

# The Disruption and Convergence of New Media and Traditional Media in the Big Data Era: Post-print

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## Abstract

The advent of the big data era has transformed numerous aspects of society, even subverting the models and forms of the traditional media industry to a certain extent and exerting a tremendous impact on the entire traditional media industry. This paper explores the characteristics of the big data era and the impact of big data on the media industry, analyzes the impact of new media on traditional media in the big data era from four perspectives, and proposes integration pathways between new media and traditional media across four dimensions: content, philosophy, model, and talent.

## Full Text

### Preamble

#### A Brief Discussion on the Impact and Integration Path of New Media and Traditional Media in the Big Data Era

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**Abstract:** The advent of the big data era has transformed numerous aspects of society, even subverting traditional media industry models and formats to a certain extent, and exerting tremendous impact on the entire traditional media sector. This paper examines the characteristics of the big data era and its influence on the media industry, analyzes the impact of new media on traditional media from four perspectives, and proposes integration paths for new media and traditional media in terms of content, philosophy, models, and talent.

**Keywords:** big data era; new media; traditional media; integration path; gathering and editing

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## 1.1 Characteristics of the Big Data Era

Compared with the past, the big data era is characterized primarily by four aspects: massive data volume, diverse data forms, high-speed transmission, and high data value.

### 1.1.1 Massive Data Volume

The most distinctive feature of the big data era is the enormous volume of data. Due to the rapid development of information technology, people can employ various modern tools to collect all kinds of information. Social networks and service tools can record massive amounts of data, and much of the information from daily life and work can be collected in data form. The overall growth rate of data volume is extremely rapid, and unified storage and analysis can yield corresponding databases. For instance, Taobao alone generates approximately 20TB of product transaction data daily, and the thousands of online media platforms used in daily life and work produce data on an immense scale every day.

### 1.1.2 Diverse Data Forms

Because data originates from numerous channels and involves a wide range of people and things, the forms of data obtained in the big data era are highly diverse. Regardless of the data format, information can play different roles at different times and in different contexts. For example, through intelligent data analysis, users of platforms like Taobao and various self-media are influenced by their own data, with systems automatically recommending content that best matches their browsing preferences. This occurs because platforms automatically analyze user log data to comprehensively understand their online needs and browsing interests, subsequently recommending more relevant content. Different carriers disseminate information through different network channels, demonstrating the diversification of information, while the data people leave on various online platforms also manifests in multiple forms.[?]

### 1.1.3 High-Speed Data Processing

The generation, dissemination, and analysis of big data are all accomplished through the internet, which is closely related to the strong timeliness and diverse presentation forms of new media.[?] Currently, nearly every adult needs to use the internet, inevitably leaving behind rich data information that requires real-time processing. In general, many platform systems automatically

save such data, though storage consumes space, and larger data volumes occupy more space. To maintain adequate storage capacity, most platforms default to preserving data from only a recent period, such as a month or a week, with older data being automatically or manually cleared. Numerous platforms can now complete real-time dissemination and analysis of data information, which is why new media in the big data era also features freedom of dissemination and strong timeliness.

#### **1.1.4 High Data Value**

Data in the big data era typically holds high value. People can use modern tools to analyze vast amounts of data information, excavate data types with specific patterns and application value, and then employ machine learning and artificial intelligence to conduct in-depth analysis, exploring corresponding value points for application in specific fields. Ultimately, this achieves goals such as improving work efficiency and promoting production management.

### **1.2 Impact of Big Data on the Media Industry**

First, big data has transformed the media industry from a past state of content scarcity to the current state of content excess, with various forms of self-media platforms producing large amounts of content, including high-quality material. Second, big data has accelerated the integration and development of various industries, using the internet as a carrier to organically fuse industries that previously had clear boundaries, deriving new industry types that better meet contemporary public needs. Third, big data has promoted the construction of an internet ecosystem. With the continuous application of big data, internet media has now formed a network ecosystem comprising content, products, and platforms. This new network ecosystem, characterized by self-organization and self-operation, has been increasingly accepted and recognized by the public.

## **2. Impact of New Media on Traditional Media in the Big Data Era**

In the big data era, new media is gradually replacing traditional media, which is closely related to its strong timeliness and diverse presentation forms.[?] The emergence of new media has brought multifaceted impacts on traditional media, primarily concerning pressure, audience, advertising market, investors, and transformation.

### **2.1 Creating Immense Pressure for Traditional Media**

The content products of new media differ significantly from those of traditional media. Although both serve people in media form, new media often employs modern technical means to record, collect, and analyze user data, pushing media content to more precise audiences. For example, if viewers tend to browse

food-related information, the backend will leave corresponding records, prompting new media to focus its creative efforts on food content. Compared with traditional media, new media can leverage big data intelligence to provide more targeted information services for users—functions that traditional media lacks. Consequently, as new media rapidly develops in the big data era, traditional media faces increasing survival pressure and must re-examine its market position and explore future development paths.

