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ANALYTICAL ASSESSMENT OF INFLIBNET CONSORTIUM'S COLLABORATIVE INITIATIVES—SHODHGANGA, SHERNI, IRINS, AND E-SHODHSINDHU—IN ENHANCING RESEARCH PRODUCTIVITY AND SCHOLARLY VISIBILITY IN INDIAN HIGHER EDUCATION

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ABSTRACT

An evaluation of the initiatives of INFLIBNET Centre Shodhganga, SheRNI, IRINS, e-ShodhSindhu relevant to the research productivity and visibility of higher education of India. The article covers Shodhganga, SheRNI, IRINS, e-ShodhSindhu. The researcher uses verified secondary data from the annual report, newsletters and portal page of INFLIBNET. The official brochure of INFLIBNET, Government statistics on higher education and recent articles have also been used. It makes no claims about primary fieldwork, user surveys, institutional interviews, or unpublished administrative data. The assessment makes use of descriptive statistics, validated growth indicators, a scoring matrix that is openly acknowledged as researcher-developed which lends the flexibility in use of a composite ranking and exploratory correlation analysis. This project has revealed that the programs are more functionally complementary. Shodhganga helps provide open access to doctoral theses and enhance the visibility of Indian postgraduate research; IRINS helps in institutional profiling of research, discoverability at the faculty level, and analytics on research; e-

ShodhSindhu provides structured access to scholarly e-resources and establishes a documented positive association between full-text downloads and publication output; and SheRNI makes available a gender-responsive expert-network model to enhance the visibility and collaboration opportunities of women researchers. The comparative index ranks IRINS and Shodhganga highest due to the combination of visibility, infrastructure utility and, structured metadata functions. e-ShodhSindhu performs best on the research productivity support front but lower on open public visibility as it is mainly a licensed access consortium. SheRNI is high on visibility and collaboration but needs public data for long-term rigorous assessment. The study revealed that the collective effort of the collaborative tools introduced by INFLIBNET strengthen the scholarly communication system in India. A comparative evaluation in future would benefit from the provision of standard dashboards, use of discipline wise data, longitudinal measurements of impact, and open institutional indicators.

KEYWORDS: INFLIBNET; Shodhganga; SheRNI; IRINS; e-ShodhSindhu; research productivity; scholarly visibility; open access; higher education; research information management; India.

1. INTRODUCTION

As Indian higher education moves into a new phase, research visibility and metadata quality, open access and reliable access to electronic resources are becoming as important as the number of universities or research scholars. The extent of the system is in itself a policy problem. According to data from AISHE 2021-22 release, there are 1168 universities or university-level institutions, 45473 colleges and 12002 stand alone institutions in Indian Higher Education System (Press Information Bureau, 2024). In a large ecosystem, isolated institutional effort is insufficient to build the nationally visible research infrastructure. The emphasis for the modernization of academia is therefore on shared repositories, research profile systems, national knowledge networks, negotiated e-resource access etc.

The Information and Library Network (INFLIBNET) Centre has become a key infrastructural player in this change. The INFLIBNET Centre 2026a, a unit of the University Grants Commission is an autonomous Inter-University Centre under the Ministry of Human Resource Development involved with the modernization of university libraries through information communication technology. The Centre also does not rest on the library automation. They currently includes open access repositories, e-resource consortia, research information systems, plagiarism-detection support, researcher networking, and research

analytics. This paper discusses four initiatives relating to different layers of research communication cycle viz. Shodhganga, SheRNI, IRINS, and e-ShodhSindhu.

The long-pending issue of preserving and providing access to Indian doctoral theses and dissertations has found a solution in Shodhganga. The requirement of organizing faculty profile, publication metadata, research identifiers, and impact indicators at institutional scale is addressed by IRINS. The e-ShodhSindhu project offers access to journals, databases, and e-books through a national consortium. SheRNI has been launched in 2024 with an explicit gender responsive approach by developing a network of expert profiles for women researcher and faculty. As a result, these initiatives operate at various points in the research lifecycle: discovery of prior research; access to literature; production of new knowledge; researcher visibility, collaboration; and institutional evaluation.

The main issue discussed in this paper is on analytical assessment of portal-level initiatives that do not create excessive optimism or imaginary portal-level impacts. The many dialogues on digital research infrastructure make use of broad claims like “enhances productivity” or “improves visibility” but they lack operational clarity. A repository may improve visibility even if it does not directly lead to more publications; whereas an e-resource consortium may improve research productivity without public researcher profiles; and a gender-focused expert network may enhance collaboration before long-term citation effects can be seen. Due to this reason, the study follows a mixed analytical approach whereby verified secondary indicators are reported wherever available. A clearly labelled researcher-developed scoring matrix is used to compare functional contribution across initiatives.

2. The Indian National Higher Education Infrastructure and Indian Higher Education Research Infrastructure.

Originally launched by the University Grants Commission (UGC) in 1991, INFLIBNET became an independent Inter University Centre in 1996. Its broad mandate relates to university libraries modernisation, networking of information centres, and development of ICT based information services for Higher Education (INFLIBNET Centre, 2026a). This context is significant as the Centre’s current role transcends traditional library service extension. It now enables research infrastructure and publication research at the state level. Moreover, it offers institutional analytics, negotiation for digital resource access, and open access publishing.

The Indian higher education system needs infrastructure that enables the distribution of research production and visibility, which is uneven across institutional types, states,

disciplines and resource environments. Universities and colleges differ in their library budgets, subscription capability, repository readiness, bibliometrics expertise, and research administration systems. National platforms alleviate some of these disparities by facilitating common access models, shared metadata systems, and standardized dissemination channels. Nonetheless, national platforms also need institutions to participate, update the data, upgrade metadata quality, provide technical literacy, and adhere to policies to yield measurable academic gains.

This insight, which looks at knowledge infrastructure through the framework of ‘knowledge commons’. Shodhganga provides an open-access thesis at the content layer. e-ShodhSindhu enables access to journals, databases, and e-books via the resource-access layer. At this layer, IRINS organizes researchers’ identity and publication metadata. At the network and inclusion level sheRNI creates visibility and collaboration pathways for women experts. The layers are not substitutes for one another. They tackle different barriers that inhibit research productivity and visibility of scholarship.

The study is policy-relevant as it investigates whether these platforms increase the visibility, connectivity, and resourcing of the higher education research ecosystem. There is also recognition that the availability of public data is uneven. The official reports and newsletters of Shodhganga and IRINS provide quite strong numerical indicators. e-ShodhSindhu generates annual report and brochure with resource and usage indicator. As a new initiative, SheRNI possesses greater descriptive evidence than longitudinal performance data. The fact that this is uneven is in itself not a weakness of the study but rather an important finding of the status quo of public research infrastructure evaluation.

3. Shodhganga, SheRNI, IRINS, e-ShodhSindhu – conceptual framework.

Shodhganga 3.1

Shodhganga refers to a national-level digital platform to store and preserve the electronic thesis and dissertation submitted by the research scholars to their universities. According to INFLIBNET Shodhganga is a platform that helps research students to deposit their Ph.D. theses and make it available to the world community in open access (INFLIBNET Centre, 2026b). The repository is developed using DSpace and associated with UGC regulations which assign the task of maintaining digital ETD repository to INFLIBNET. The discovery, preservation, reduction of duplication and the provision of a structured evidence base for literature review and doctoral supervision have academic values.

