

INFORMATION SOURCES, METHODS, AND CHALLENGES: PERSPECTIVE OF UNIVERSITY LIBRARIES IN TELANGANA

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Abstract

University libraries in Telangana State are undergoing a significant transformation from traditional print-based repositories to hybrid information centres, integrating digital resources alongside conventional collections. This article examines the information sources, acquisition methods, and persistent challenges faced by university libraries in Telangana, drawing on comprehensive research conducted across multiple institutions. The study reveals that university libraries maintain substantial print collections alongside rapidly expanding electronic resources, with e-journals being the most widely accessed digital resource. Key acquisition methods include library committees, consortia membership for e-resources, and publisher catalogues. However, significant challenges persist, including inadequate and irregular budgets, technical infrastructure limitations, staff shortages, and insufficient digital literacy training. The study identifies that ICT applications have a substantial impact on e-resource management, yet many libraries struggle with technical problems, licensing complexities, and bandwidth constraints. The future of academic libraries in Telangana depends on addressing these challenges through enhanced budget allocation, staff development, infrastructure investment, and strategic collaborations. This study contributes to the understanding of the dynamic transformation of academic libraries in Telangana, offering insights for policymakers, library administrators, and academic institutions.

Keywords: *University Libraries, Information Sources, Collection Management, ICT Applications, Telangana, Academic Libraries, E-Resources*

1. Introduction

University libraries serve as the intellectual heart of academic institutions, playing an indispensable role in supporting teaching, learning, and research. In the contemporary information environment, these libraries have evolved from repositories of printed materials into dynamic, technology-enabled information centres offering diverse resources in multiple formats. As technology continues to evolve, academic libraries have been compelled to reimagine and redesign the development and delivery of their programs and services.

The state of Telangana, established as the 29th State of India in 2014, has witnessed significant developments in its higher education landscape . The region is home to a diverse array of academic institutions, including central universities, state universities, deemed universities, and engineering colleges, each with libraries striving to meet the information needs of their academic communities. These libraries have been progressively shifting from traditional collection management to embracing digital technologies, e-resources, and automated systems .

This article presents a comprehensive examination of information sources, acquisition methods, and challenges facing university libraries in Telangana. The study draws on empirical research conducted across multiple university libraries in the state, including Osmania University (OU), University of Hyderabad (UOH), Jawaharlal Nehru Technological University Hyderabad (JNTUH), Maulana Azad National Urdu University (MANUU), Professor Jayashankar Telangana State Agricultural University (PJTSAU), and the National Academy of Legal Studies and Research (NALSAR) . By analyzing the collection characteristics, acquisition practices, service delivery, and barriers to effective functioning, this study aims to provide a comprehensive perspective on the current state and future directions of university libraries in Telangana.

The significance of this study lies in its contribution to understanding the transformative changes occurring in academic libraries in a developing region. The findings offer valuable insights for library administrators, policymakers, and academic institutions seeking to optimize their library services and resource management strategies.

2. Historical Background of the Study

The development of academic libraries in Telangana is intertwined with the broader evolution of higher education in the region. Prior to the formation of Telangana State in 2014, the region was part of the composite state of Andhra Pradesh. Academic libraries in this region historically followed traditional models of collection development, with an emphasis on acquiring, organizing, and preserving print materials .

The history of electronic resources in Indian academic libraries dates back to the mid-1960s with the introduction of machine-readable catalogues, which served as directive tools for accessing information resources. This evolved into the use of Online Public Access Catalogs (OPACs) and bibliographic databases, which were further enhanced by the adoption of CD-ROM databases in the 1980s . However, the widespread adoption of digital resources in university libraries of Telangana is a more recent phenomenon, gaining momentum in the 21st century with the advent of the Internet and the World Wide Web.

The shift from print to electronic resources was driven by several factors, including the increasing availability of digital content, changing user expectations, and the recognition that electronic publishing offered faster and lower-cost dissemination of information than traditional paper-based methods . This transformation gave rise to consortia that enabled libraries to provide electronic access to professional literature, including research journals, abstracts, review publications, and databases across various disciplines.

In Telangana, the adoption of digital technologies in university libraries has been uneven, with some institutions demonstrating robust systems and policies for managing e-resources efficiently, while others struggle with issues such as inadequate funding, limited technical support, and lack of training for library staff . The implementation of library automation software, including open-source solutions like Koha and commercial systems like SOUL (Software for University Libraries), has been a significant development in the modernization of these libraries .

The academic libraries in Telangana today reflect this historical trajectory, carrying collections that have been built over decades while simultaneously integrating digital resources and services to meet contemporary information needs.

