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Strategies for the News Media Industry to Address Challenges in the Big Data Era (Postprint)

Authors: Wei Shujiao

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Abstract

With the development of social economy and scientific and technological innovation, China has gradually entered the big data era, presenting the news media industry with significant challenges and opportunities. This paper primarily expounds upon the impact of the big data era on the news media industry, examining the major challenges, current development status, competitive advantages, and future development strategies for the news media industry within the big data context, thereby providing objective reference points for related research.

Full Text

Preamble

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Abstract: With socioeconomic development and scientific-technological innovation, China has gradually entered the big data era, presenting the news media industry with tremendous challenges and opportunities. This paper primarily elaborates on the impacts of the big data era on the news media industry, examining the major challenges, current development status, advantage analysis, and future development strategies for the industry against this backdrop, thereby providing objective reference points for related research.

Keywords: news media industry; big data era; network technology; information processing; new technologies

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2. Development Status and Advantage Analysis of the News Media Industry in the Big Data Era

In recent years, network technology has developed rapidly, with more industries utilizing it in daily operations. People can now access information through numerous new channels, and the speed and methods of information processing have changed significantly. Against this backdrop, this paper explores how to leverage new technologies to acquire more data resources, capitalize on competitive advantages, and secure an important position in the increasingly fierce market competition.

Compared with newly emerging online information platforms, the news media industry's most prominent advantages lie in its social credibility and authoritative attributes. New online information platforms have relatively lax approval processes for published content, resulting in much false information appearing on these platforms. In contrast, news media organizations have stricter and more standardized information review processes, producing news content that is more authentic, objective, and socially responsible [2]. Additionally, new online platforms tend to produce superficial reporting with low informational value, whereas traditional media can guide public opinion in the correct direction, creating higher value for social development. Traditional media also maintains strict requirements for its workers, employing multi-layered screening processes that gradually build an excellent journalism team with higher professional qualifications and skills, enabling more standardized and rigorous information analysis.

1.1 Changes in Data Sources

In the new media era, people continuously improve information dissemination efficiency, strengthen dissemination intensity, and enrich content to accelerate the flow of social information. Big data enables information collection, storage, sorting, and analysis, extracting important content from vast datasets. Currently, information dissemination and collection channels are highly diverse. While traditional information collection relied on computer networks, people in the new era prefer using mobile networks for information dissemination and collection. Research shows that mobile phones have become an essential component of modern life, allowing people to connect to various online platforms to gather news and information across all industries and sectors [1]. Video recording has gradually become one of the primary methods for journalists to collect and store

information, enabling recorded materials to be transmitted to databases where workers can query complete content and grasp relevant information.

1.2 Changes in Work Methods

Currently, information dissemination and collection channels have multiplied significantly, and new media industries differ from traditional media in their information collection and storage methods. Traditional media emphasized workers' writing abilities, but the big data era has introduced diverse information formats including images, video, and audio. Workers must now master not only information organization but also comprehensive analysis to extract key content from collected data. In the past, people relied on television and radio for news, whereas now they prefer using mobile phones and computers to search for information directly online. Because people obtain different levels of completeness from online information and observe issues from different perspectives, multiple arguments and opinions often emerge regarding the same news event. Given these circumstances, media workers must emphasize comprehensiveness and authenticity when collecting information, ensure objectivity and fairness, and minimize negative impacts from information.

3.1 Difficulties in Competing for Information Resources

The development of new media has created more information dissemination channels through which information spreads rapidly. Traditional media must use high-quality reporting to highlight their advantages, disseminate information as early as possible to avoid transmission delays, and innovate information editing methods to attract online audiences—making their work considerably difficult. Moreover, as online platforms accelerate information dissemination, traditional media faces mounting pressure to transmit information in real time.

3.2 Increasing Complexity of Work Content

With the development of network technology and intelligence, people can publish various types of information across virtual platforms. This information is highly complex, making it difficult for media editors to accurately filter out authentic information. If editors lack sufficient judgment regarding online information, it may impact media authority, and the complex online environment creates difficulties for information processing.

3.3 Insufficient Technical Experience

In the internet era, news media must develop objective understanding of market development trends, innovate information dissemination methods, and utilize new online platforms such as WeChat and Weibo to integrate online and offline channels for information dissemination. However, some traditional media staff lack mastery of new communication technologies and practical experience, likely

encountering various problems during work and struggling to properly guide netizens when they encounter different situations after obtaining information, thereby increasing work difficulty.

