainstream media is how to effectively utilize big data to achieve media convergence and create new value for future media in social development. In summary, the key role of big data in media convergence is to achieve professionalization of communication subjects, three-dimensionalization of communication channels, and intelligentization of service platforms. Big data thinking and technology have constructed a practical and promising path for media convergence, continuously improving our communication processes while also transforming our work concepts and methods, ultimately producing chemical changes.

3.1 Professionalization of Communication Subjects

In an era where “everyone can be a journalist,” media practitioners easily develop anxiety about their professional competence, believing that editing and reporting positions will be replaced by the public or robots. This is a one-sided view. Two senior American journalists explored the future direction of media organizations and practitioners in their book *Blur: How to Know What’s True in the Age of Information Overload*, arguing that while professional journalists have fallen into an ocean of “citizen journalists,” professional journalism is not outdated nor can it become outdated—only the threshold for entry is continuously rising. Professional news institutions cannot merely produce news; their functions are becoming more complex, providing specialized services to the public: proving news authenticity to the public, accurately interpreting news meaning, collecting in-depth news and investigative journalism that “citizen journalists” cannot gather, helping users aggregate valuable information in the ocean of information, creating and maintaining public communication forums, and so on. These specialized services reflect the professional standards of media, and doing what we should do well continuously establishes the professional communication subject status of future media.

3.2 Three-Dimensional Communication Channels

The 固化 (rigidified) single communication channels of traditional media constitute a major obstacle to achieving media convergence. The three-dimensional, interactive communication channels structured by big data technology release enormous communication value for media. Not only are there diverse ways for users to receive content, but the user coverage is also more extensive. Regardless of when and where users are, as long as they have network connectivity, content can achieve precise delivery. Therefore, the architecture of mainstream media convergence platforms must incorporate channel construction—how to maximize communication effects and achieve user precision—into technical planning considerations. In actual operations, for different communication channels and based on different user profiles, communication forms must be reconstructed from the inside out, refined services must be provided, user experience must be optimized to the greatest extent, and deep integration among media channels must be accelerated.

3.3 Intelligent Service Platforms

Driven by big data technology, the era of intelligent information has arrived. The organic integration of the media industry with big data can achieve intelligent matching between information and user needs. If business requirements demand, media can also reasonably charge corresponding fees for those valuable intelligent information through various convenient payment methods. Currently, various intelligent information platforms are developing diverse types of smart services, including lifestyle information services, precision advertising services, public opinion analysis services, and others, all focusing heavily on

intelligent matching. In lifestyle information services, we can guide users to place orders directly and experience services by precisely analyzing lifestyle information needs and identifying users' effective demands for products. In precision advertising, platforms can achieve intelligent matching between clients' marketing information and user needs based on accurate grasp of each user's consumption preferences, producing significant marketing effects and enormous advertising value. In public opinion analysis, we can utilize intelligent platforms to provide services for publicity departments and relevant ministries, promptly identifying public demands and responding to them, thereby continuously enhancing government management capabilities and satisfying citizens. Through these services, information value monetization can be achieved.

The future of media will certainly depend on data and services. Applying big data thinking enables more scientific and effective allocation of resources in all aspects, enhancing the overall level of media operations. If we develop in this direction, the bright prospects for media development can be anticipated.

References

- [1] Zhou Tao. *Born for Data: Big Data Innovation Practice* [M]. Beijing United Publishing Company, 2016.
- [2] Viktor Mayer-Schönberger. *Big Data Era: The Great Transformation of Life, Work, and Thinking* [M]. Hangzhou: Zhejiang People's Publishing House, 2013.
- [3] Tu Zipei. *Big Data* [M]. Guilin: Guangxi Normal University Press, 2012.
- [4] Gan Xiao, Li Guojie. Big Data Becomes a New Focus of Information Technology [N]. China Science Daily, 2012-6-27.
- [5] Bill Kovach, Tom Rosenstiel. *Blur: How to Know What's True in the Age of Information Overload* [M]. Beijing: China Renmin University Press, 2014.

(Author's affiliation: Taiyuan Radio and Television Station)

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

Source: ChinaXiv — Machine translation. Verify with original.