

---

AI translation · View original & related papers at  
[chinaxiv.org/items/chinaxiv-202310.01885](https://chinaxiv.org/items/chinaxiv-202310.01885)

---

## Analysis of New Media Technology Applications in Library Cloud Systems: Postprint

**Authors:** Li Dongyan

**Date:** 2023-10-08T00:00:00+00:00

### Abstract

With the continuous development of new media services, the information dissemination pathways of traditional media have been impacted to a certain extent, bringing about significant changes to people's lifestyles and work patterns. New media technologies present both opportunities and challenges for library services; it is precisely the emergence of these new media that enables the manifestation of innovation and development. This paper expounds upon the construction of library cloud systems, analyzes the internal strengths and weaknesses as well as opportunities and crises of libraries within the new media environment to better comprehend the application trends of new media technology in library services, and conducts specific research on the practical application of new media technology in library cloud systems.

### Full Text

#### Abstract

With the continuous development of new media services, traditional media channels have been significantly impacted, bringing profound changes to people's lifestyles and work patterns. New media technologies present both opportunities and challenges for library services, and it is the emergence of these new media that enables innovation and development. This paper elaborates on the construction of library cloud systems, analyzes the internal strengths and weaknesses as well as opportunities and crises libraries face in the new media environment to better understand application trends of new media technology in library services, and conducts specific research on the practical application of new media technology in library cloud systems.

**Keywords:** new media technology; library services; application analysis

**CLC Number:** G250.7

**Document Code:** A

**Article ID:** 1671-0134(2018)09-101-02

**DOI:** 10.19483/j.cnki.11-4653/n.2018.09.042

Library cloud service platforms represent the integration of cloud computing capabilities with library information resources, serving as the foundation for personalized reading and reading satisfaction assessment. During the construction of library cloud system platforms, it is essential to start from readers' fundamental needs, effectively combine cloud computing technology with service models, and truly achieve unified management and monitoring of library cloud systems. In recent years, new media technology has developed rapidly, triggering transformations in media forms and profoundly influencing people's lives. Characterized by interactivity, convenience, and speed, new media has become a novel communication method, with the combination of mobile communication devices and internet technology serving as an important channel for users to obtain information. Modern library construction requires recognition and analysis of the development environment, and how to utilize new media technology in library cloud systems to achieve innovation in information services has become a key research topic. It is crucial to employ advanced information exchange technologies and methods to comprehensively improve service quality and adapt to the tremendous challenges brought by new technologies.

## **1. Library Cloud System Construction**

### **1.1 Strengthening Innovation and Functional Integration**

In the context of the new era, the efficiency and reliability of library cloud system platforms are determined by the scientific nature of their design concepts. For constructing library cloud systems, first, it is essential to develop detailed and comprehensive design plans based on reader needs to ensure the security and reliability of software and hardware systems. Second, the service functions of cloud systems must be comprehensively enhanced, strengthening software compatibility and operability. Finally, platform management should be reinforced through unified implementation of applications to improve system flexibility and increase transparency of underlying architectures.

### **1.2 Enhancing Personalized Services**

The construction of library cloud system platforms must align with readers' personalized cloud reading needs, enhancing personalized service functions and improving user satisfaction. As individual demands continue to expand, cloud systems need to develop value-added services while maintaining existing offerings, leveraging cloud computing's massive storage and rapid output capabilities to provide more comprehensive services. To further enhance personalized service quality, unified authentication across different systems must be implemented, and service automation and intelligence levels should be improved.

### 1.3 Ensuring Platform Security

Security of library cloud platform applications is fundamental to their operation. During cloud system construction, appropriate security strategies must be formulated to enhance system stability. Firewalls and virus intrusion detection systems should be established between the cloud platform and external networks to improve defense against illegal intrusions and ensure load balancing in data transmission networks. During software usage, identity authentication and access authorization must be effectively implemented, interfaces between different service modes should be standardized to strengthen targeted and effective defense while reducing security management complexity. Additionally, regular scanning of cloud system platforms is necessary, with security management tailored to specific platform functions and service characteristics.

### 1.4 Predicting Development Directions

The evolution of digital library cloud system architecture is undoubtedly moving toward automation and intelligence. Therefore, during the continuous improvement of cloud system platforms, automated management tools must be utilized to achieve integration of underlying architectures and provide the most convenient access to information resources needed by readers. As digital library service models continue to transform, the convergence of various high-performance service platforms will inevitably become a trend. To ensure sustainable and stable development of library cloud systems, it is essential to build portable and shareable extensible platforms, strengthen the development of personalized software, and enhance user satisfaction and customer relationship surveys without reducing service platform operational efficiency, thereby providing a foundation for future platform development.

### 1.5 Achieving Refined Management

To improve the operational efficiency and security of library cloud system platforms, highly refined management must be implemented. Based on the service platform's operational model, management of system resources, application services, functional modules, and other components should be strengthened to ensure the organizational structure and services of cloud systems are scientific, coordinated, efficient, and easily controllable. Management effectiveness and logical consistency must be enhanced, with automatic prediction and monitoring achieved through appropriate management software to elevate the level of management automation.

## 2. Strengths and Weaknesses Analysis

### 2.1 Strengths

Practical library services include document lending, reading room access, thematic lectures, and reference consultation. These represent the strengths of

library service development, serving as both traditional services and fundamental offerings that libraries provide to readers regardless of era or technological changes. With the evolution of time and technological updates, libraries will generate more new value-added services, including digital websites and virtual platforms, all of which are indispensable forms of library service.