3.4 Low Nutritional Value of Articles

As new media gradually develops toward fragmentation, some online media platforms produce low-quality articles with minimal substantive content merely to attract traffic, making it difficult to positively guide society and hindering the development of the news media industry.

4.1 Strengthening Data Awareness

In the internet era, people use network technology in daily life and work to improve efficiency and convenience. Across various industries, big data promotes development to varying degrees while significantly impacting traditional media. Traditional media must recognize the challenges of the big data era, transform conventional development concepts, face challenges actively, and accelerate development. Against this backdrop, the news media industry must adapt to innovative trends, analyze its characteristic advantages, leverage advanced technologies in daily work, enhance awareness and network application capabilities, and achieve optimized development [3].

To actively address contemporary challenges, news media must prioritize strengthening data awareness. Influenced by data technology development, new media has emerged and rapidly gained public recognition, creating enormous impact on traditional news media. Therefore, news media needs to strengthen data awareness to obtain accurate and objective news information early, optimize news reporting, and attract user attention. Simultaneously, staff professional quality must be enhanced. Management should strengthen recruitment rigor and standardization, ensuring media workers possess strong news writing abilities alongside strong adaptability and learning capacity to actively master emerging technologies and successfully apply them in media work, thereby increasing reporting authenticity, objectivity, and credibility while closely aligning with societal concerns.

4.2 Enhancing Network Application Capabilities

Currently, network technology has become an indispensable application technology and important information transmission method, requiring news media workers to improve their network awareness and application capabilities. Network popularization enables people to discuss issues across different platforms [4]. The same news information can generate significant ideological differences among people from different living environments. News media workers must respect information objectivity and comprehensiveness, eliminate negative information, correctly guide netizens, and avoid adverse social impacts while accurately reporting news and reducing audience controversy.

With strong network application capabilities, media workers can collect various types of information to improve databases, analyze important database materials, and make predictions about certain news—such as traffic news—based on changes in these materials. Prediction accuracy depends on information volume; analyzing insufficient data typically yields one-sided conclusions that make it difficult to infer event development trends. After collecting substantial data, media workers can compare and organize this information in detail, explore event development patterns, and make reasonable predictions. Networks can connect various data points to form large-scale data networks that serve as important foundations for news prediction. Using data networks for news prediction enables media workers to intervene in events early. Compared with traditional news analysis, this new data network approach collects, analyzes, and predicts information more accurately and rapidly, yielding more complete and comprehensive conclusions.

4.3 Strengthening Targeted Dissemination

Although news media is developing rapidly, problems persist. From one perspective, online platforms contain chaotic information from complex sources, lack dedicated supervision, and are flooded with false information. In the virtual network, restricting information publishers' behavior is difficult, making it challenging to ensure information objectivity. Against the big data development backdrop, news media must be highly targeted, closely aligning with current events and issues of public concern—these characteristics are essential for maximizing news media value. Previously limited by dissemination methods, people needed multiple channels to collect hot news information [5]. Currently, news media can grasp public concerns and use data technology to promote information, pushing news messages to targeted netizens with specific needs, thereby increasing attention for news media messages and enhancing dissemination.

In the big data era, various online users' attention to news has decreased, reducing news value. To enhance news message value, relevant media workers must fully utilize data networks to accurately grasp user needs and push targeted news information to different user types to attract interest and increase news value. In recent years, most people have gradually transformed their traditional thinking, habitually using various online platforms like WeChat and Weibo to collect interesting information, dispersing audience groups. Previously, media could only selectively collect important information based on actual circumstances, limiting information collection and reducing news value. Through data technology, workers can more accurately categorize user types, analyze different user needs, and provide personalized information push services. In this era, news media workers must think from the user's perspective, investigating user personalities and psychology to deliver precise news information.

4.4 Mastering Advanced Communication Technologies

In the new era backdrop, data collection, storage, sorting, and analysis have gradually become normal work across industries. With the popularization of smart devices, news content writing, publishing, and dissemination no longer exclusively belong to industry workers.

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

Source: ChinaXiv – Machine translation. Verify with original.