According to official records, very rapid expansion took place. As of March 31, 2018, the annual report of 2020–21 recorded 299,499 full-text of theses from 490 institutes. (INFLIBNET Centre, 2021). According to the April–June 2024 newsletter, a total of 542765+ theses and 901 Shodhganga MoUs had been... INFLIBNET Centre (2024b). INFLIBNET Centre (2026b) highlighted that repository surpassed 6,00,000 on the Shodhganga portal on 7 May 2025. Shodhganga is the most visible numerically among the four initiatives studied in the paper as per these figures.

3.2 SheRNI.

SheRNI (She Research Network in India) was launched by INFLIBNET on International Women's Day (IWD) 2024. According to the official newsletter, it is an expert profile network that connects and leverages Indian women knowledge, skills, and expertise across fields. Involving an expert profile system at the national level, The objective of this initiative is to facilitate collaboration, mentorship, and knowledge sharing among Women Faculty Members and Experts (INFLIBNET Centre, 2024a). What sets it apart is the enhanced visibility and discoverability of experts sensitive to gender, not the growth of repositories or access by subscription.

Some of the highlighted features of SheRNI include a research network system, visibility and networking operations, funding/grants framework, events and workshops, excellence recognition, inspiring stories, and community efforts. In evaluation, thus, SheRNI is positioned as a visibility-and-collaboration platform. No long-term publication or citation effects can be responsibly inferred from information in the public domain. Consequently, this functional interpretation of SheRNI is newly emerged, conceptually strongly related, and empirically under-researched.

3.3 IRINS.

The Indian Research Information Network System (IRINS) is a web-based Research Information Management system which has been developed and provided by INFLIBNET. It assists academic and research institutions in assembling, curating and displaying scholarly communication activities and in establishing scholarly networks (INFLIBNET Centre, 2026c). IRINS is a free software-as-a-service that integrates researcher identifiers and bibliographic data source ORCID, Scopus, Google Scholar, ResearcherID and other scholarly identity systems.

The contemporary research system's approach to allow institutional or researcher visibility might depend not only on publication counts but also on metadata accuracy, researcher disambiguation, institutional affiliation, analytics, etc. According to the 2020–21 annual

report, by 31 March 2021, IRINS has done 280 instances, created 52487 profiles, and developed 936856 publication metadata records (INFLIBNET Centre, 2021). According to data in the official newsletter as of June 2024, there were 1,228 institutional instances, 191,973 connected faculty, 2,665,790 publication metadata records, 24,086,886 citations and 9,465,921 altmetric mentions (INFLIBNET Centre, 2024b). The data shows significant expansion of research profile infrastructure.

e-book access through e-ShodhSindhu.

e-ShodhSindhu is a consortia for electronic resources. In December 2015, the merger of earlier e-resource programmes like UGC-INFONET Digital Library Consortium, N-LIST, and INDEST-AICTE Consortium resulted in its establishment (INFLIBNET Centre, 2024c). The aim of the initiative is to negotiate, organize and facilitate access to electronic journals, bibliographic databases, e-books and other related scholarly content to universities, colleges, centrally funded technical institutions and other eligible higher education institutions.

According to the 2024 e-ShodhSindhu brochure core member institutions have differential access to over 7000 full text journals of 11 publishers 4 bibliographic database. Furthermore, the N-LIST component is stated to provide 6,500+ journals and 799,500+ e-books to more than 3,500 colleges (INFLIBNET Centre, 2024c). According to the annual report 2020–21, there is an interesting impact related statistic. For the 264 member institutes having access to ‘Full Text’ e-resources, the Pearson correlation was 0.81 between ‘Full Text’ downloads and publication output in 2020. (INFLIBNET Centre, 2021). One of the strongest verified quantitative indicators linking an initiative of INFLIBNET with research productivity.

4. Study of Literature from 2020 to 2025.

As per recent articles on INFLIBNET-related initiatives, the following four emerge as recurring concerns: access to academic materials, open-access dissemination of PhD research, managing research profile, and visibility for the underrepresented. Singh (2020) studied the use of e-ShodhSindhu by research scholars and finds awareness, use, and research-related dependence on digital consortium resources. According to Esh (2022), Shodhganga and ShodhShuddhi are “2S” Initiatives. Shodhganga plays an important role in aggregating university contributions to national ETD repository. Recent studies show that repository and e-resource platforms are becoming no longer peripheral services of the libraries but services of the system for conduct of research and academic life of institutions.

Research studies that concentrated on IRINS have risen in number as institutional ranking, accreditation, research administration increasingly rely on credible faculty profile data. Negi

(2023) assesses the research ecosystem of Mizoram University using IRINS data by publication types and faculty profile attributes. Kumar (2025) utilized an IRINS approach to analyze faculty profiles and percentage-based analysis to understand profile distribution of central universities. The research has also stressed the utility of IRINS-type faculty profile management for bibliometric assessment and institutional decision-making. The viewpoint that research information systems convert unorganised publication data into useful institutional evidence gets support from these studies.

The concept of SheRNI is new in literature. Khan (2024) examined the expert profiles on SheRNI with a special reference to Library and Information Science and viewed it as a tool for empowering women professionals, particularly through visibility, networking, and data-driven expert discovery. This literature is currently in a state of rapid emergence, and there aren't a large number of rigorous impact studies since 2024 was only the year of the launch of the platform. Nevertheless, SheRNI is aligned with the wider issue in scholarly communication with regard to representation, gender equity, discoverability of experts, and networked collaboration.

The literature on digital scholarly visibility notes that visibility is driven by identifiers, metadata quality, repository indexing, search visibility and profile completeness. For India's higher education, these challenges are especially important because research outputs have been scattered across many thousands of institutions with varied resource conditions. The put together studies suggest that the INFLIBNET initiatives should not be assessed in terms of one-dimensional usage counts but their differentiated function, i.e. access (primary), visibility, metadata, collaboration, inclusion and institutional.

Table 1. Review of literature matrix, 2020–2025.

