

# Research on the Application of Data Intelligence in the Cataloging and Acquisition Operations of Local Social Science Academy Libraries

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**Abstract:** With the rapid advancement of information technology and the arrival of the big data era, data intelligence technology is increasingly being applied across various fields, including the cataloging and acquisition operations of local social science academy libraries. This study aims to explore the current status, advantages, challenges, and future development directions of data intelligence technology in the cataloging and acquisition procedures of local social science academy libraries.

**Keywords:** Data Intelligence; Local Social Science Academy Libraries; Cataloging and Acquisition.

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## 1. Current Issues in the Cataloging and Acquisition Operations of Local Social Science Academy Libraries

### 1.1. Insufficient Talent Development

**Lack of Professional Knowledge and Skills:** Many cataloging and acquisition personnel in local social science academy libraries lack specialized knowledge in library and information science, as well as modern information technology application skills, making it difficult to meet the needs of library modernization. This issue is particularly pronounced in private universities, where the professional quality of cataloging staff is generally low and the workforce is unstable, adversely affecting the continuity and quality of cataloging work.

**Severe Talent Drain:** For various reasons, highly skilled professionals often choose to leave libraries for more attractive opportunities in other fields, resulting in a significant loss of talent and exacerbating the problem of shortages.

### 1.2. Limited Information Collection and Processing Capabilities

**Challenges in Information Collection:** With the rapid advancement of information technology, the speed at which information is generated has increased dramatically, leading to an overwhelming and complex array of information sources that librarians must navigate. In certain specialized domains, obtaining professional information can be particularly challenging, requiring considerable human and material resources. Additionally, assessing the authenticity and authority of online information poses significant challenges for cataloging personnel.

**Insufficient Processing Capabilities:** Many local social science academy libraries exhibit deficiencies in the application of information technology, with cataloging staff lacking the necessary skills to efficiently utilize technological tools for processing vast amounts of information, thereby impacting the efficiency and quality of cataloging operations.

### 1.3. Issues Related to Intellectual Property Management

**High Risk of Infringement:** During the cataloging process, libraries are at risk of facing intellectual property infringement and copyright disputes. This is especially true in the digital environment, where caution is required when utilizing copyrighted online resources. Additionally, there are gaps in the management of literature resources and intellectual property within libraries, which can lead to resource misuse and infringement.

**Weak Awareness:** Some cataloging personnel and managers exhibit insufficient awareness of intellectual property issues, lacking the necessary legal knowledge and protective consciousness, thereby increasing the likelihood of legal risks for the library.

### 1.4. Lagging Automation and Digitalization Efforts

**Low Degree of Automation:** Although some progress has been made in the automation of libraries in China, the degree of automation in most local social science academy libraries remains low, predominantly limited to internal management functions, thus hindering the sharing and efficient utilization of literature resources.

**Slow Progress in Digitalization:** The digitalization of unique literature requires substantial investment; however, many local social science academies are deterred by financial and human resource constraints, leading to slow progress. Furthermore, redundant construction of databases across different libraries wastes valuable resources.

### 1.5. Monotonous Service Methods and Lack of Innovation

**Traditional Service Methods:** Many local social science academy libraries continue to rely on traditional service methods, lacking innovation and market awareness, which makes it difficult to meet the increasingly diverse needs of readers.

**Limited External Communication and Academic Exchange:** Due to prolonged self-isolation, local social science academy libraries have insufficient horizontal connections and limited

opportunities for academic exchange, leading to information silos and resource wastage.

To address these issues, local social science academy libraries need to adopt proactive measures for improvement and enhancement. For instance, they should strengthen talent development to enhance the professional quality and skill levels of cataloging staff; improve information collection and processing capabilities to increase the efficiency of information resource acquisition and utilization; foster awareness and capability in intellectual property management; accelerate the pace of automation and digitalization efforts; and innovate service methods and approaches. The implementation of these measures can propel the cataloging and acquisition operations of local social science academy libraries toward continuous advancement.

## **2. Urgency of Enhancing Cataloging and Acquisition Operations in Local Social Science Academy Libraries**

The urgency to enhance the cataloging and acquisition operations in local social science academy libraries stems from several key considerations:

### **2.1. Rapid Knowledge Update**

In the era of information and digitalization, the speed at which knowledge is updated is extraordinarily fast. As crucial support for academic research, local social science academy libraries must keep pace with the times by promptly cataloging and acquiring newly published academic works, journal articles, and other resources to meet the needs of researchers for cutting-edge knowledge.

### **2.2. Growing Research Demand**

With the continuous increase in research activities within local social science academies, there is a corresponding rise in researchers' demand for library resources. Improving the efficiency of cataloging and acquisition operations will facilitate the quicker inclusion of new resources into library collections, thereby supporting the smooth progression of research work.

### **2.3. Pressure of Digital Transformation**

Libraries are currently facing significant pressure to transition from traditional models to digital formats. The urgency to enhance cataloging and acquisition operations signifies the need to accelerate the processing speed of digital resources and to establish a more comprehensive digital resource database in order to meet researchers' high demand for digital materials.

