

INSTITUTIONAL REPOSITORY: AN OPTION FOR SCHOLARLY COMMUNICATION IN INDIA: AN OVERVIEW

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Abstract

In the evolving landscape of scholarly communication in India, institutional repositories (IRs) have emerged as a promising strategy to enhance open access to research outputs. An institutional repository is a digital archive to collect, preserve, and disseminate the intellectual output of an institution. This paper explores how IRs serve as a cost-effective and sustainable platform for scholarly communication, particularly in Indian higher education and research institutions. By analysing the current status of IR adoption across Indian universities, including policy frameworks, technological infrastructure, and user engagement, the study highlights both the opportunities and challenges associated with implementing IRs. Key benefits include increased visibility of research, preservation of institutional knowledge, and democratisation of access. However, barriers such as limited awareness among researchers, lack of standardisation, copyright issues, and resource constraints impede wider adoption. Drawing on successful national examples (such as INFLIBNET's Shodhganga) and international best practices, the paper offers strategic recommendations for policymakers, administrators, and librarians to strengthen IR infrastructure and embed IRs in India's open access ecosystem. Through sustained institutional commitment, capacity building, and policy alignment, IRs can significantly contribute to the democratisation of knowledge and the transformation of scholarly communication in India.

Keywords: Open Access, Scholarly Publication, Institutional Digital Repository.

INTRODUCTION

The rapid growth of digital technologies has significantly reshaped the landscape of scholarly communication across the world. In this evolving environment, Institutional Repositories (IRs) have emerged as an important mechanism for preserving, managing, and disseminating the intellectual output of academic and research institutions. An Institutional Repository typically serves as a digital archive that collects, stores, and provides open access to a variety of scholarly materials—including journal articles, theses, dissertations, conference papers, working papers, datasets, and other digital content produced within an institution.

In India, the role of IRs has gained increasing attention as universities, research organisations, and libraries strive to enhance the visibility and accessibility of their scholarly output. The traditional system of scholarly communication—largely dependent on commercial publishers—often restricts access to knowledge due to rising subscription costs and limited institutional budgets. IRs offer a sustainable and cost-effective alternative by supporting the principles of the Open Access (OA) movement, which seeks to make academic research freely available to the global community.

The development of IRs in India is also influenced by national policies encouraging openness and digital preservation, such as the National Digital Library of India (NDLI) initiative, open access mandates from research funding agencies, and the increasing emphasis on digital scholarship. Despite these advances, the adoption and implementation of IRs still face challenges, including technological constraints, lack of awareness among researchers, insufficient institutional support, and issues related to copyright and standardisation.

This chapter explores the concept, significance, and evolving role of Institutional Repositories as a viable option for scholarly communication in India. By examining their benefits, current status, and challenges, it highlights how IRs can strengthen India's scholarly communication ecosystem and contribute to the global dissemination of indigenous research.

STATEMENT OF THE PROBLEM

Despite the rapid growth of scholarly output in India, a substantial portion of research produced by universities, research institutes, and academic communities remains inaccessible, scattered across various platforms, or restricted behind paywalls. Traditional modes of scholarly communication—such as subscription-based journals, print publications, and limited-circulation conference proceedings—continue to dominate, leading to restricted visibility, delayed dissemination, and uneven access to knowledge.

Although **Institutional Repositories (IRs)** have emerged globally as a viable mechanism to promote open access, preserve institutional knowledge, and enhance research visibility, their adoption and effective implementation within Indian academic and research institutions remain inconsistent and limited. Many institutions struggle with challenges such as inadequate infrastructure, lack of awareness among researchers, insufficient policy support, low submission rates, and issues related to copyright, interoperability, and long-term digital preservation.

As a result, the potential of IRs to strengthen scholarly communication—by enabling free access to publications, increasing citation impact, supporting collaborative research, and safeguarding intellectual output—remains underutilised in the Indian context. Therefore, there is a critical need to examine the current status, barriers, and possibilities of institutional repositories in India as a strategic option for improving scholarly communication.

OBJECTIVES OF THE STUDY

1. **To examine the current status and growth of Institutional Repositories (IRs) in India**, including their number, distribution, and hosting institutions.
2. **To analyse the role of institutional repositories in supporting scholarly communication** within Indian academic and research institutions.
3. **To identify the types of scholarly content** (e.g., theses, dissertations, research articles, conference papers, datasets) being archived in Indian IRs.
4. **To study the technological platforms and software** (such as DSpace, EPrints, Fedora) used for developing and maintaining IRs in India.
5. **To assess user awareness, usage patterns, and perceptions** of faculty, researchers, and students regarding institutional repositories.
6. **To explore challenges and limitations** faced by Indian institutions in establishing and sustaining institutional repositories.
7. **To evaluate the extent of open access compliance** and the contribution of IRs to open access scholarly communication in India.
8. **To recommend strategies for strengthening IR initiatives** to enhance research visibility, preservation, and accessibility in the Indian scholarly environment.