Author/source	Year	Initiative/theme	Focus	Relevant finding	Use in present study
Singh	2020	e-ShodhSindhu	Research scholars' use of e-resource consortium services	Awareness and research use influence e-resource value	Supports access-productivity link
Esh	2022	Shodhganga and ShodhShuddhi	Open access repository contribution and research quality support	Shodhganga aggregates university ETDs at national scale	Supports repository visibility role
Negi	2023	IRINS	Faculty profile	IRINS enables	Supports

Author/source	Year	Initiative/theme	Focus	Relevant finding	Use in present study
			analysis in Mizoram University	institution-level publication and profile analysis	RIM-based analytics
Ranjan	2023	IRINS	Comparative profile-based study	IRINS data can be used for comparative institutional assessment	Supports profile-comparison method
INFLIBNET Centre	2024a	SheRNI	Official launch and feature description	SheRNI targets women expert visibility and collaboration	Primary source for platform objectives
INFLIBNET Centre	2024b	IRINS and Shodhganga	Quarterly official performance data	IRINS instances and Shodhganga theses expanded substantially	Primary source for secondary data
INFLIBNET Centre	2024c	e-ShodhSindhu	Official resource brochure	e-Consortium gives differential access to journals, databases, and e-books	Primary source for access indicators
Khan	2024	SheRNI	Expert profiles in LIS	SheRNI can enhance visibility of women professionals	Supports gendered scholarly visibility
Kumar	2025	IRINS	Central university faculty profile analysis	Percentage-based IRINS analysis supports profile auditing	Supports RIM assessment logic
Thanuskodi et al.	2025	IRINS	Faculty profile management through IRINS	Profile systems support research assessment and decision-making	Supports institutional utility argument

5. Research Gap

Studies till date have mainly looked at one initiative at a time, namely e-ShodhSindhu usage, Shodhganga growth, IRINS faculty profiles, SheRNI expert visibility etc. There is a shortage of studies that compare these platforms as a combined national scholarly communication infrastructure. Researchers have long noted the proliferation of collaborative tools for scientists. However, there still remain critical gaps between how these tools perform and how they work together, showing the performance of their platforms is crucial. A doctoral scholar may access literature via e-ShodhSindhu, review previous theses via Shodhganga, identify

experts or institutional outputs via IRINS, and discover women researchers for collaboration or mentorship via SheRNI.

The second gap concerns method. Many discussions make sweeping remarks about productivity and visibility, but they do not distinguish verified official metrics from interpretive assessments. The present study seeks to do this by separating three types of evidence, official numerical data, evidence from the literature, and the analyst degrees developed by the researchers. This distinction ensures a lack of false precision.

Another void is linked to SheRNI. Due to the recent launch of SheRNI, public data analysis will not afford us definitive proof of its impact on publication output, co-authorship, citation visibility or mentorship. Excluding it from analysis would miss important a gender-responsive development in research information infrastructure. In other words, while the study does acknowledge SheRNI, its effectiveness is interpreted through documented traits and early literature rather than backed claims that are unsupported.

6. Objectives of the Study

1. To assess the contribution of Shodhganga to open access doctoral research dissemination in India.
2. To analyse the role of SheRNI in improving scholarly visibility and networking opportunities for women researchers.
3. To examine the function of IRINS in institutional research profiling and researcher-level visibility.
4. To evaluate the role of e-ShodhSindhu in improving access to scholarly e-resources in Indian higher education institutions.
5. To compare the initiatives based on research productivity support, accessibility, visibility, collaboration, open access, and institutional utility.

7. Research Questions

1. How do INFLIBNET initiatives support research productivity in Indian higher education?
2. Which initiative contributes most directly to scholarly visibility?
3. How do open access repositories and research information systems influence institutional research profiling?
4. What are the major limitations in measuring the impact of these initiatives using publicly available data?

5. How can these initiatives be strengthened for equitable access and research collaboration?

8. Hypotheses

H1: INFLIBNET collaborative initiatives have a positive role in enhancing research productivity and scholarly visibility in Indian higher education.

H2: Open access and research profiling initiatives are associated with improved institutional and researcher-level visibility.

H3: Access to digital scholarly resources supports research capacity-building across higher education institutions.

Because the study uses secondary data and only four initiative-level cases, these hypotheses are treated as analytical propositions rather than causal claims. The study does not use experimental design, institutional microdata, or respondent-level survey data. Hypothesis evaluation is therefore based on convergence between official data, published literature, and the comparative scoring framework.

9. METHODOLOGY

9.1 Research Design

The research utilizes an analytical empirical research design using verified secondary data. Because it uses recorded numerical indicators such as repository counts, institutional cases, profile counts, publication metadata, e-resource counts, full-text downloads, and official correlation statistics, it's empirical.

The four initiatives differ in purpose, measurability, and expected outcomes. An automated comparison would require a systematic framework, not just a single raw indicator. Thus, it is analytical.

Sources of data

The official INFLIBNET annual reports, quarterly newsletters, official programme pages, e-ShodhSindhu brochure, AISHE/PIB higher education statistics, and where available literature published 2020-2025 (including peer-reviewed or scholarly literature) were used to generate the data. Pages from portals were used wherever official initiatives deploy live dashboards rather than out-of-date static reports. The paper does not leverage the usage of the portal or institutional adoptions, cites effects, and unverified impact claims.

Inclusion and exclusion criteria

Note that the sources included official INFLIBNET documents, government higher education data or scholarly sources that were closely related to Shodhganga, SheRNI, IRINS, e-ShodhSindhu, research productivity, scholarly visibility, open access and research information management. Sources were omitted when they contained unverifiable promotional claims, unsupported numerical claims, outdated information of no importance to our historical understanding and non-citable web commentary.

9.4 Analysis of Scoring System.

The initiatives were compared on accessibility, scholarly visibility, support for research productivity, support for collaboration, support for open access and utility to the institution. The scoring for each dimension is between 0-5, 0 means no documented contribution and five is strong documented contribution. According to official platform descriptions, verified scale indicators and updated literature. The scores are researcher-developed analytical scores. The performance score of INFLIBNETs are unofficial and these are not audited ratings.

Statistical procedures 9.5

The statistical analysis involves obtaining the frequency distribution of different service categories, descriptive statistics of scores, growth rate of Shodhganga and IRINS, composite index ranking and exploratory correlation analysis. The Pearson correlation calculated using the four-initiative scoring matrix has only descriptive value; the number $n = 4$ is too small for inferential testing. Thus, the study relies more interpretively on official statistics, particularly, the Pearson correlation of 0.81 between full text downloads and publication output for 264 institution in 2020, reported by e-ShodhSindhu (INFLIBNET Centre, 2021).

10. Data Sources and Variables

Table 2. Data sources and indicators used in the study.

Source	Year	Coverage	Variables used	Reliability status
INFLIBNET Annual Report 2020–21	2021	Shodhganga, IRINS, e-ShodhSindhu	Theses, MoUs, IRINS profiles, publication metadata, downloads, Pearson r	Official annual report
INFLIBNET Newsletter Jan–Mar 2024	2024	SheRNI, Shodhganga, IRINS	SheRNI launch/features; Shodhganga theses; IRINS instances	Official quarterly newsletter
INFLIBNET Newsletter Apr–Jun 2024	2024	Shodhganga, IRINS	Theses, MoUs, IRINS instances, metadata, faculty, citations,	Official quarterly newsletter

Source	Year	Coverage	Variables used	Reliability status
			altmetrics	
e-ShodhSindhu Brochure	2024	e-ShodhSindhu	Journals, databases, e-books, N-LIST colleges, access mode	Official programme brochure
Shodhganga portal	2025/Live	Shodhganga	600,000-thesis milestone and current platform description	Official live portal
IRINS portal	Live	IRINS	Platform objectives, RIM features, SaaS description	Official live portal
AISHE/PIB release	2024	Higher education context	Number of universities, colleges, standalone institutions, faculty	Government release
Scholarly literature	2020–2025	All four initiatives where available	User studies, profile studies, literature matrix	Peer-reviewed or scholarly sources

Table 3. Operational definition of variables.

