

Study on the Current Status of Institutional Repositories in Research Institutions in China

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ABSTRACT

This paper aims to explore the current status of institutional repository construction in research institutions in China. Through a systematic analysis of the practices, achievements, and existing issues faced by these institutions in this field, it provides reference for future development and construction efforts. With the rise of the global open access movement, institutional repositories have emerged as important platforms for academic resource sharing, playing an increasingly vital role in facilitating the free dissemination of research findings and promoting academic exchanges.

KEYWORDS

Research Institutions; Institutional Repositories; Scientific Research.

1. INTRODUCTION

The purpose of this paper is to explore the current status of institutional repositories established by research institutions in China. By systematically analyzing the practices, achievements, and challenges faced by these institutions in this area, the study aims to provide insights for future development and construction efforts. With the rise of the global open access movement, institutional repositories have emerged as vital platforms for sharing academic resources, playing an increasingly important role in facilitating the free dissemination of research findings and promoting scholarly communication.

2. CURRENT STATUS OF INSTITUTIONAL REPOSITORIES IN CHINA AND ABROAD

2.1. Quantity and Growth

In recent years, the number of institutional repositories in China has been steadily increasing, particularly within higher education and research institutions. The construction of these repositories is often led by libraries or information technology departments, in collaboration with other relevant departments. However, due to the limitations of libraries in managing research information, some institutional repositories face challenges regarding content submission rates and acceptance. To enhance data quality and the effectiveness of sharing services, some universities have begun to explore collaborative models involving multiple departments to better meet user needs. In contrast, there are numerous institutional repositories abroad, widely distributed across various regions. Developed countries such as those in Europe and North America began establishing institutional repositories earlier, resulting in a more mature development landscape. According to statistics from

platforms like OpenDOAR, institutional repositories in the United States and Europe account for a significant proportion of the global total.

2.2. Data Quality and Content

A common challenge faced by domestic institutional repositories is the incompleteness and inaccuracy of data. This issue primarily stems from a reliance on traditional data resources and insufficient collection of "grey literature" (i.e., data resources generated during the scientific research process). To enhance data quality, some universities have implemented various measures, such as enriching data standards and structures and introducing machine learning algorithms to improve data matching rates and accuracy of recommendations. International institutional repositories tend to be more advanced in technology applications, routinely employing sophisticated information technology methods for data collection, organization, and analysis. Additionally, overseas repositories emphasize integration with social media and big data technologies, thereby providing users with more convenient and efficient services.

2.3. Services and Innovation

Domestic institutional repositories exhibit significant limitations in service innovation, with some remaining focused primarily on organizing and preserving literature resources. To improve service effectiveness, certain universities have started exploring features such as data services and personalized recommendations to meet the diverse needs of users.

Internationally, institutional repositories generally adhere to the principle of open access, allowing users to freely or authorized access their knowledge products via the internet. This not only promotes the sharing and exchange of academic resources but also enhances the transparency and reproducibility of academic research. Furthermore, there exists a close cooperation and communication relationship among international institutional repositories, which is strengthened through organizing international conferences and seminars. This collaboration helps enhance the international influence and research level of these repositories.

3. THE CURRENT STATE OF INSTITUTIONAL REPOSITORY CONSTRUCTION IN CHINA

3.1. Promoting Knowledge Management and Sharing

(1) Centralized Storage and Management of Knowledge: Institutional repositories enable centralized storage and management of knowledge resources across various departments and teams within research institutions, forming a unified knowledge platform. This addresses the issues of knowledge fragmentation and accessibility, improving the usability and accessibility of knowledge resources.

(2) Knowledge Sharing and Collaboration: Through institutional repositories, researchers can easily share their findings, experiences, and insights, fostering collaboration and communication across departments and teams. This contributes to breaking down information silos and creating a favorable atmosphere for knowledge sharing.

3.2. Enhancing Research Efficiency and Level

(1) Rapid Access to Research Materials: Institutional repositories provide researchers with a wealth of research materials, including academic papers, research reports, and experimental data. Researchers can quickly access these resources, reducing redundant work and enhancing research efficiency.

(2) **Supporting Research Decisions:** Data and information within institutional repositories can provide strong support for research decision-making. Researchers can analyze the data in the repository to understand the latest developments and trends in their fields, offering scientific basis for project selection, design, and implementation.

