Reflections on the Innovative Path of "Big Data + AI" as New Quality Productive Forces in Media Communication A Case Study of Xinhua News Agency' s "Media Brain" AI Platform (Postprint)

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Date: 2025-07-09T00:00:00+00:00

Abstract

【Objective】This article explores the innovative pathways of "big data + AI"as new quality productive forces in media communication and analyzes its applications in the journalism industry.

【Method】 Taking Xinhua News Agency' s "Media Brain" artificial intelligence platform as a case study, this research investigates its innovative practices and applications in news production, content distribution, communication models, and related aspects.

【Results】 "Media Brain" has demonstrated the powerful enabling effects of AI and big data technologies in news production and communication processes.

【Conclusion】 The application of AI and big data technologies is reshaping the new landscape of news communication and driving innovative development in the journalism industry.

Full Text

Exploring the Innovative Path of "Big Data + AI" as a New Productive Force in Media Communication: A Case Study of Xinhua' s "Media Brain" AI Platform

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Abstract

[**Objective**] This paper explores the innovative path of "Big Data + AI" as a new productive force in media communication, analyzing its applications in the journalism industry. [**Method**] Taking Xinhua' s "Media Brain" AI platform as a case study, this research examines its innovative practices and applications in news production, content distribution, and communication models. [**Result**] "Media Brain" demonstrates the powerful enabling effects of AI and big data technologies in news production and dissemination. [**Conclusion**] The application of AI and big data technologies is reshaping the new landscape of news communication and driving innovative development in the journalism industry.

Keywords: artificial intelligence; big data; Media Brain; news production; intelligent transformation
CLC Number: G201
Document Code: A
Article ID: 1671-0134(2025)02-136-05
DOI: 10.19483/j.cnki.11-4653/n.2025.02.027
Citation Format: Gu Chenrui, Liu Danyang, Li Xia, Wang Boning. Exploring the Innovative Path of "Big Data + AI" as a New Productive Force in Media Communication: A Case Study of Xinhua' s "Media Brain" AI Platform [J]. China Media Technology, 2025, 32(2).

With continuous technological advancement, AI has gradually emerged as a new productive force in the media industry. It not only enhances the efficiency of news production but also achieves intelligence and automation across various stages including news collection, editing, and distribution, bringing transformative changes to news content generation, distribution, and audience interaction. This automation drives the deep integration and innovative development of media communication. "It is precisely under the overarching trend of continuous technological innovation and media transformation that media organizations have placed artificial intelligence technology in a pivotal position in their media innovation strategies." [1] In recent years, Xinhua has actively explored the application of AI technology in the media field, launching China' s first media artificial intelligence platform, "Media Brain," which achieves full-process intelligent operation in news production, distribution, and monitoring, significantly improving the efficiency and accuracy of news reporting. The successful application of "Media Brain" marks the deep integration and innovation of big data and AI technologies in media communication, providing new pathways and directions for the convergence development of traditional and emerging media.

1. The Integrated Development of AI and Big Data in the Journalism Industry

"Artificial intelligence and big data technologies, with their powerful data processing capabilities and intelligent applications, are reshaping the processes and models of news gathering and editing, leading the journalism industry into a new stage of development." [2] Traditional news production and communication models centered on manual collection, editing, and distribution. However, the application of AI and big data is gradually changing this paradigm, ushering the journalism industry into an intelligent, data-driven new era. This transformation is reflected not only in improved production efficiency and communication effectiveness but also in fundamental changes to the underlying logic of news production.

1.1 AI Technology Empowering Intelligent News Production

The widespread application of artificial intelligence in news production has propelled the intelligent generation and dissemination of news content. "One application of AI technology in journalism is the automatic generation of news articles based on data and algorithms." [3] Leveraging technologies such as natural language processing, machine learning, and deep learning, AI can automatically mine news leads from massive datasets, conduct information screening, and generate content. Previously, journalists needed to spend considerable time and effort on information gathering and organization, whereas now AI can complete this process in a short time. In practical applications, AI has already enabled automatic news writing, or "robot journalism," in fields with highly structured data such as sports and finance. For example, by analyzing and processing match data and stock market information, AI can generate complete news reports, ensuring timeliness and accuracy.

1.2 Precision News Communication Driven by Big Data

Big data technology has endowed the news industry with the capability for deep information mining and analysis. Driven by big data, media organizations can conduct real-time monitoring and analysis of massive datasets, rapidly capture social hotspots and public opinion trends, and promptly adjust news topics and reporting strategies. By collecting and analyzing user behavior data, media can understand audience interest preferences and deliver personalized news content, thereby enhancing communication effectiveness and user experience.

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