Variable	Type	Definition	Source/method
Initiative name	Categorical	Name of INFLIBNET-linked platform	Official platform identity
Service type	Categorical	Repository, expert network, RIM system, or e-resource consortium	Official descriptions
Access model	Categorical	Open access, public profile, SaaS, licensed access, or mixed	Official portal/brochure
Records/profiles/resources	Numerical	Theses, profiles, publication metadata, journals, databases, e-books	Official reports and brochures
Accessibility score	Ordinal 0–5	Extent of user access and reach	Researcher-developed analytical score
Scholarly visibility score	Ordinal 0–5	Contribution to discoverability of outputs or researchers	Researcher-developed analytical score
Research productivity support score	Ordinal 0–5	Support for literature access, metadata, review, reporting, or output creation	Researcher-developed analytical score
Collaboration support score	Ordinal 0–5	Support for networking, expert discovery, co-author identification, or institutional collaboration	Researcher-developed analytical score
Open access support score	Ordinal 0–5	Extent to which outputs are	Researcher-

Variable	Type	Definition	Source/method
	5	openly accessible or linked to OA practices	developed analytical score
Institutional utility score	Ordinal 0–5	Usefulness for accreditation, rankings, reporting, compliance, or library planning	Researcher-developed analytical score

Table 4. Summary of INFLIBNET initiatives assessed in the study.

Initiative	Service type	Target users	Access model	Verified scale indicator	Data limitation
Shodhganga	Open access ETD repository	Research scholars, universities, guides, public scholarly community	Open access web repository	299,499 theses in 2021; 542,765+ by June 2024; crossed 600,000 on 7 May 2025	Strong thesis counts, weaker standardized current usage data
SheRNI	Women expert profile network	Women faculty, scientists, researchers, mentors, collaborators	Expert profile and networking platform	Launched on International Women's Day 2024; feature-level data officially described	Longitudinal impact metrics not yet publicly mature
IRINS	Research information management system	HEIs, R&D organizations, faculty, administrators, policymakers	Free SaaS and public/institutional profile system	280 instances and 52,487 profiles in 2021; 1,228 instances and 191,973 faculty by June 2024	Metadata quality depends on updating and data integration
e-ShodhSindhu	E-resource consortium	Universities, colleges, CFTIs, scholars, faculty, libraries	Licensed institutional access; N-LIST and off-campus authentication	More than 7,000 full-text journals from 11 publishers and 4 databases to core members; N-LIST 6,500+ journals and 799,500+ e-books to 3,500+	Institution-wise usage details not fully public

Initiative	Service type	Target users	Access model	Verified scale indicator	Data limitation
				colleges	

11. Analytical Framework

The analytical framework considers research productivity and scholarly visibility to be correlated outcomes. Research productivity is the ability to support research output by accessing literature, discovering theses, avoiding duplication, obtaining research metadata, tracking publication and reporting to the institution. Scholarly visibility is the discoverability of research outputs, researchers, institutional profiles, and expert networks in digital contexts. An initiative might perform really well in one sense, but just fine in another. e-ShodhSindhu, for instance, helps generate research but is not fundamentally designed to create public author profile. In contrast, SheRNI stays supportive of expert visibility and network activity, but one cannot yet measure its long-term productivity effects.

As a result, it uses six dimensions instead of one performance number. Accessibility refers to how wide and open the users' access is. Scholarly visibility refers to how visible output, researchers and research metadata of institutions are. Supporting productivity in research refers to the contribution to research preparation, output production, and publication-related capacity. Collaboration support refers to the discovering of an expert, co-author and networking. Open access support involves free or public access to scholarly outputs. Uses of institutional utility include compliance, accreditation, ranking, benchmarking, and internal research administration.

Table 5. Comparative functional matrix of the four initiatives.

Function	Shodhganga	SheRNI	IRINS	e-ShodhSindhu
Open dissemination of research outputs	Strong	Moderate	Moderate	Limited/indirect
Researcher profile visibility	Indirect	Strong	Strong	Indirect
Access to scholarly literature	Indirect	Indirect	Indirect	Strong
Institutional research profiling	Moderate	Limited	Strong	Moderate
Collaboration or expert discovery	Moderate	Strong	Strong	Moderate
Support for accreditation/ranking data	Moderate	Limited	Strong	Moderate
Gender-responsive visibility	Limited	Strong	Moderate	Limited
Longitudinal public performance metrics	Strong	Emerging	Strong	Moderate

12. Data Analysis and Statistical Interpretation

Data from the verified Shodhganga: Substantial Growth of Repositories. By March 2021, the repository contained 299,499 full-text theses, which increased to 542,765+ by June 2024, or approximately 81.2% over 2021. The crossing of 600,000 theses in May 2025 is an approximate growth of 100.3% on the 2021 figure. The understanding is that Shodhganga has transitioned from a large repository to a national-scale matured doctoral research infrastructure.

The rise also shows either increased registration at universities or improved compliance of ETD deposit whilst not by themselves prove thesis quality or citation effect.

IRINS is additionally showing ample growth. According to official records, March 2021 saw 280 occurrences, which increased to 1,228 by June 2024. In other words, this translates to an increase of about 338.6%. The number of faculty/profile records multiplied from 52,487 to 191,973, which is around 265.8%; and that of publication metadata, from 936,856 to 2,665,790, which is around 184.5%. The data indicates a swift organizational shift towards managing research data. The interpretation does not merely concern the number of records that IRINS holds but rather that Indian HEIs are increasingly adopting systems that link faculty identities, publications, citations, altmetrics, and institutional reporting.

According to the e-ShodhSindhu yearbook, it provides the best validated statistical association with research productivity. The INFLIBNET Centre (2021) reported a Pearson correlation coefficient of 0.81 for 264 member institutions with full-text e-resources and the year 2020 download of full-text articles and publication output. There is a good high correlation. It does not demonstrate causation as research-intensive institutions may both download more and publish more, but it does provide convincing evidence which suggests that e-resource use and publication activity are strongly associated in the consortium environment.

Scoring matrix made by the researcher gives us an index score rather than a ranking. The composite index of IRINS earned the best mark due to its strong performance in visibility, productivity support, collaborations, open access linkage, and institutional utility. Shodhganga closely follows as it combines open access, visibility, preserve doctoral research and institutional participations. Due to its nascent nature, the SheRNI initiative has limited longitudinal metrics, but it has a high visibility and collaboration score. Scores of e-ShodhSindhu are highest in productivity support and institutional utility but lowest in open public visibility due to access being mainly licensed to eligible institutions.

Table 6. Verified Shodhganga growth indicators used in analysis

Period	Verified thesis indicator	Source note
31 Mar 2021	299,499	Official annual report/newsletter/portal milestone
31 Mar 2024	525,293	Official annual report/newsletter/portal milestone
30 Jun 2024	542,765	Official annual report/newsletter/portal milestone
7 May 2025	600,000	Official annual report/newsletter/portal milestone

Table 7. Verified IRINS growth indicators used in analysis.