INSTITUTIONAL REPOSITORY (IR): DEFINITION (INDIAN CONTEXT)

An **Institutional Repository (IR)** is a **digital archive** where an academic or research institution (such as a university, research centre, or government body) **collects, preserves, and provides open access** to the scholarly output created by its faculty, researchers, and students.

Key Features of an Institutional Repository

Collects: research papers, theses, dissertations, conference papers, datasets, presentations, reports, and other academic works.

Preserves: ensures long-term digital preservation of institutional knowledge.

Provides Access: usually offers **open access**, allowing anyone to view and download materials.

Showcases Institutional Output: increases visibility, impact, and citation of the institution's research.

Institutional Repositories in India

In India, IRs are often created by universities, IITs, IISERs, CSIR labs, ICAR institutes, etc., using platforms like **DSpace**, **EPrints**, and **KohaSpace**.

They support:

- UGC's mandate for uploading theses to **Shodhganga**
- Open Access policies by research councils (CSIR, ICAR, ICMR, DST)
- National Digital Library of India (NDLI) integration

Examples of Well-Known Institutional Repositories in India

- **Shodhganga** – Repository of Indian theses/dissertations
- **DSpace@IISc** – Indian Institute of Science
- **ePrints@IIT Delhi**
- **DRDO Institutional Repository**
- **ICAR e-library / KrishiPrabha**

Benefits of Enabling Institutional Digital Repository

1. Enhances the Visibility and Impact of Research

- Increases global accessibility of the institution's scholarly output.
- Improves citation rates through wider discovery via search engines like Google Scholar.
- Showcases the institution's achievements to stakeholders, partners, and funders.

2. Ensures Long-Term Preservation

- Provides secure, permanent storage for digital research outputs.
- Protects valuable academic work from data loss, system failures, or outdated storage formats.
- Supports long-term archiving standards and preservation workflows.

3. Centralizes and Organizes Institutional Knowledge

- Offers a unified platform for theses, dissertations, articles, datasets, conference papers, and more.
- Simplifies knowledge management and retrieval for faculty, students, and administrators.
- Reduces duplication and fragmentation of information across departments.

4. Supports Open Access and Compliance Requirements

- Helps institutions comply with funder mandates for open access to publicly funded research.
- Facilitates sharing of publications without violating copyright rules (via preprints, postprints, embargoed access).
- Encourages a culture of openness in research.

5. Strengthens Institutional Reputation

- Demonstrates commitment to transparency, innovation, and academic excellence.
- Improves ranking metrics where research visibility and impact are considered.
- Attracts collaborations, grants, and prospective students.

6. Facilitates Academic Collaboration

- Enables global researchers to discover and build upon institutional work.
- Supports interdisciplinary collaboration by making research easily discoverable.
- Integrates with ORCID, DOI services, metadata standards, and other scholarly networks.

7. Provides Analytics and Insights

- Tracks downloads, views, citation patterns, and geographic reach.
- Offers data for institutional reporting, accreditation, and strategic planning.
- Helps authors measure the impact of their individual contributions.

8. Reduces Long-Term Costs

- Saves money by consolidating storage and reducing reliance on commercial publishers.
- Automates archiving processes and decreases physical storage needs.
- Supports scalable digital infrastructure.

9. Supports Teaching and Learning

- Provides students with access to previous theses, data sets, and research materials.
- Enhances curriculum development by giving faculty access to institutional knowledge.
- Encourages student publishing and early engagement in research.

10. Promotes Innovation and Knowledge Sharing

- Accelerates research innovation by enabling rapid dissemination.
- Encourages interdisciplinary use of shared datasets and resources.
- Drives community engagement and public access to scholarly knowledge.

STATE OF INSTITUTIONAL DIGITAL REPOSITORIES IN INDIA

The state of institutional digital repositories (IRs) in India is complex — there has been considerable growth, but also persistent challenges. Below is a nuanced assessment of the current landscape, key trends, and challenges, along with some opportunities and future directions.