(3) **Promoting Knowledge Innovation:** The construction of institutional repositories contributes to the accumulation and consolidation of knowledge, providing researchers with abundant knowledge resources. Based on knowledge sharing and communication, researchers can more readily generate new ideas and innovations, advancing the development of knowledge innovation.

3.3. Ensuring Research Information Security

(1) **Secure Storage of Research Information:** Institutional repositories utilize advanced information storage and encryption techniques to ensure the security and reliability of research information. This helps prevent the leakage or tampering of research information during storage and transmission, safeguarding the legitimate rights and interests of research institutions.

(2) **Access Control Management:** Institutional repositories typically feature stringent access control mechanisms that restrict different users' permissions for accessing and editing knowledge. This protects the confidentiality of research information, preventing sensitive data from being illegally.

3.4. Promoting Innovation in Research Management and Services

(1) **Standardization of Research Management:** The establishment of institutional repositories facilitates the standardization, systematization, and informatization of research management. By integrating research information resources, institutional repositories can provide comprehensive data support for research management, enhancing both efficiency and quality.

Service Innovation: Institutional repositories can also offer personalized knowledge services to researchers, such as knowledge push notifications and intelligent search functions. These services help meet the diverse needs of researchers, thereby increasing satisfaction and efficiency in their work. In summary, the construction of institutional repositories by research institutions in China is significant for promoting knowledge management and sharing, enhancing research efficiency and standards, ensuring the security of research information, and driving innovation in research management and services. Consequently, research institutions should place high importance on the development of institutional repositories and actively promote their growth and application.

4. RECOMMENDATIONS FOR CHINESE RESEARCH INSTITUTIONS IN BUILDING INSTITUTIONAL REPOSITORIES

4.1. Define Goals and Positioning

Clearly outline the objectives of building the institutional repository, such as enhancing academic influence, promoting knowledge sharing and communication, and supporting research innovation. Based on the institution's characteristics and needs, specify the target users and content of the repository. Determine the types of documents to be included, such as academic papers, theses, research projects, patents, technical standards, and research reports. Establish a time frame to delineate the inclusion start and end years for each document type.

4.2. Strengthen Content Development

In addition to traditional academic literature, consider including various resource types such as teaching materials, clinical experimental data, clinical experience sharing, and popular science materials. Encourage researchers to actively upload their findings, especially unpublished papers and

research data. Implement a rigorous data review mechanism to ensure the accuracy and completeness of the deposited data. Regularly clean and update the repository's data to remove outdated or invalid information.

4.3. Optimize Technological Platforms

Consider utilizing established institutional repository software such as DSpace or EPrints, which possess rich functionalities and good scalability. Based on the institution's actual situation, either build or customize a repository platform to meet specific needs. Design an intuitive and user-friendly interface and navigation system to facilitate quick access to relevant information. Provide multiple search options, including keyword search, author search, and subject search, while supporting advanced search features.

4.4. Improve Management and Services

Clarify the open access rights and usage rules for repository content to safeguard the rights of authors and users. Encourage researchers to publish their findings in an open access format to enhance the dissemination and utilization of knowledge. Collaborate with publishing institutions to ensure that researchers retain open access rights when transferring copyright. Establish a copyright protection mechanism to prevent unauthorized copying and dissemination of repository content. Create interactive platforms for online consultations and Q&A sessions to promote communication and collaboration among researchers. Organize training sessions and thematic lectures to improve researchers' information literacy and knowledge management capabilities.

4.5. Seek Multisectoral Support

Actively apply for government special funding to provide a stable financial foundation for repository construction. Establish cooperative relationships with government departments to jointly advance the development of the repository. Seek sponsorship and donations from enterprises and social organizations to broaden funding channels. Engage in public welfare activities and promote the value of the repository to attract attention and support from diverse societal forces. Strive for support and cooperation from various internal departments of the institution to create a collaborative effort in advancing the repository's growth. Develop incentive mechanisms to encourage researchers to participate actively in the construction and use of the repository.

In conclusion, when constructing institutional repositories, Chinese research institutions should clearly define their goals and scope, strengthen content development, optimize technological platforms, improve management and services, and seek multisectoral support. Through the implementation of these measures, the sustainable and healthy development of institutional repositories can be promoted, providing robust support for research innovation.

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