Period	IRINS instances	Faculty/profiles	Publication metadata	Source note
31 Mar 2021	280	52,487	936,856	Official annual report/newsletter
31 Mar 2024	1,148			Official annual report/newsletter
30 Jun 2024	1,228	191,973	2,665,790	Official annual report/newsletter

Table 8. Verified e-ShodhSindhu indicators used in analysis.

Source/year	Scope	Indicator	Interpretation
2020 annual report	315 member institutes measured for research output	91,824 papers in CY 2020	Research output measured using Web of Science
2020 annual report	264 institutes with full-text e-resource access	Pearson $r = 0.81$	Positive association between full-text downloads and publication pattern
2020 annual report	Full-text resources	8,151,992 downloads	COUNTER-based usage for full-text resources
2024 brochure	Core eSS member institutions	More than 7,000 full-text journals from 11 publishers and 4 bibliographic databases	Differential access model
2024 brochure	N-LIST college component	6,500+ journals and 799,500+ e-books to 3,500+ colleges	College access component
2024 brochure	J-Gate Plus discovery support	67,487 journals and 83.57 million articles	Article-level discovery and document delivery support

Table 9. Researcher-developed scoring matrix for comparative assessment.

Initiative	Accessibility	Scholarly visibility	Research productivity support	Collaboration support	Open access support	Institutional utility	Composite index
Shodhganga	5	5	4	3	5	4	4.33
SheRNI	4	5	3	5	3	3	3.83
IRINS	4	5	5	5	4	5	4.67
e-ShodhSindhu	3	3	5	3	2	5	3.50

Table 10. Descriptive statistics of analytical scores.

Dimension	Mean	Median	Minimum	Maximum	Standard deviation
Accessibility	4.0	4.0	3.0	5.0	0.82
Scholarly visibility	4.5	5.0	3.0	5.0	1.0
Research productivity support	4.25	4.5	3.0	5.0	0.96
Collaboration support	4.0	4.0	3.0	5.0	1.15
Open access support	3.5	3.5	2.0	5.0	1.29
Institutional utility	4.25	4.5	3.0	5.0	0.96

Table 11. Exploratory correlation matrix based on analytical scores.

Variable 1	Variable 2	Pearson r	Interpretation note
Scholarly visibility	Research productivity support	-0.52	Descriptive only; n = 4 initiatives
Scholarly visibility	Open access support	0.77	Descriptive only; n = 4 initiatives
Scholarly visibility	Collaboration support	0.58	Descriptive only; n = 4 initiatives
Research productivity support	Institutional utility	1.0	Descriptive only; n = 4 initiatives

Table 12. Composite ranking of initiatives.

Initiative	Composite index	Rank	Interpretation
IRINS	4.67	1	Highest multidimensional contribution
Shodhganga	4.33	2	Strong contribution
SheRNI	3.83	3	Focused contribution
e-ShodhSindhu	3.50	4	Focused contribution

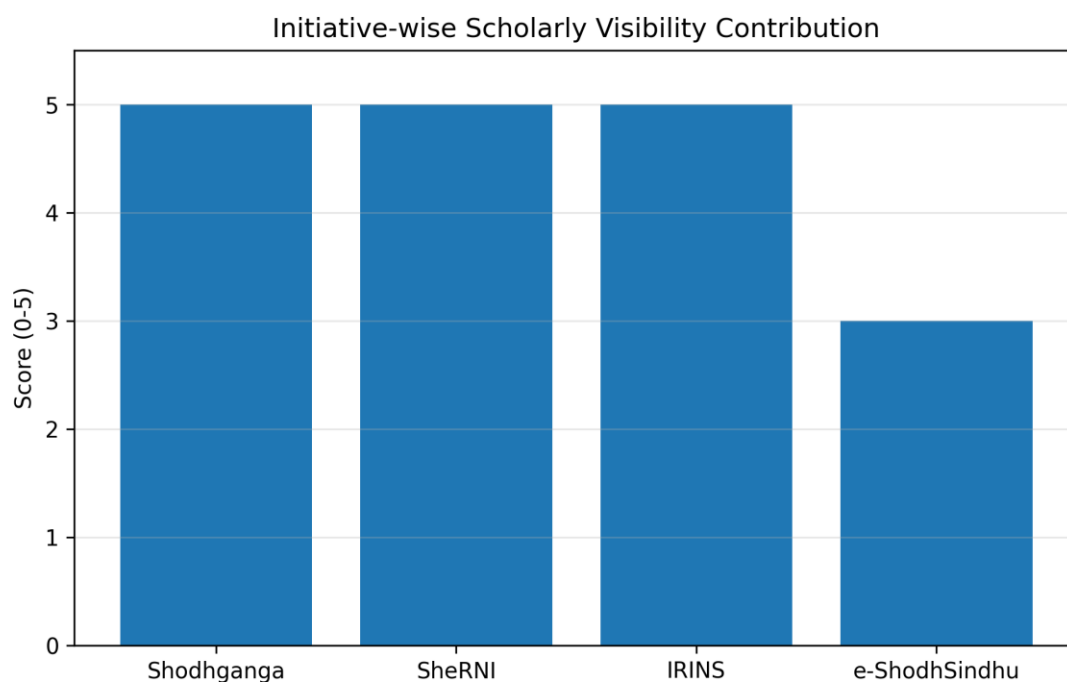


Figure 1. Bar chart comparing initiative-wise scholarly visibility scores. Scores are researcher-developed analytical ratings based on documented platform features, not official INFLIBNET ratings.