3. Need of the Study

The need for studying information sources, methods, and challenges in university libraries of Telangana arises from several critical considerations:

First, university libraries in Telangana are at a crossroads, facing the dual challenge of preserving and maintaining traditional print collections while simultaneously building and managing digital resources. Understanding the current state of collection development, acquisition methods, and the challenges faced by librarians is essential for informed decision-making and resource allocation.

Second, the adoption of information and communication technologies (ICT) has brought about significant changes in library operations, including collection management, cataloguing, and service delivery. However, the literature suggests that there is considerable variation in the management practices between different university libraries, influenced by financial, technical, and human resource factors . A systematic study of these variations can help identify best practices and areas requiring intervention.

Third, the integration of e-resources has become a central aspect of university library collections. However, the shift to digital resources demands re-evaluating resource allocation, budgeting, and staffing . Understanding how libraries acquire, access, and manage e-resources is crucial for developing effective collection development strategies and identifying barriers to resource access.

Fourth, users, particularly digital-native students and researchers, have new expectations for library services, such as seamless access to digital materials, 24/7 availability, and personalized assistance . Libraries need to understand these expectations and assess their ability to meet them.

Fifth, research has revealed significant barriers to the effective management of e-resources, including technical problems, lack of adequate training, budget limitations, licensing and copyright complexities, and security issues . Identifying and understanding these challenges is essential for developing strategies to overcome them.

Finally, the need for this study is underscored by the observation that library leaders are responding to shifts in institutional priorities and adapting to advances in technology, yet financial challenges remain the top constraint on libraries' ability to make desired changes . A comprehensive understanding of the current state of university libraries in Telangana is essential for strategic planning and for justifying resource allocation to institutional leadership.

4. Objectives

The objectives of this study are as follows:

1. To assess the availability and types of print and electronic information sources in selected university libraries of Telangana.
2. To examine the collection development policies and acquisition methods followed by university libraries in acquiring both print and electronic resources.
3. To investigate the library services provided to users, including circulation, reference, current awareness, and digital services.
4. To evaluate the adoption and impact of ICT applications on collection management and service delivery in university libraries.
5. To identify the challenges and barriers faced by librarians in managing collections and rendering services to users.
6. To analyze the budget allocations for library resources, including print and electronic collections.
7. To study the staff competencies and training needs for effective library management in the digital era.
8. To propose strategic recommendations for improving the management of information sources and services in university libraries of Telangana.

5. Information Sources in University Libraries

5.1 Print Resources

Despite the growing emphasis on digital resources, university libraries in Telangana maintain substantial print collections that form the backbone of their holdings. The study of six university libraries in Telangana

revealed that books occupy a major part of the entire collections, accompanied by significant collections of reference books, theses and dissertations, back volumes of journals, government documents, annual reports, manuscripts, microfilm and microfiche materials, and other traditional resources .

There is considerable variation in collection sizes across different university libraries. The Osmania University library has the largest collection of books, current periodicals, government documents, theses, dissertations, and manuscripts for research work . The University of Hyderabad has the highest collection of reference books and audiovisual materials, while PJTSAU has the highest collection of annual reports . NALSAR, being a specialized law university, has the smallest collection of books, back volumes of journals, government documents, annual reports, and audio and video materials .

5.2 Electronic Resources

Electronic resources have become an essential part of university library collections in the 21st century. These electronic resources, also known as online information resources, include a range of materials such as bibliographic databases, electronic reference books, search engines for full-text books, and digital data collections . The array of e-resources extends to e-books, e-journals, databases, CDs/DVDs, e-conference proceedings, e-reports, e-maps, e-photographs, e-manuscripts, e-theses, e-newspapers, and internet websites .

The University of Hyderabad has the highest collection of e-books and electronic journals, while Osmania University has the lowest collection of e-books but the highest collection of electronic reports and digital documents . JNTUH has the highest collection of CD-ROM databases, and MANUU has the highest collection of institutional repositories .

Research on the use of digital resources by faculty members in engineering colleges of Telangana found that e-journals are the most widely accessed digital resource (82.42%), followed by the Internet (76.06%), and library OPAC (50.30%) . The least used digital resources are e-zines (7.58%), indicating that users primarily access scholarly and academic resources.

5.3 Collection Development Policies

Collection development policies guide the systematic acquisition and management of library resources. The study of university libraries in Telangana found that almost all institutions (100%) have library committees that play a dominant role in the book selection process, along with the librarian . Faculty members play a moderately major role in suggestions for the library collection, while scholars, students, and administration personnel play a lower role .

For the selection of documents, university libraries use multiple tools, including publishers' catalogues, book quotations, and brochures. Quotations and consortia are the primary procedures for book ordering, with orders placed directly from publishers and through online purchases .