## 2.2 Weaknesses

The primary problem in modern library development lies in the lack of innovative and personalized services, with relatively fragmented information content. In this era of information explosion, libraries must maximize strengths and minimize weaknesses to meet readers' cultural needs. Additionally, the singularity of library information channels presents a shortcoming—while information is pushed by libraries, whether readers' needs are met and whether content is accurate requires communication between libraries and readers to ultimately achieve high matching of information needs. Only by changing current developmental disadvantages can library service quality be improved.

## 3. Opportunities and Threats Analysis

### 3.1 Rapid Technological Development

Since the 11th Five-Year Plan period, the state has comprehensively promoted the rapid development of cultural undertakings, further improved citizens' cultural literacy, and strengthened library infrastructure construction, leading to rapid development of many libraries. However, with technological advancement and social changes, the new media era has officially arrived. Each media update is accompanied by significant technological progress, and the integration of many new technologies has brought changes to the new media environment.

### 3.2 The Rise of Mobile Internet

While opportunities arise, they are accompanied by crises. The application of new media technology undoubtedly impacts traditional library services. China's internet user population continues to expand annually, and mobile network indicators have already surpassed traditional networks. New media represented by mobile internet technology occupies an increasingly prominent position in media technology development. Although the purpose of library services will not change due to new media technology application, service methods will transform with new technology adoption. Therefore, to further develop in the new media environment where strengths and weaknesses coexist, library services must make corresponding changes.

## 4. Practical Applications of New Media Technology

### 4.1 Mobile Terminal Services

Currently, China's mobile terminals and 4G technology are becoming increasingly mature, with the number of internet users growing daily. Therefore, library cloud systems can utilize SMS service platforms to extend the spatial and temporal reach of library services, increase interaction channels among readers, and deliver library notifications and book recommendations through customized reader services. Additionally, library cloud system terminals can collect and organize reader feedback information, enabling effective communication with readers.

### 4.2 RSS-Based Information Push Services

Initially, libraries mostly used email for information push services, but the results were not significant. RSS technology under new media is more suitable for library cloud systems in the modern network era. This technology can serve as a more convenient information acquisition tool, delivering website updates to readers through simple aggregators and providing resource navigation for newly acquired books, journals, audio-visual materials, and other information. Readers no longer need to visit the library homepage daily, as RSS software keeps them informed about library developments. This information push service represents a novel approach that can provide beneficial information based on user needs and usage habits.

### 4.3 Wiki-Based Resource Navigation

Wiki is an online collaborative hypertext system characterized by collaborative sharing and openness. Using Wiki for resource database construction can make the database more powerful and flexible. Multiple people can maintain the website simultaneously, making it particularly suitable for organizing specialized knowledge bases. Libraries can utilize Wiki technology to integrate resources with relevant stakeholders. Through collaborative efforts between administrators and readers, subject databases can be constructed, further improving the library resource navigation system.

### 4.4 Collaborative Digital Reference Consultation

Digital libraries have developed rapidly with the support of new media technology, and reference consultation services have gradually become a core function. Previously, readers mostly used physical consultation desks, but with modern technological development, library reference consultation services have undergone changes, continuously integrating with the network environment. Libraries have established collaborative relationships, fully utilizing their respective talented personnel and information resources to reasonably regulate service hours and provide uninterrupted consultation services to users.

#### 4.5 Digital Television Library Services

In new media technology, the emergence of digital television has further extended library information services. Libraries can fully utilize the interactive functions of digital TV to connect libraries with television, enabling users to enjoy convenient library services through digital TV, including borrowing information queries, resource retrieval, and reading e-books and journals. Currently, many large libraries in China have established dedicated channels on digital TV, fully demonstrating the library's two-way interactive services.

#### 4.6 Google Library Integration

Google is the largest search engine on the internet, and search engines are a preferred information retrieval method for users. Digital libraries possess vast book information resources, so establishing a connection between Google and libraries is extremely convenient for providing information to readers. Google can include library collections in its search directory, displaying relevant book information to readers, and users can freely browse and download content not protected by copyright.

### Conclusion

In summary, the application of new media technology in library cloud systems continues to expand. Regardless of circumstances, for the sustainable development of libraries, service improvements are necessary. Libraries must seize opportunities and meet challenges, continuously deepening their educational and information service functions, and developing personalized and innovative service methods. Only in this way can service levels be continuously improved in the new media environment, ensuring the perpetual vitality of library undertakings.

### References

- [1] Zhang Ling. Library Promotion Strategies in the New Media Technology Environment[J]. Library and Information Service, 2015(1): 78-81.
- [2] Shen Zuolan. Research on Library Reading Promotion Strategies under the New Media Background[J]. New Media Research, 2016(3): 38-39.
- [3] Tang Jiajia. Research on the Application of New Media Technology in Digital Libraries[J]. Science and Technology Communication, 2017(5).
- [4] Wu Yun, Yu Kaixuan. Analysis of New Media Application in Public Libraries[J]. China Management Informationization, 2017(8): 161.
- [5] Zhu Chenwu. Application of New Media Technology in Public Library Service Promotion[J]. Science and Technology Innovation Herald, 2014(28): 194.

(Author Affiliation: Hebei Tourism Vocational College)

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

*Source: ChinaXiv – Machine translation. Verify with original.*