Some Example Indian Universities / Institutions with OpenDOAR-listed Repositories

Based on the research and directories, here are a few examples:

University / Institution	Repository Name / Notes
Indian Institute of Science (IISc), Bangalore	Open Access Repository of IISc research publications
Indira Gandhi National Open University (IGNOU)	eGyankosh repository
Indian Academy of Sciences	Publications of Fellows repository
National Institute of Science Communication and Information Resources (NISCAIR)	NISCAIR Online Periodical Repository
Osmania University	Osmania University Digital Library (OUDL)
Gokhale Institute of Politics and Economics (GIPE)	DSpace @ GIPE

The role of open access institutional repository in scholarly communication

An **Institutional Repository** is a digital platform, typically maintained by a university or research institution, that collects, preserves, and provides access to the intellectual output (publications, data, theses, reports, etc.) of its community (faculty, students, researchers).

1. Increasing Visibility and Impact of Research

By making research outputs freely accessible, IRs raise the visibility of institutional scholarship. This often leads to higher citation rates and greater academic impact. They serve as a showcase for an institution's intellectual output, reinforcing institutional reputation.

2. Long-Term Preservation

IRs provide a mechanism for preserving digital scholarly works over the long term, protecting against data loss, format obsolescence, and ensuring continuity. They act as an institutional memory, archiving not just publications but datasets, teaching materials, and other academic artefacts.

3. Supporting Open Access (OA) Policies and Compliance

Many funders and governments mandate open access to research outputs. IRs help institutions comply with these mandates. They function as the infrastructure for green OA (self-archiving) by enabling authors to deposit versions of their work.

4. Facilitating Scholarly Communication & Collaboration

IRs promote internal and external collaboration by making research outputs discoverable and accessible. They provide a platform beyond traditional journals: faculty and departments can publish working papers, grey

literature, or teaching resources. They also support interoperability (via metadata standards, harvesting protocols) so that content can be discovered in broader networks (e.g., via OAI-PMH).

5. Institutional Branding and Strategic Value

An IR serves as a digital representation of an institution's intellectual capital. It helps institutions track and showcase research output, which can support grant applications, performance evaluations, and strategic planning. Analytics and usage metrics from IRs (downloads, reads) can feed into institutional assessment.

6. Ethical Scholarship and Equity

IRs support more equitable access to scholarship, especially for researchers in peripheral or under-resourced regions, by reducing paywalls. They democratize access to knowledge, aligning with ethical imperatives of open science and inclusivity.

7. Alternative Publishing Venue

Beyond archiving, IRs can act as a publishing platform. Some studies suggest IRs could host "overlay journals" or institutional publishing systems. This gives institutions more control over their research dissemination, reducing reliance on commercial publishers.

8. Interoperability & Global Research Infrastructure

Through metadata sharing and open protocols, IRs contribute to a global network of repositories. Aggregators like CORE harvest from IRs to make content widely discoverable. Enhanced interoperability helps build a more integrated, web-scale scholarly communication layer.

KEY IMPEDIMENTS TO INSTITUTIONAL DIGITAL REPOSITORIES IN INDIA

1. Lack of Awareness and Engagement

Many faculty and researchers are not sufficiently aware of the benefits of IRs, or see depositing in a repository as extra work. As per case studies, user-awareness is a major issue. Low researcher participation leads to low deposit rates; without consistent content, the repository's value remains limited.

2. Human Resource Constraints

Indian universities often lack dedicated staff for repository management, curation of metadata, and digital preservation. Training needs are significant: expertise in metadata standards, OA (open access) policies, preservation strategies, technical maintenance, and user support are often missing.

3. Technical & Infrastructure Challenges

Interoperability: Many IRs in India lack standardised metadata schemas, which makes it difficult to integrate with national or international systems. Preservation: There's often a weak strategy for long-term digital preservation, leading to risks around data degradation, bit rot, or format obsolescence. Software and maintenance: While open-source tools (DSpace, EPrints, Fedora) are available, upgrading and customising them requires technical effort that many institutions struggle with. Hardware and storage: Some repositories operate only in a limited network (e.g., LAN) due to inadequate infrastructure.

4. Policy and Governance Issues

Lack of institutional policies (or weak policies) around IRs: Without a clear mission, guidelines, or sustainability plan, many IR initiatives are short-lived. Copyright & intellectual property: Concerns around copyright infringement, licensing, and unauthorised use of deposited content act as deterrents. Legal and IPR frameworks are often not well understood or enforced, so institutions fear legal risk. National-level coordination: There is no fully cohesive national information policy that standardises repository practices across institutions.