## 2.2 Drawing Away Traditional Media' s Audience

From the current social landscape, essentially every adult uses a smartphone and various short-video platforms, with user numbers on platforms like Toutiao, Douyin, and Kuaishou showing explosive growth. Even elderly people who previously favored traditional media like television and newspapers are now learning to use new media tools, as evidenced by the growing number of middle-aged and elderly users on platforms like Douyin. The popularity of these new media platforms is gradually drawing away large audiences from traditional media. Moreover, in the big data era, people' s horizons are broadening, and many new media companies have begun implementing cross-border development to provide more diversified products and services. For instance, many self-media platforms invest substantial resources in developing paper-based products while creating online products, neither completely abandoning traditional media nor neglecting new media, thereby attracting more audiences.

## 2.3 Dividing Traditional Media' s Advertising Market

Traditional media typically provides services such as product sales and information dissemination, with a significant portion of its revenue coming from product advertisements. Television stations and other traditional media simply broadcast corresponding advertisements according to advertisers' requirements. Consumers can only see such advertisements on traditional media platforms. However, new media' s partners extend beyond advertisers to include big data research institutions, and some new media platforms themselves possess big data analysis capabilities, ultimately achieving the precise dissemination of various content. For example, people can directly publish advertisements through self-media platforms and present advertising information to the public in more down-to-earth and innovative formats. As long as people have smartphones and other devices, they can view these new media advertisements anytime and anywhere. Advertisements embedded in popular web dramas, Weibo hot search lists, WeChat public accounts, and short-video platforms can all attract more consumer attention.

Compared with traditional media, new media advertising is more intelligent. Through big data capture and analysis, the most popular advertising types can be identified, and different advertisements can be delivered to different groups, greatly improving the precision of advertising placement. For instance, when consumers search for daily necessities on their smartphones, promotional ad-

vertisements from nearby supermarkets automatically pop up, and consumers with shopping needs are significantly more likely to click on such advertisements. Similarly, when people travel to other regions, many local attractions and featured product introductions appear on their phones upon arrival. This is possible because the phone's backend can collect and analyze various user data in real time, comprehensively understand users' life and movement trajectories, and then use big data to determine their current needs and display these precise advertisements. Traditional media cannot utilize this advertising format, constrained by both technical limitations and the lack of real-time updating and presentation capabilities. Consequently, the emergence of new media has significantly divided traditional media's advertising market, leaving traditional media with an increasingly smaller advertising share.

#### **2.4 Attracting Traditional Media's Investors**

As various new media platforms continue to emerge, many users have begun using these convenient new media platforms, leading to a substantial decline in the usage frequency of traditional media like newspapers and television. The value of any media is closely related to its audience size. Since a large number of users have shifted their attention from traditional media to new media, traditional media's audience size has shown a continuous decline. Faced with this situation, many investors are no longer willing to invest in traditional media and have instead turned their investment focus to the new media field. At this point, new media's attraction to traditional media investors is very obvious, quickly dividing traditional media's investment market.

### **3. Integration Path of New Media and Traditional Media in the Big Data Era**

The integration path of new media and traditional media mainly includes four aspects: content, philosophy, models, and talent.

#### **3.1 Content Integration**

Whether new media or traditional media, the most important factor for increasing user attention is ensuring the continuous production of high-quality content. Therefore, in the integration process of the two media forms, content integration must be achieved first.

**3.1.1 Using Traditional Media Methods for Content Gathering and Editing** In the process of content integration, it is necessary to maintain the unique cultural background and functional characteristics of traditional media to achieve effective allocation of media resources.[?] For example, people should objectively recognize the advantages of traditional media in content gathering and editing, continue its rigorous and pragmatic editorial style, assign professional personnel to compile information content, sensitively grasp public information

needs without blindly chasing hot topics, adhere to the basic principle of “verify before disseminating,” and ensure that all content published on media platforms is authentic and reliable.

**3.1.2 Using New Intelligent Tools for Content Dissemination** One of the biggest drawbacks of traditional media is its slow content dissemination speed and strong lag. In the integration process of traditional and new media, it is necessary to leverage new intelligent tools to disseminate media content. For example, big data technology can be used to analyze user information, build databases, and conduct real-time monitoring and comparison of data within databases to optimize traditional media’s content generation and dissemination capabilities. Simultaneously, this can effectively avoid the common problem of low content quality in new media. Future media development will inevitably be a case of “content is king.” Only by possessing high-quality content and effectively disseminating it to users can the perfect integration of traditional and new media content be truly achieved, enabling media content to deliver genuine value to users.

## **3.2 Philosophy Integration**

In the philosophy integration process between new media and traditional media, it is necessary to both expand traditional media’s supervision philosophy and appropriately learn from and extend new media’s hot-topic tracking philosophy.