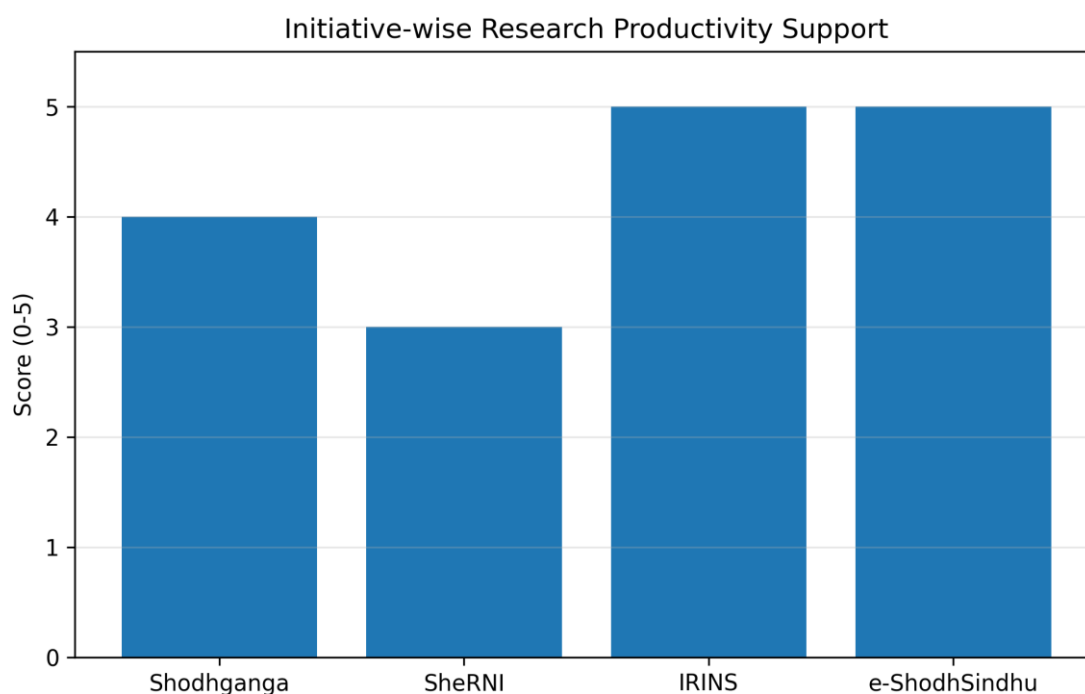


Figure 2. Bar chart comparing initiative-wise research productivity support scores. *e-ShodhSindhu* and *IRINS* show strong productivity-support functions through resource access and metadata/profile infrastructure.

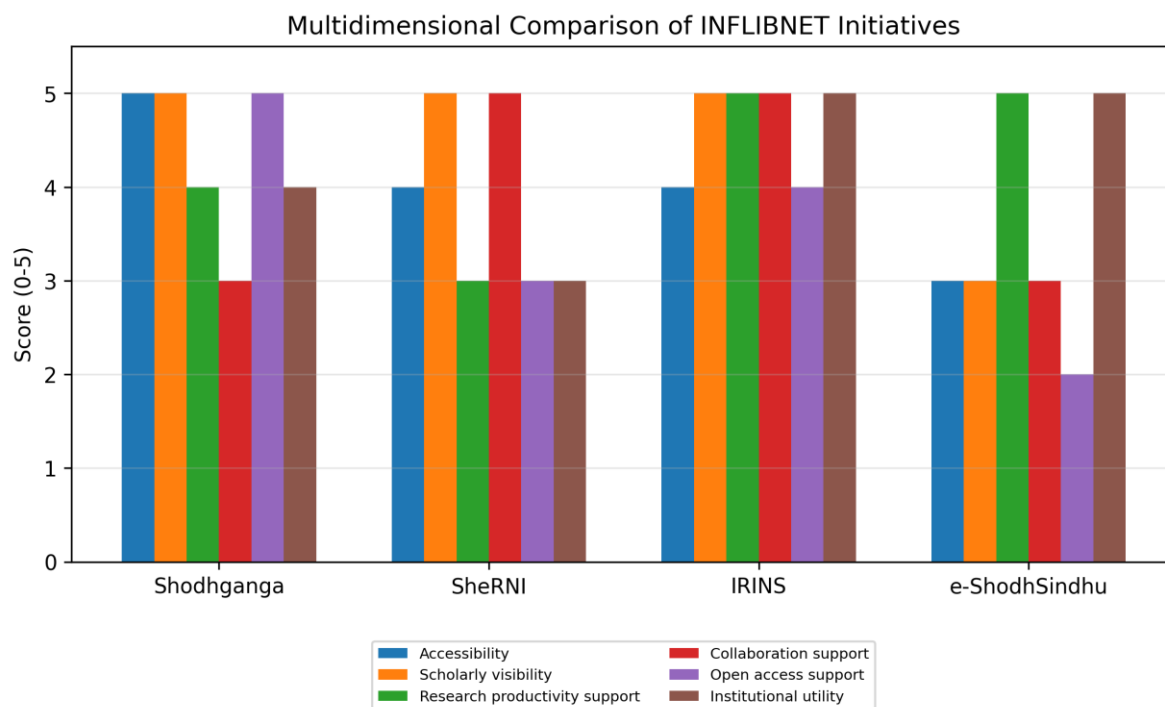


Figure 3. Clustered bar chart showing multidimensional comparison across six analytical dimensions.

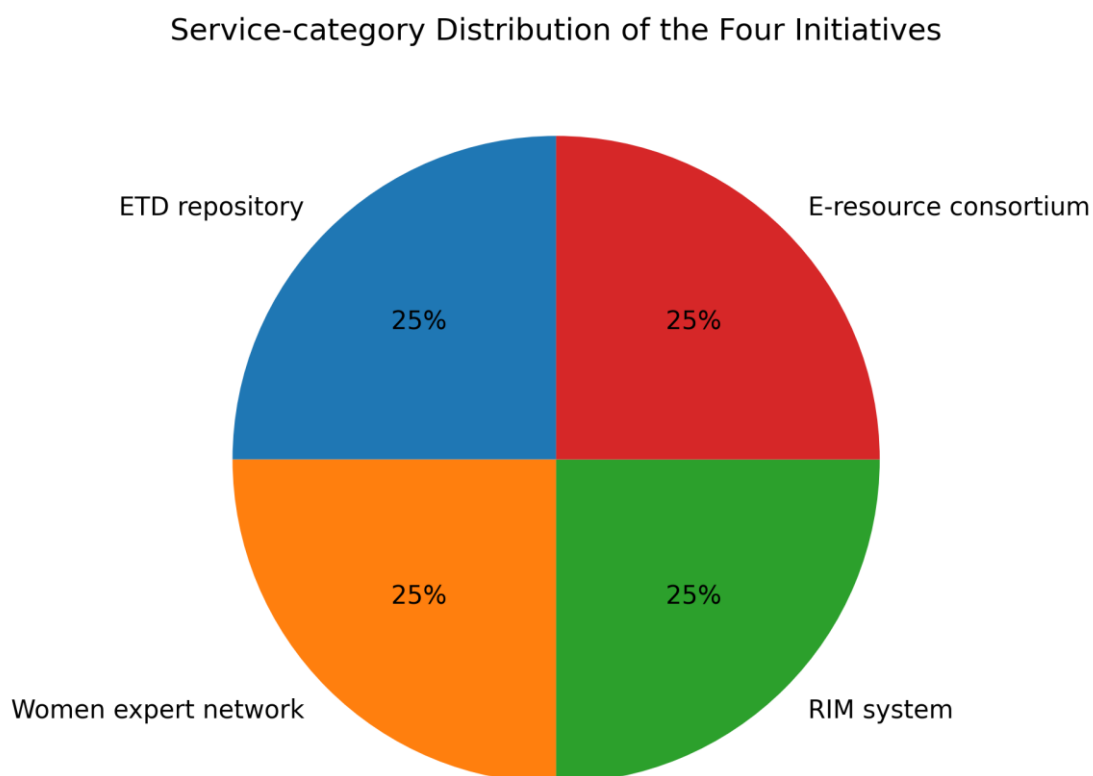


Figure 4. Pie chart showing service-category distribution of the four initiatives.