In summary, addressing these aspects is critical for local social science academy libraries to effectively respond to the evolving landscape of academic research and to better serve their users.

## **3. Strategies for the Application of Data Intelligence Technology in Library Cataloging and Acquisition Operations**

The application of data intelligence technology in library cataloging and acquisition operations can significantly enhance the efficiency and quality of these processes, meeting the diverse and personalized information service needs of

readers in the era of big data. Below are specific strategies for implementing this approach:

### **3.1. Enhance Professional Competence of Cataloging Staff**

Strengthen training programs for cataloging personnel to ensure they possess not only traditional cataloging skills but also proficiency in data intelligence technologies such as data mining, natural language processing, and machine learning.

Regularly organize specialized lectures and seminars inviting experts to share insights on the latest data intelligence technologies and their applications in library cataloging.

### **3.2. Optimize Cataloging Processes**

Utilize data intelligence technologies to simplify cataloging workflows and reduce redundant tasks. For instance, implement automated deduplication systems to lessen the workload involved in checking bibliographic duplicates.

Introduce intelligent literature retrieval and automated cataloging systems to improve accuracy and efficiency. Coordinate cataloging and interviewing functions to streamline workflows, ensuring that new acquisitions are quickly made available for circulation.

### **3.3. Build a Unified Information Resource Database**

Strengthen the management and integration of cataloging data to create a unified and comprehensive information resource database. This will provide readers with one-stop information services and increase the utilization rate of information resources.

Employ data intelligence technologies to filter, integrate, and analyze large volumes of data, offering cataloging staff more precise and effective information support.

### **3.4. Focus on Reader Needs and Provide Personalized Services**

Use data analysis techniques to understand the diverse and personalized needs of readers, allowing for timely adjustments in cataloging strategies. Apply big data analytics tools to gather user data, identifying trends and reading preferences to formulate personalized reading recommendation services.

Leverage advanced technologies like QR codes and mobile apps to facilitate interaction between users and the library, bridging the gap between cataloging operations and user engagement.

### **3.5. Expand Collaboration Channels and Enrich Resource Sources**

Actively establish partnerships with publishers, electronic resource providers, and relevant institutions to secure high-quality resources. Engage in resource-sharing initiatives with other libraries to achieve complementary resource availability and enhance overall information service levels.

### **3.6. Introduce Advanced Intelligent Devices and Systems**

Implement RFID (Radio Frequency Identification) systems in library cataloging operations to enhance the efficiency of book management and borrowing processes.

Utilize intelligent robots to assist with shelving and

organizing books, thereby reducing the manual workload on staff.

### **3.7. Strengthen Data Security and Privacy Protection**

While applying data intelligence technologies, prioritize data security and privacy protection. Establish robust data management protocols to ensure the confidentiality of reader information.

Conduct regular security assessments and vulnerability repairs for data systems to prevent unauthorized access or tampering.

### **3.8. Continuously Monitor Technological Development Trends**

Stay abreast of the latest advancements in data intelligence technology, evaluating new prospects for its application in library cataloging operations. Actively collaborate with technology enterprises to co-develop data intelligence tools and platforms tailored to the specific needs of libraries.

In summary, leveraging data intelligence technology in library cataloging and acquisition operations necessitates a multifaceted approach focused on enhancing personnel competencies, optimizing workflows, constructing information resource databases, addressing reader requirements, expanding collaboration channels, incorporating intelligent devices, safeguarding data security, and continuously tracking technological trends. This holistic strategy aims to significantly improve the efficiency and quality of cataloging operations.

## **References**

- [1] Wang, X. (2017). Issues and Countermeasures in the Socialization Process of Library Cataloging and Acquisitions. *Cai Zhi*, 33, 214-216.
- [2] Huo, C. (2003). Research on the Current Situation and Countermeasures of Local Social Science Academy Libraries in the New Era. *Information and Documentation Work*, 3, 62-63, 52.
- [3] Jiang, G. (2014). Current Status and Prospects for the Development of Local Social Science Academy Libraries: A Case Study of Fujian Academy of Social Sciences. *Knowledge Economy*, 5, 55-57. DOI: 10.15880/j.cnki.zsjj.2014.05.094.
- [4] Liu, C. (2004). Challenges and Strategies in Building a Collaborative Resource Sharing Platform for the Social Science Academy System. *Information and Documentation Work*, 5, 39-41.
- [5] Pu, L. (2019). Changes and Countermeasures in Library Cataloging and Acquisitions in the Era of Big Data. *Management Observation*, 31, 87-88.
- [6] Lai, C. (2017). Strategy Optimization for University Library Cataloging and Acquisitions in the Age of Big Data. *China and Foreign Entrepreneurs*, 5, 236-238.
- [7] Lu, Q. (2023). Analysis of Implementation and Application Paths for Intelligent Library Services. *Journal of Library Science*, 45(4), 86-91. DOI: 10.14037/j.cnki.tsgxk.2023.04.008.
- [8] Zhou, X. (2023). Current Status and Development Strategies of Smart Library Construction in China: Based on a Survey of 33 Libraries Nationwide. *Library Work and Research*, 9, 63-71, 101. DOI: 10.16384/j.cnki.lwas.2023.09.005.