

Analysis of Big Data Operational Pathways for the Media Industry in the Converged Media Era (Postprint)

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Abstract

In the context of the big data era, various domains have utilized big data to varying degrees. The media industry has entered the era of media convergence in response to contemporary demands. The industry faces complex and diverse choices regarding future development pathways. In response to calls from the government and relevant authorities, media enterprises have launched “central kitchen” projects. While this model facilitates industry development, its relatively delayed advancement in China has prevented big data applications in the media sector from becoming a pillar industry for media enterprises. This paper provides a preliminary analysis of the current landscape, proposes recommendations for existing developmental deficiencies, and suggests future business models for the media domain.

Full Text

Analysis of Big Data Operation Paths in the Media Industry in the Converged Media Era

Abstract: In the era of big data, various sectors are leveraging data to differing degrees. The media industry has entered the converged media era in response to contemporary demands, confronting complex and diverse pathways for future development. In answer to government and regulatory calls, media enterprises have initiated “Central Kitchen” projects. While this model better facilitates industry growth, its relatively delayed development in China has hindered big data-enabled media from becoming a pillar industry. This paper analyzes the current landscape, identifies existing shortcomings in media sector development, and proposes recommendations for future business models.

Keywords: converged media era; media industry big data; path analysis

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As society gradually enters the information age and internet technologies continue to mature, the media industry—a crucial factor in human information transmission—has undergone significant transformation. Traditional media forms have begun to merge and upgrade to meet the demands of the times. The new era of media is moving toward the big data era, with the government and relevant institutions placing greater emphasis on media data, steering the industry toward exploring the depth and breadth of big data applications in the media industry. In the converged media era, media operation models based on big data analysis are increasingly becoming the mainstream for future industry development.

The transition from traditional mainstream media to media convergence officially began in 2017, when the Minister of the Publicity Department expressed hope for establishing a batch of new mainstream media and several innovative media groups. To achieve this goal, the Publicity Department has formulated clear directional plans for the future development of the media industry. Extensive data indicates that the “Central Kitchen” model, which relies on big data, will ultimately be adopted by most media companies.

The “Central Kitchen” model thrives in the new era of media development because it addresses the critical needs of the media sector and serves as a central nervous system within the converged media industry. For media operations, content production is paramount. Under the “Central Kitchen” model, editorial departments have been substantially restructured and upgraded. In the past, various media sectors such as newspapers, networks, and television operated independently. However, under the new era context, media managers can use the “Central Kitchen” for aggregation and coordination, enabling better command and control over their domains. Through collaborative efforts among staff across different sectors, information and news can be collectively gathered, processed, and distributed, making information more centralized and accurate. Furthermore, this model provides more opportunities for information workers to exercise their creativity and innovation. By integrating various media channels, it enables more rational allocation of information resources. The transformation of media convergence has turned media from merely a channel for information dissemination into a domain for content innovation.

1. Current Big Data Applications in China’s Media Industry

According to reliable data analysis, major Chinese enterprises primarily apply media big data analytics in information services, advertising services, merchandise sales, and mobile value-added services. For most media big data analytics

sectors, the development and application of this technology remain insufficient, preventing it from becoming a core component of China's media industry. Based on the current state of this technology in China, we can preliminarily categorize it under information services. Available data analysis shows that applications in this area are currently on an upward trend.

2.2 Media Public Opinion Service Industry

As the primary medium in the information dissemination field, the media industry is also the main producer of public opinion. Due to its professional characteristics, the media industry excels at collecting various forms of public opinion. With numerous public opinions and rapid collection capabilities, media organizations can quickly identify favorable sentiments through professional monitoring and analysis. The application of big data has made public opinion collection and summarization easier, enabling faster detection, editing, and distribution of sentiment data, which has consequently accelerated the rapid development of the public opinion industry and its adoption by various departments.

This industry's development has been particularly notable since 2008. Prior to this, the public opinion industry was limited to internal institutional circulation. After the converged media era began, the industry rapidly expanded into the market, capturing significant market share. This has led the media industry to place greater emphasis on the development of the public opinion industry, ushering in a new peak in its development. As a field with strong information absorption and collection capabilities, the media sector holds absolute discourse power in the public opinion industry.

