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## On the Application of New Media Technology in Journalism and Communication: Postprint

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### Abstract

With the continuous development of the times and following temporal transformations, new media has officially entered various fields, exerting a certain influence on technologies in traditional industries. Based on an analysis of new media technology in the news communication industry, this paper examines specific application scopes to meet the development needs of news communication.

### Full Text

## On the Application of New Media Technology in News Communication

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### Abstract

With the continuous development of the era, new media has formally entered various fields following historical transformations, exerting certain changes on traditional industry technologies. This paper analyzes the application scope of new media technology in the news communication industry, aiming to meet the developmental demands of news communication.

**Keywords:** news; communication; new media

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## 1. The Applicability of New Media Technology in News Communication

New media technology integrates language, text, sound, and other modalities, demonstrating powerful functionality in communication and interaction. In daily life, over 85% of information relies on visual transmission. Information delivered directly to audiences through images stimulates various aspects of vision—including color and motion—leaving a lasting impression and producing notable effects. As new media technology continues to evolve, the dominant position of traditional media has been challenged, gradually narrowing the barriers between them. Consequently, the application of new media technology has become foundational to the development of the news communication industry [1].

## 2. Transformation Trends in News Communication

### 2.1 Content Videoization

Driven by internet infrastructure and high-speed broadband development, users increasingly prefer mobile internet technology. Traditional static text and image formats can no longer satisfy user demands, whereas video-based news content fulfills practical needs through its controllability, sensory impact, and rich diversity.

### 2.2 Channel Diversification

The development of social networks, accompanied by the emergence of numerous social platforms and websites, has elevated the requirements for news communication. From Friendster to Facebook, and from Kaixin001 to QQ Space, the advent of various Web 2.0 and Web 3.0 platforms has not only captured netizens' attention but also become a primary channel for obtaining news information. Currently, new media channels are mainly presented on platforms such as Baidu, WeChat, and Weibo, as illustrated in Figure 1 [Figure 1: see original paper].

### 2.3 New Requirements for Media Professionals

The emergence of new media technology has brought tremendous transformation to the news communication industry. At present, the demands for professional quality among news practitioners are substantial. With the application of high technology in news communication, competition among mass media has become increasingly specialized, progressively raising the bar for employees. News professionals are now required to utilize modern communication technologies to complete news collection, production, and transmission, ultimately meeting the demands of network-based dissemination.

### 3. Primary Approaches of New Media Technology Application in News Communication

The application of new media technology to news communication manifests primarily in two aspects: content and dissemination mode. Analyzing these aspects can identify optimal pathways for new media technology application, thereby satisfying multiple requirements including timeliness and reliability in news communication.

#### 3.1.1 Integration of Personal Space and Social Networks

Since Professor Stanley Milgram established the Six Degrees of Separation theory, developers have created internet services for social networks based on this principle. Currently, successful SNS applications mainly include Facebook, QQ Space, Renren, and Xinbo. Through these platforms, the public can meet more friends and obtain more news information via information sharing, naturally forming a cyclical flow of information dissemination. On platforms similar to Baidu Tieba, both acquaintances and strangers can discuss the same news topics of interest. Moreover, SNS interpersonal communication maintains high credibility, equivalent to currently popular platforms like WeChat and Weibo, with most requiring real-name authentication that prevents anonymous identities, thus maximizing user privacy protection. Considering its utility, authenticity, and privacy, this type of online community establishes rapidly, and its dissemination speed can satisfy users' information transmission needs [2].

#### 3.1.2 Network News Communication Applications

The use of network news communication technology endows internet news with immense appeal. The collaboration between networks and traditional media demonstrates several key advantages: First, it can reduce network investment while helping media increase advertising revenue to meet network profit goals. Simultaneously, enriching news resources can enhance market competitiveness. Second, jointly operating websites can demonstrate collective advantages. As print media gains trust, audiences gradually begin accepting online news information. Third, proper news planning and coordinated management can prevent other websites from appropriating news resources.

Network news itself features distinct characteristics such as service orientation and timeliness. When people cannot leave tools like mobile phones, media dissemination formally begins, delivering rapid news to audiences with rich information features. Fourth, video and audio publishing. In network audio-video publishing, the rational utilization of playback technology includes: (1) Streaming media technology, whose key pillars are streaming transmission, data caching, and file compression. Based on streaming transmission, servers deliver corresponding information to users to enable real-time continuous transmission. Users can watch online after a startup delay without waiting for complete downloads. For news communication, this not only shortens dissemination time but

also enhances effectiveness. (2) Video decoding technology. (3) P2P technology, also known as peer-to-peer networks, characterized by scalability, decentralization, and robustness. P2P streaming media technology also offers high cost-effectiveness and convenient deployment, with YouTube and IPTV being relatively successful examples.

### **3.2.1 Information Acquisition Technology**

To disseminate news, one must first acquire it, which requires news searching. The emergence of search engines has become an inevitable result of network development. Since the internet's inception, search engines have continuously innovated to meet audience demands for query capability, speed, stability, reliability, and result accuracy, thereby laying a solid foundation for comprehensiveness and accuracy in news communication.

### **3.2.2 Breakthrough in Wired Transmission**

Unlike traditional media with excessive time lags, new media transmission possesses highly efficient dissemination capabilities. The emergence of mobile new media has broken through wired network transmission, enabling users to obtain network connections while moving via mobile devices. Mobile new media serves as a new-generation national infrastructure network based on broadband IP technology, providing high-quality telecommunications services including data, images, and voice. Currently, most users choose to browse news and disseminate knowledge via mobile wireless networks, which is not only simple to operate but also enables rapid message reception, with one-click sharing functions further facilitating information dissemination [3].

### **3.2.3 CDN Technology for Information Storage and Distribution**

Increasing netizen numbers and richer access resources have heightened demands for network bandwidth, which can cause network access delays and latency issues, thereby affecting news content transmission performance. Therefore, content distribution must consider users' specific needs. Based on internet CDN overlay, publishing content on different regional node server groups can deliver it at the network "edge" closest to users, allowing direct content acquisition while ensuring efficiency and stability. When the distance between news information and audiences continuously decreases, the possibility of news dissemination increases accordingly.

### **3.2.4 Underlying Data Storage Technology**

Implementing massive data collection in TB, PB, and EB scales facilitates subsequent access and management. Based on actual server requirements, storage methods include both open and closed system architectures. For many storage technologies, using PCs or servers can help increase storage space, providing

favorable foundational conditions for news information uploading and enabling smoother dissemination.

### 3.2.5 Digital Television and Digital Host Experiences

Since television programs inherently suffer from “passivity,” all TV programs require audience participation support. Therefore, when applying new media, several factors must be considered: First, television interactivity, also viewable as two-way TV, encompassing all internet functions while including complete program-on-demand services. Second, the popularity of digital hosts. Third, while digital television meets fidelity requirements, it also enables audiences to receive corresponding news information. As visual effects improve, audience desire for news communication continuously strengthens, becoming a driving force for news dissemination.

## 4. Conclusion

As new media develops, natural selection will occur, primarily manifested in the presentation of new media advantages that require consolidation and development. Only by summarizing technology’ s impacts can it be properly utilized, which also promotes future dissemination: First, it further increases channels for users to obtain information while enhancing their actual participation; second, it further enriches the manifestation forms of news media information [4].

In summary, the development of the news communication industry strongly promotes social productivity and facilitates economic construction. The emergence of new media technology will undoubtedly gain prominence in the news communication industry and play greater roles and values. Through new media technology application, news information dissemination can be advanced while injecting more vitality into the development of news communication.

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

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