In terms of e-resource development policies, a large majority (83%) of respondents indicated that their libraries have e-resource development collection policies, reflecting a structured approach toward the enhancement of digital libraries .

6. Methods of Information Source Management

6.1 Acquisition Methods

University libraries in Telangana follow diverse procedures for acquiring information sources. For print materials, the primary acquisition methods include inviting quotations from vendors, direct purchase from publishers, and online purchasing orders. The study found that most libraries (96.25%) acquire books by inviting quotations from vendors, followed by 73.75% purchasing directly from publishers, and 53.75% using online purchasing orders .

For journal subscriptions, libraries primarily subscribe through publishers (78.75%), with some using a combination of agents and publishers . For e-resources, most university libraries (70%) subscribe through consortia membership, with the majority (62.50%) also providing access to open access e-resources .

6.2 Cataloguing and Classification

The classification and cataloguing of documents are essential for enabling users to access library resources effectively. The study found that 100% of the libraries in government autonomous colleges and 84.29% in government non-autonomous colleges classify their documents . However, 15.71% of non-autonomous college libraries do not classify their documents, indicating a gap in collection organization practices.

6.3 Circulation and Maintenance

Circulation services are provided by all university libraries (100%), along with bibliographic services, interlibrary loans, reference services, and current awareness services . The majority of libraries (93.33%) provide comprehensive services, while some variations exist, with NALSAR and MANUU not providing virtual reference services and newspaper clipping services .

For circulation, the majority of government degree college libraries (70%) have adopted the ledger charging system, with some using automated circulation systems (10%) . The period of loan and number of books issued vary by user type, with students typically receiving 1-3 books, faculty receiving 6-10 books, and non-teaching staff receiving 1-3 books for a period of 15 days, full semester, and one month respectively .

6.4 Digital Library Software

The creation and management of digital libraries in Telangana rely primarily on open-source software. The study found that 84% of libraries have developed digital libraries using open-source software, with DSpace

being the most widely used (44%), followed by EPrints (28%), and Greenstone (8%) . This reflects a trend toward cost-effective solutions for digital content management.

6.5 ICT Applications

Information and communication technologies have become central to collection management and service delivery in university libraries. A large majority of respondents (85.71%) indicated that ICT applications have a greater impact on e-resource management . The majority of libraries (82.86% of non-autonomous and 100% of autonomous colleges) have initiated the automation of their libraries using standard library automation software .

ICT applications impact collection development in several ways, including changes in collection development patterns toward e-resources, enhanced efficiency through automation, enhanced preservation through digital storage, and improved discovery and increased access to information . However, ICT also takes a major share from the budget, with half of the respondents indicating that operational costs exceed year by year .

7. Challenges Facing University Libraries in Telangana

7.1 Financial Challenges

Inadequate and irregular budgets are identified as the most significant challenge facing university libraries in Telangana. All librarians (100%) working in government non-autonomous degree college libraries expressed that they are struggling with inadequate and irregular budgets to upgrade their library resources . Research on university libraries reveals that budget allocation is not uniform and varies significantly among institutions, with some universities receiving substantially higher allocations than others .

ICT applications are also affecting regular budgeting provisions, with ICT taking a major share of the budget allocation . The majority of respondents (50%) agree that operational costs are exceeding year by year, creating ongoing financial pressure on library budgets .

7.2 Staffing Challenges

A high percentage (97.14%) of librarians reported suffering from inadequate manpower to effectively maintain their libraries . This staffing shortage is compounded by a lack of expertise in handling technology (54.29%), lack of proper ICT infrastructure (60%), and lack of coordination from staff (17.14%) . The shortage of trained library professionals who can effectively manage both print and digital collections represents a significant barrier to library effectiveness.

7.3 Technical and Infrastructure Challenges

Technical problems are the most prevalent barrier to e-resource collection management, with 73.33% of respondents indicating technical issues . Lack of training was identified by 67.61% of respondents as a

major problem, followed by budget constraints (59.04%) and licensing and copyright challenges (46.66%)

Specific technical challenges include limited accessibility to physical locations, changes in access models (subscription, pay-per-use, open access), format compatibility issues, preservation problems, space constraints, technical issues such as server downtime and network connectivity, and time consumption in cataloguing . Bandwidth constraints and lack of required skills also contribute to the challenges in accessing and using e-resources .

7.4 Licensing and Copyright Challenges

Licensing and copyright complexities are significant barriers to e-resource management, with 46.66% of respondents identifying these as prevalent challenges . The management of digital resources requires navigating complex legal and contractual frameworks, which many libraries lack the capacity to handle effectively.