**3.2.1 Expanding Traditional Media’s Supervision Philosophy** Traditional media has developed over many years, while new media has emerged only in recent years. Although modern technology has greatly facilitated the rapid development of new media, traditional media possesses a more complete and mature management system, relatively more comprehensive and richer industry experience. Moreover, traditional media is typically operated by specialized media institutions with authoritative industry qualifications, so the content disseminated through traditional media usually enjoys higher credibility and holds a relatively higher position in people’s minds, exerting a more obvious influence on the public. Although new media today has brought tremendous impact on traditional media’s development, traditional media cannot be completely replaced by new media. The future development path inevitably involves the organic integration of both. The style, content format, audience groups, and publication schedules of traditional media have formed specific patterns during long-term operation and have left fixed and profound impressions on people’s minds. Therefore, in the philosophy integration process, it is essential to focus on analyzing and extracting successful experiences from traditional media, reasonably expanding its existing supervision philosophy, further standardizing new media operational content, appropriately raising the threshold for new media operation, formulating more effective supervision and management systems with supporting laws and regulations, and strengthening supervision over new media.

**3.2.2 Extending New Media's Hot-Topic Tracking Philosophy** One of the biggest characteristics of new media is its ability to track hot events in the first instance, which meets people's needs to understand various news events and can drive discussion and sharing among vast numbers of users in a short time. For example, new media can directly communicate with netizens in various regions through the internet and quickly respond to corresponding issues, with almost no spatial limitations. People can also directly use Weibo and self-media platforms to search for various real-time information they hope to understand, achieving awareness and follow-up of hot events. However, new media's hot-topic tracking philosophy needs further extension, requiring efforts to increase the volume of original news published on new media platforms and reasonable reference to traditional media's news gathering and editing attitudes and methods. While tracking hot topics, information can also be disseminated to netizens in a more objective and rigorous manner.

### 3.3 Model Integration

#### 3.3.1 Using Big Data Technology to Optimize Experience Models

People can experience authoritative, reliable, high-quality, and copyrighted content from traditional media, and fast-spreading, convenient, and targeted fragmented content from new media. In the integration process, it is necessary to further leverage big data technology to optimize experience models. Through big data technology, massive data analysis can be completed to capture precise users and then provide them with targeted content, achieving directional dissemination of media information. This approach can deliver better media application experiences by combining different users' preferences and needs. Additionally, data analysis technology can be used to find the most valuable data information, improving the credibility and objectivity of media content. For example, *China Daily* has fully utilized big data technology to optimize its media experience model, achieving organic integration of traditional and new media while providing a good reference for the integration of other types of old and new media. As a representative of traditional media, *China Daily* realized as early as 2013 that new media would become the trend of the era and began exploring new media models. By 2020, *China Daily* had become a representative of successful integration between traditional and new media and a pioneer in the media convergence field. From the perspective of user experience models, it not only retains the high-quality and high-authority content of traditional media but also fully utilizes new media means to push content that best meets target users' needs within a short time.

#### 3.3.2 Enriching Operation Models Through Diversified Forms

In traditional media's operation model, its rigorous content gathering and editing methods result in highly authentic and reliable published content. In new media's operation model, its deep integration into people's lives and work, using various platform forms as carriers, provides considerable convenience. Relatively speaking, new media can adapt to era development more quickly and acceler-

ate social development, while traditional media serves as the basic prerequisite for social development. Overall, both traditional media and new media occupy important positions in the process of stable social development. Future development needs to further strengthen the roles of both media forms and enrich the operation model of traditional-new media integration through more diversified forms. For example, the operational advantages of old and new media can be effectively screened, using traditional media methods to gather and analyze news content while using new media platforms to publish news content, promoting the perfect integration of both through complementary cooperation. Additionally, it is necessary to combine the current development direction of public opinion to excavate a media operation system that best meets public needs and possesses good authenticity and interactivity, contributing more to society while promoting efficient news dissemination.

### 3.4 Talent Integration

The development of the big data era inevitably requires the flexible collection and application of big data, a process that demands participation from professional talent. Since big data advertising has more precise positioning, higher requirements are placed on its conversion rate, which largely depends on whether practitioners' technical capabilities and creative levels meet corresponding standards. To ensure better integration of new media and traditional media, talent integration must be strengthened to cultivate more versatile professionals. Media practitioners must possess not only the writing abilities of traditional media personnel but also good video creation, editing, clipping, and operation capabilities, and be proficient in using various equipment and new media platforms.

## Conclusion

In the big data era, the rise of new media has significantly impacted traditional media development. This is both an inevitable occurrence in media field development and an unavoidable challenge during media reform. It is precisely under the impact of new media that traditional media can fundamentally discover its own shortcomings and strive to adapt to the trend of the times by exploring new development paths through integration with new media. In the process of integrating these two media forms, it is necessary to combine the development characteristics and trends of the big data era, extract the advantages of each, and promote their effective integration on this basis. This can not only enhance the communication value of both media forms but also bring people a higher-quality media application system and promote the healthy and stable development of the media industry.

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

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