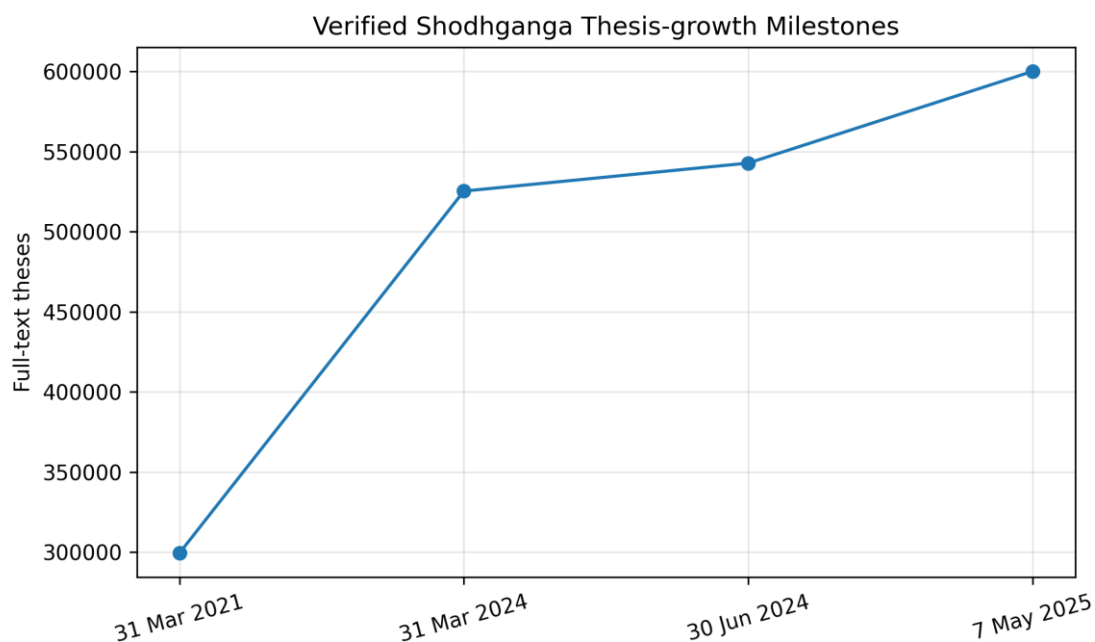


Figure 5. Line chart showing verified Shodhganga thesis-growth milestones from 2021 to 2025.

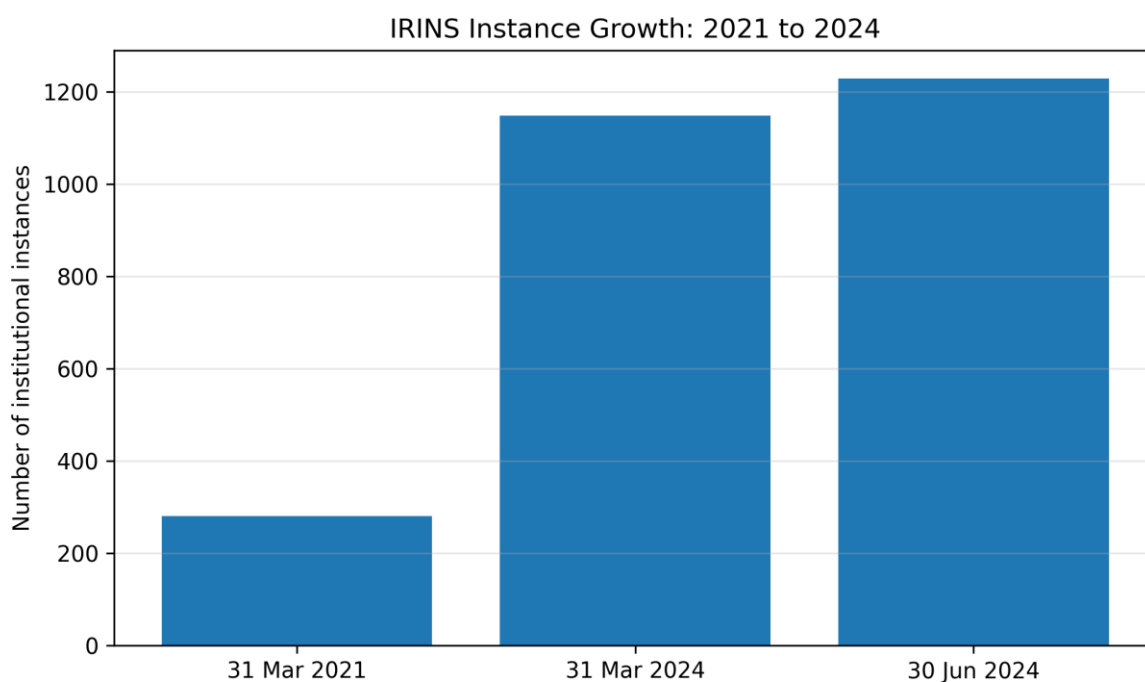


Figure 6. Bar chart showing IRINS instance growth from 2021 to 2024.

13. RESULTS

The four initiatives add to one another through different but complementary mechanisms, this is the first result. Among the four open access output repositories, Shodhganga was found to

show the strongest performance. The contributions that you can obtain this way are direct: PhD theses will become discoverable, reusable and preservable in a national platform. An adapted version is (26 words)

The scale of more than half a million theses by 2024 and the 600,000-theses milestone in 2025 suggests a mature repository, not a pilot-level one. This confirms H2 as repository infrastructure increases visibility of doctoral research of doctoral research.

A major research information infrastructure has been created as a second result. Rapid growth from 280 institutional instances in 2021 to 1,228 by June 2024 shows institutional adoption. The Journal Whitelist Research Information Management System. (33 words)

Its metadata volume, citation data, and altmetric mentions show that it is not merely a directory; it is a research information management system with implications for accreditation, ranking, expert discovery, and institutional research policy. This provides evidence for both H1 and H2, especially around academic visibility and institutional research profiling.

The outcome relating to e-shodhsindhu The consortium model is most closely related to research productivity as access to journals databases and e-books is a prerequisite for high-class research. The Pearson $r = 0.81$ for downloads and publication output from the official annual report provides relevant quantitative verification. Even though this is not evidence that downloads result in publications, the positive relationship is consistent with the theory that rich access to full-text literature increases research output capacity. This upholds H3.

The fourth outcome is about SheRNI. The initiative rates highly for academic visibility and collaboration facilitation, as its stated objective is expert discovery, mentoring, networking, and recognition of women researchers. Nonetheless, Shodhganga or IRINS have yet to amass as great a volume of longitudinal public data. The suitable interpretation is thus developmental: SheRNI is an important inclusion-oriented research infrastructure future evaluation it needs to measure profile completeness, disciplinary distribution, institutional representation, collaboration outcomes and mentoring effects.

The ranking of composite index IRINS first Shodhganga second SheRNI third-e-ShodhSindhu fourth The list is not meant to show how unimportant e-ShodhSindhu. Instead, it reflects the multidimensional nature of the em. The e-ShodhSindhu project operates through licensed institutional access, which limits its visibility in the open public arena. Consequently, the initiatives should be interpreted as a portfolio: repository visibility, profile visibility, expert network visibility, and literature access.