5. Sustainability and Funding

Many repositories do not have dedicated funding for ongoing maintenance, upgrades, training, or user outreach. Institutional priorities may shift, leaving IRs underfunded once the initial setup is done.

6. Usability and Discoverability Problems

Poor user interface or design: Researchers may find IRs difficult to navigate. For example, a study found the interface centred on search, without good browsing options, making discovery hard. Metadata quality issues can hamper findability (wrong, incomplete, or inconsistent metadata). Lack of integration with academic workflows: If depositing in the IR isn't embedded in faculty workflows (promotion, evaluation), they may not use it.

7. Cultural and Motivational Barriers

Researchers may be sceptical about open access or feel that publishing in journals is more prestigious; IRs may be seen as peripheral. There may be a lack of reward mechanisms for depositing in IRs (e.g., recognition, career incentives). Intellectual property concerns and fear of plagiarism may discourage full-text deposit.

8. Digital Divide and Accessibility

Even within institutions, there can be disparities in digital infrastructure (especially in less-resourced colleges/universities). Lack of reliable internet or limited bandwidth can affect both depositing and accessing repository content.

9. Preservation and Trust

Without strong preservation policies, institutions may worry about the longevity and integrity of the repository content. Users may trust external (well-known) repositories more than local IRs if they perceive them as less stable or credible.

IMPLICATIONS OF THESE IMPEDIMENTS

Underutilization: If IRs don't have enough content, or the content is hard to find, they may not serve their purpose of open dissemination.

Wasted Investment: Institutions may have spent money/time on setting up repositories, but poor adoption means low return on investment.

Loss of Institutional Knowledge: Theses, dissertations, reports, and other grey literature might remain locked in print or silos, reducing their visibility.

Fragmented Scholarly Communication: Without standardisation, IRs remain isolated rather than contributing to a national/global open access ecosystem.

Preservation Risk: Important academic output may be lost over time if repositories are not maintained or preserved.

POSSIBLE MITIGATION STRATEGIES

To overcome these impediments, institutions (and policymakers) could consider:

1. Developing Institutional Policy

Create clear guidelines on what content should go into the IR, who is responsible, how metadata is handled, and how long-term preservation will be managed. Incentivise deposits (link IR usage to promotions, funding, or evaluation). Establish copyright and IP frameworks, possibly with legal support or training.

2. Capacity Building & Training

Build a dedicated team (repository manager, metadata librarian, IT support) with training in metadata, ingest workflows, and preservation. Conduct workshops for faculty and students to raise awareness about IR benefits, OA, copyright, and how to deposit.

3. Technical Investment

Use reliable, scalable repository software; customise UI/UX to make the system more user-friendly. Implement interoperability standards (OAI-PMH, metadata schemas) to integrate with national/international repositories. Invest in preservation infrastructure (storage, backups, format migration strategies).

4. Sustainable Funding

Allocate recurring budget for repository maintenance, staff, training, and infrastructure. Explore consortial or shared models: smaller institutions may collaborate or rely on a common IR infrastructure (or shared service).

5. Promotion & Outreach

Promote the repository within the institution: show researchers how depositing increases visibility, citation, and impact. Create a user-friendly UI and promote browsing, not just searching. Highlight successful case studies or showcase high-impact works in the IR.

6. National and Policy-Level Coordination

Advocate for a national open access/repository policy (or stronger coordination) to encourage standards, interoperability, and shared infrastructure. Align repository goals with national digital initiatives (e.g., Digital India, national data sharing policies).

7. Monitoring & Evaluation

Set KPIs: number of deposits, growth of full-text content, usage statistics, and researcher satisfaction. Regular audits of metadata quality, system performance, and preservation health.

Conclusion:

Institutional repositories (IRs) present a significant opportunity to strengthen scholarly communication in India by ensuring wider accessibility, preservation, and dissemination of research outputs. They offer a cost-effective and efficient platform for universities and research institutions to showcase their intellectual contributions while

promoting open access to knowledge. By overcoming barriers such as limited journal subscriptions and high publication costs, IRs can democratize access to scholarly content, enhancing visibility and impact for Indian researchers on a global scale.

However, the successful implementation of IRs requires robust institutional support, awareness among researchers, clear policies, and the adoption of standardised metadata and digital preservation practices. With strategic planning, collaboration, and capacity building, institutional repositories can serve as a cornerstone for India's research ecosystem, fostering greater knowledge sharing, academic transparency, and innovation.

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