2.1 Construction of Big Data-Based Content Production and Converged Distribution Platforms

Currently, the "Central Kitchen" in the converged media era has become the primary model for the media industry to adapt to the big data era. The transition from traditional mainstream media to media convergence officially began in 2017, when the Minister of the Publicity Department expressed hope for establishing a batch of new mainstream media and several innovative media groups. To achieve this goal, China's Publicity Department has formulated clear directional plans for the future development of the media industry. Extensive data indicates that the "Central Kitchen" model, which relies on big data, will ultimately be selected by most media companies.

3. Disadvantages and Shortcomings of Big Data in the Media Industry in the Converged Media Era

For the media sector, high-quality content is closely linked to corporate image and operations. Under the influence of the "Central Kitchen" model, both traditional media content and formats have undergone varying degrees of trans-

formation through big data applications. This has elevated media productivity, dissemination capacity, and influence to a new level, while also deconstructing and reconstructing existing business operations. The transformation of business flows includes several crucial components:

- (1) Leveraging big data's analytical capabilities to enable precise push notifications to different audience groups, and implementing paid information distribution based on different customer preferences.
- (2) Gaining preliminary understanding of users through information collected across different applications, enabling precise targeting of information distribution with greater emphasis on quantity. Given the low production costs of public opinion data, the media industry has neglected investment in foundational infrastructure development.
- (3) Establishing new customer relationships and building a customer-centric business system, which enhances service quality and increases user support for media platforms.

The advent of the converged media era has brought unprecedented development opportunities to media enterprises through big data applications. However, along with these opportunities come various challenges and problems. Faced with these issues, Chinese media enterprises must engage in profound reflection and pursue development by addressing these problems.

3.1 Unclear Future Planning

Based on various collected data, China's media big data applications heavily pursue immediate benefits while neglecting long-term planning and design. In the current converged media era, big data applications should place greater emphasis on the construction and improvement of foundational databases. Only with complete databases and rich information resources can media enterprises become more competitive in the market. Media sectors face multiple choices in big data applications, making them susceptible to various external influences and passive situations, though the "Central Kitchen" model is gradually demonstrating positive effects in terms of influence and control.

3.2 Neglecting Long-Term Development and Investment

Currently, the media industry places excessive emphasis on the quantity of information content production and distribution. Coupled with the low production costs of public opinion data, the industry has neglected investment in foundational infrastructure projects. The development and implementation of related projects remain inadequate or even stagnant. Some enterprises have essentially abandoned future planning, resulting in infrastructure that seriously fails to adapt to the rapid development of the media industry, with media industry funds being improperly utilized.

3.3 Small Business Volume

Based on currently available information, the revenue generated by big data applications in the media sector accounts for a minuscule proportion of enterprises' total income. Although big data-enabled media industries have adapted to the development of the times and can better meet modern market demands, their development is insufficient to support the growth and economic income of media enterprises. Companies' development of this technology remains in its initial stages, with inadequate cultivation and planning, preventing big data application businesses from reaching full capacity. However, in recent years, with increased corporate emphasis on this sector, the economic income generated by this technology's application has achieved significant breakthroughs compared to previous years.

4. Recommendations for Future Big Data Application Development

4.1 Strengthening Information Dissemination Capabilities

Currently, big data applications in the media sector primarily follow the model of "one-time collection, multiple generation, and diversified dissemination." During this period, most Chinese media companies have essentially achieved digitization of their past publications, enabling relational analysis of historical content based on certain factors. For example, by using several elements such as time, person, and location, they can generate relational analyses of database contents, creating closer connections between information and solving the problem of previously effective information being neglected or forgotten due to temporal factors. To enhance information dissemination capabilities, media enterprises should strengthen their internal media channels, for instance, by establishing competitive relationships among different internal media and using competitive mechanisms to motivate dissemination initiatives across various media platforms.

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

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