



Impact of information technology on library organizational structure (An Indian perspective)

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Abstract

The advent of Information Technology (IT) has radically transformed library operations, services, and organizational structures worldwide. Academic, public and special libraries in India have implemented automation, digital resources, and network systems to improve service delivery. This study examines how IT has affected the organizational structure of libraries in India, focusing on changes in roles, workflows, departments, and leadership functions. By reviewing literature, analyzing case studies, and synthesizing Indian research, the paper highlights benefits, challenges, and strategic shifts in human resource deployment. The findings suggest that IT has not only redefined technical services but also necessitated managerial innovations, cross-functional roles, and continuous professional development among library personnel.

Keywords: Information technology, library automation, organizational structure, library management, human resources, digital libraries, workflow transformation, Indian academic libraries, leadership

Introduction

Since the late twentieth century, Information Technology (IT) has influenced all sectors of society, including libraries. In India, libraries have transitioned from manual card catalogues and physical archives to automated systems, online public access catalogs (OPAC), digital repositories, and integrated library management systems. This technological progress has driven significant transformation in how libraries are structured and managed.

Organizational structure refers to the formal arrangement of roles, responsibilities, communication systems, and administrative hierarchies that guide the functioning of an organization. The introduction of IT in libraries has altered traditional departmental functions, redistributed staff roles, and impacted managerial approaches. Indian libraries, influenced by national policy shifts, technological adoption projects (such as INFLIBNET's initiatives), and global best practices, present a unique environment to examine the impact of IT on organizational structure.

This paper explores how IT has reshaped library organizational frameworks in India, the evolving responsibilities of librarians, and the future trajectory of library administration.

Conceptual Framework

1. Information Technology in Libraries

Information Technology in libraries refers to the application of digital tools, systems, and software that support library operations including acquisitions, cataloguing, circulation, serials control, user services, and resource sharing. Library automation systems (such as SOUL, KOHA, and LIBSYS) and digital repositories are prominent examples of IT adoption in the Indian context.

2. Organizational Structure in Libraries

Organizational structure defines how tasks are allocated, how roles are coordinated, and how authority is distributed. Traditionally, libraries operated in clearly defined units such as acquisition, technical processing, circulation, reference, and serials. The integration of IT has challenged these traditional boundaries.

Literature Review

Indian scholars have extensively discussed IT impact on library functions, yet the focus on organizational structure is emergent.

Rao and Rao (2006) ^[2] observed that automation in Indian academic libraries altered department boundaries and introduced technical support units. Kumar (2012) ^[1] emphasized that IT-driven changes require new competencies among library staff to manage digital collections. Singh and Sharma (2018) ^[4] analyzed how cloud-based library systems influenced reporting hierarchies and cross-functional workflows. Patil (2015) ^[3] highlighted the evolving role of librarians from custodians of materials to information facilitators.

International studies also support these trends. Webster and Wan (2008) noted that automation often dissolves rigid departmental demarcations, fostering collaborative work environments. Applegate (1999) discussed technology as a structural force reshaping organizational design.

The literature suggests that IT influences not just operational tasks but also strategic roles and human resource allocation.

Objectives

The main objectives of this study are:

To assess the impact of IT on the organizational structure of libraries in India.

To examine changes in staff roles and responsibilities due to IT adoption.

To identify challenges and opportunities associated with structural transformation.

To propose strategies for managing IT-related organizational change.

Methodology

This study adopts a qualitative approach through:

Analytical review of Indian and international literature

Examination of organizational charts from selected Indian libraries

Structured interviews with library administrators (secondary sources)

Synthesis of policy documents and case evidence

Data sources include peer-reviewed journals, LIS conference proceedings, institutional reports, and professional publications.

Historical Background: Pre-IT Organizational Structures

Before the widespread adoption of IT, Indian libraries followed hierarchical management structures with clearly delineated units such as:

Acquisitions

Technical Processing

Circulation

Reference and Information Services

Serials Control

Reading Room Supervision

Staff roles were generally task-focused, with minimal technological requirements. Communication was linear, and decision-making was centralized.

Catalysts for IT Integration in Indian Libraries

Several factors prompted IT integration:

1. National and Institutional Policies

National initiatives like INFLIBNET and UGC mandates encouraged library automation and networked services.

2. Digital Resource Proliferation

The rise of e-journals, e-books, and subscription databases necessitated digital management systems.

3. User Expectations

Students and researchers increasingly demand 24×7 access, efficient search tools, and remote services, pushing libraries toward digital platforms.

Impact of IT on Organizational Structure

1. Departmental Restructuring

IT integration has led to:

Technical Services Units merging with IT support teams

Creation of IT/Systems Departments within libraries

Blended functional groups (e.g., digital resources + analytics)

2. Role Transformation

The roles of librarians and support staff have shifted significantly:

2.1 From Custodial to Facilitator Roles

Librarians now act as:

Digital resource curators

Data managers

User experience designers

Instructional technologists

2.2 Technical Competency Expectations

Staff requires knowledge of:

Library automation software

Database management

Web technologies

Digital preservation standards

3. Leadership and Management Functions

Library leadership now includes:

Strategic IT planning

Budgeting for digital infrastructure

Vendor negotiations

Data analytics for service evaluation

4. Communication and Workflow Changes

IT fosters:

Cross-department collaboration

Shared digital platforms for workflow tracking

Reduced paper-dependent processes

Case Studies from Indian Libraries

1. University of Delhi Library System

At the University of Delhi, automation led to the centralization of technical services. A dedicated Library Systems Division manages digital subscriptions, OPAC, and repository activities. Traditional silos like cataloguing and circulation now collaborate digitally, shifting reporting lines.

2. Indian Institute of Technology (IIT) Libraries

IIT libraries implemented integrated library systems (ILS) like KOHA. They established an IT and Digitization Unit responsible for system administration, network security, and user training.

3. Central University Libraries

Many Central Universities created Electronic Resource Management (ERM) units to handle licensing, analytics, and user access. Reference desks now provide digital research assistance.

Benefits of IT-Driven Structural Changes

1. Enhanced Service Efficiency

Automated workflows have reduced turnaround time for acquisitions and cataloguing.

2. Improved Access to Information

Remote access and discovery layers help users locate resources seamlessly.

3. Better Resource Management

Digital dashboards enable real-time tracking of usage and subscriptions.

4. Staff Skill Development

Continuous learning opportunities in IT enhance professional competencies.

Challenges and Constraints

1. Resistance to Change

Staff members without IT backgrounds may resist structural changes.

2. Training and Skill Gaps

Continuous professional development is needed but often lacks institutional support.

3. Budgetary and Infrastructure Issues

Smaller colleges face constraints in upgrading IT infrastructure.

4. Policy and Planning Limitations

Lack of clear IT strategies can lead to ad hoc implementation.

Strategies for Managing Organizational Change

To address structural shifts effectively, libraries should:
Develop clear IT governance frameworks

Invest in staff training and certifications
Promote collaborative work environments
Regularly assess workflows and reallocate roles
Encourage participatory decision-making

Discussion

The integration of IT has not merely automated tasks; it has reshaped organizational culture, personnel expectations, and leadership roles. In India, the pace of change varies across institutions, influenced by policy, funding, and leadership vision. Libraries adopting proactive strategies have realigned structures to support digital scholarship and user engagement more effectively.

Conclusion

Information Technology has been a transformative agent in redefining the organizational structure of libraries in India. It has led to structural flexibility, cross-functional collaboration, and expanded roles for librarians. While challenges persist, strategic planning, continuous professional development, and institutional commitment can ensure sustainable organizational growth in the digital age.

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