7.5 Infrastructure Challenges

Lack of proper ICT infrastructure (60%) and network-related problems (35.71%) were identified as significant challenges . The lack of Wi-Fi-enabled campuses and reliable internet access affects students' and researchers' ability to access digital resources, particularly from off-campus locations.

7.6 Challenges in Digital Library Implementation

Research on digital libraries in Telangana has identified several specific challenges in the implementation of digital library systems. These include difficulties with resource discovery and access, format compatibility problems, preservation and long-term access issues, and the need for continuous technology upgrades . The lack of uniform standards and practices across institutions further complicates digital library development.

7.7 Other Challenges

Additional challenges identified include:

- Lack of management support (12.86%)
- Lack of demand from users (11.43%)
- Poor budget allocation for specific resource types (e.g., JNTUH had no budget allocated for books for three of five years studied)
- Differences between autonomous and non-autonomous institutions in resource availability and adoption of technology
- The need to balance traditional and digital resource investments with limited budgets

8. Future of Academic Libraries

8.1 Digital Transformation

The future of academic libraries in Telangana lies in embracing digital transformation. This process is powered by disruptive digital technologies, insights, and processes, with the key focus being on transforming for the digital age by influencing customer experience, innovation, and efficiency . As one researcher noted, "Only those universities that stay relevant and leverage the power of digital and put in place focused digital transformation will survive in the digital era" .

Libraries should act as a platform for digital transformation, adapting their services and resources to meet changing user needs and expectations. This will involve reimagining physical spaces, developing digital collections, and creating seamless access to information resources.

8.2 Blended Services

The future will see a continued blending of physical and virtual services. Libraries will need to maintain and enhance their physical collections while simultaneously expanding and improving their digital offerings. This includes developing institutional repositories, providing access to e-books and e-journals, and offering virtual reference services .

8.3 Staff Development

The transition to digital libraries requires investment in staff development. As technology continues to evolve, library professionals must acquire new skills in digital resource management, ICT applications, and user support. The study emphasizes that "the success of digital library in any institution depends on its content and the skill and ability of the library professionals" .

8.4 Collaboration and Consortia

Enhanced collaboration through consortia will be essential for improving access to e-resources. The study found that most libraries provide e-resources through consortia membership, and this trend is likely to continue . Collaboration with publishers, other institutions, and technology providers will help libraries reduce costs and expand their resource offerings.

8.5 Enhanced Infrastructure

Significant investment in ICT infrastructure is essential for the future development of academic libraries. This includes reliable internet connectivity, modern computer systems, and the adoption of the latest library automation and digital library software . Improved infrastructure will enable libraries to provide better access to digital resources and enhance the user experience.

8.6 Data-Driven Decision Making

The future of academic libraries will be shaped by data-driven decision making, using library management systems and analytics to understand user behavior, assess collection development needs, and optimize resource allocation. This approach will enable libraries to demonstrate their value and justify their budgets more effectively.

9. Conclusion

The study of information sources, methods, and challenges in university libraries of Telangana reveals an academic library sector in transition. These institutions are moving from traditional print-based collections to hybrid models that integrate digital resources alongside conventional materials. This transformation presents both opportunities and challenges for library administrators, staff, and users.

The study found that university libraries in Telangana have substantial print collections, with significant variation across institutions in terms of collection size and type. Electronic resources have become an essential part of library collections, with e-journals being the most widely accessed digital resource. Libraries have adopted collection development policies and acquisition methods that include library committees, consortia membership, and diverse book acquisition methods.

However, significant challenges persist. Financial constraints, inadequate staffing, technical issues, licensing complexities, and lack of proper ICT infrastructure are major barriers to effective library management and service delivery. The shortage of trained library professionals and the need for continuous upskilling represent ongoing human resource challenges.

The adoption of ICT applications has had a substantial positive impact on e-resource management and collection development, with the majority of libraries having initiated automation and digital library development. The use of open-source software such as DSpace reflects a cost-conscious approach to technology adoption.

Looking to the future, academic libraries in Telangana must embrace digital transformation, invest in staff development, enhance ICT infrastructure, and leverage collaboration through consortia to optimize their resources and services. Only those institutions that adapt to changing user needs and leverage the power of digital technologies will remain relevant and continue to fulfill their role as the intellectual heart of their academic institutions.

The findings of this study provide valuable insights for policymakers, library administrators, and academic institutions seeking to improve their library services and resource management strategies. By addressing the challenges identified and capitalizing on the opportunities presented by digital transformation, university libraries in Telangana can better serve their academic communities and contribute to the advancement of teaching, learning, and research in the region.

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