14. DISCUSSION.

The results indicate that there is a multi-dimensional relationship between digital research infrastructure and academic outcomes. According to e-ShodhSindhu evidence, the link between resource use and publication output is strongly correlated. However, this correlation is conditioned on the institution's research intensity, faculty strength, doctoral enrolment, disciplinary mix, funding, etc. Treated merely as the downloading of resources, it would be methodologically wrong to take this view. Nonetheless, the official correlation statistic can reliably prove that e-resource access features in the research productivity set-up.

Shodhganga helps with access and visibility of doctoral research (11 words) In India, a lot of doctoral theses would often contain locally sourced data, language-specific material, local case studies, and field evidence unavailable through journals. Shodhganga enables literature review to be more efficient, duplication to be lessened, supervisors to trace previous theses, and the public to have access to scholarship funded or supported by the higher education system. The downside is that thesis count only shows volume, but not quality, usage depth, citation uptake, and research impact. As a result, future dashboards should attempt to include a few or all of the following: Subject-wise growth. Language distribution. Usage by geography. Citation/altmetric indicators.

IRINS tackles another challenge: fragmented researcher identity and institutional publication metadata. University faculty publications can be found all over the internet, from departmental web pages and commercial databases to personal profiles and CVs. These data are thus placed within a structured institutional environment by IRINS. This supports both visibility and research administration. Profile data offers several uses for institutions, such as accreditation, ranking, expert searching, internal review, collaboration mapping, public messaging, etc. The official growth in the number of instances and publication metadata indicates that Indian institutions increasingly acknowledge the administrative and reputational advantage of Structured research information systems.

SheRNI raises the question of equity in the visibility of research. In standard systems, databases are trained with fewer women researchers than men, academia priorities which are more evident in some disciplines. A national expert profile network can help overcome discoverability obstacles provided it is actively maintained, includes all disciplines and regions, and is embedded with mentorship and collaboration functions. Future measurement is the key research challenge. The mere count of profiles will be insufficient. To evaluate the effectiveness of SheRNI, we need to see if it results in more invitations to expert committees,

co-authorships, funded projects, mentor networks and representation at academic conferences.

In sum, the four initiatives suggest that India's scholarly communication infrastructure is shifting from document access to research intelligence. Originally library infrastructure referred to holdings, subscriptions, and catalogues. Current generation comprise of repositories, usage analysis, research profiling system, federated access, altmetrics, and inclusion-oriented expert networks. This shift in approach is in line with worldwide developments in research information management, but it will have to be adapted to the diversity of institutional capacities in Indian higher education.

15. Key Findings

Table 13. Key findings and hypothesis linkage.

No.	Finding	Hypothesis implication
1	Shodhganga has achieved substantial repository growth and directly supports open access visibility of doctoral research.	Supports H1 and H2
2	IRINS shows rapid institutional adoption and is the strongest multidimensional platform for research profiling and institutional utility.	Supports H1 and H2
3	e-ShodhSindhu has the strongest verified statistical association with research productivity through the official $r = 0.81$ download-publication correlation.	Supports H3
4	SheRNI is an emerging gender-responsive platform with strong visibility and collaboration potential but limited longitudinal public metrics.	Partially supports H1; further data needed
5	The four initiatives are complementary rather than competitive.	Supports portfolio interpretation
6	Public data transparency is uneven across platforms, making standardized impact assessment difficult.	Identifies evaluation limitation

16. Policy and Institutional Implications

The findings are beneficial for the university, library, research administrator, policy maker, and doctoral supervisor. Participation in Shodhganga and IRINS should not be viewed by the universities as a compliance task but as an element of research governance. The training of library professionals should include metadata quality, persistent identifier, profile validation, repository deposit, e-resource usage analytics, and researcher education. Research supervisors should motivate the doctoral scholars to use Shodhganga ethically while carrying out the literature review, topic mapping, and methodological dissimilarity.

For e-shodhsindhu, the important policy implication is access must be accompanied by user education; and usage analytics and discipline-sensitive collection development. Even though one has access to journals or databases, he/she cannot publish unless he/she knows how to search, evaluate, cite, synthesize and publish. The success of the consortium, therefore, relies on the information literacy of users, off-campus authentication, institutional awareness, and an ongoing assessment of resource relevance.

The SheRNI considerations for policy should be inclusion, completeness and outcomes. A women's expert network can potentially influence scholars' visibility only if one's profile is comprehensive, discoverable, updated, as well as used by institutions, policy bodies. The success of the project must be assessed on the basis of various indicators such as representation from different regions, coverage of different disciplines, verified profiles etc.

Integrating reports on all of these initiatives could be considered by INFLIBNET at the national level. Public dashboards can, for example, show annual growth, state-wise participation, discipline-wise coverage, institutional uptake, and use. These dashboards could help researchers conduct stronger impact studies and also bring greater accountability of the platforms to the research community.

17. Constraints of the Study.

There are five significant limitations to the study. It first relies on secondary data, and therefore cannot capture individual researcher behaviour, institutional satisfaction or causal effects. Moreover, public numeric indicators are uneven between platforms. Analysis of the public-data combined metrics of Shodhganga and IRINS indicates strong public data which means good trust metric. However, since SheRNI is a newer initiative the will have considerably less documented through longitudinal metrics. Thirdly, though the scoring matrix is researcher-developed and interpretive, it is transparent and not an official audit. The correlation analysis based on four initiatives is descriptive only; it should not be used for inferential generalization. The site values determined by the fifth live portal may change, hence only dated official reports/newsletter core analysis.

Another constraint is that apart from various INFLIBNET platforms, the research productivity also gets affected by various other factors like faculty strength, doctoral enrolment, funding, laboratory infrastructural, institutional head, language, disciplinary culture, and incentive for publications. Likewise, academic visibility relies on global databases, search engine indexing, institutional repositories, the use of ORCID, quality of journals and engagement by the researchers. The initiatives analyzed in this study do add

value to the ecosystem, but they cannot be singled out as the one factor that promoted research productivity or visibility.

18. Recommendations

Table 14. Policy and institutional recommendations.

Stakeholder/platform	Recommendation	Expected benefit
Shodhganga	Publish annual subject-wise, language-wise, university-wise, and usage-based dashboards with stable archived reports.	Improves transparency and allows longitudinal repository research.
SheRNI	Develop public metrics for verified profiles, discipline distribution, regional representation, collaboration activity, and mentorship outcomes.	Enables evidence-based evaluation of gender-responsive scholarly visibility.
IRINS	Strengthen metadata validation, ORCID integration, duplicate-author disambiguation, and institutional update protocols.	Improves reliability of research analytics and institutional reporting.
e-ShodhSindhu	Expand usage analytics, information-literacy training, off-campus access support, and discipline-wise relevance audits.	Improves conversion of resource access into research capacity.
All initiatives	Create an integrated INFLIBNET research infrastructure dashboard with annual trend data and downloadable open datasets.	Supports independent evaluation and policy planning.
Universities	Assign trained nodal officers for repository deposit, IRINS profile management, e-resource awareness, and SheRNI participation.	Improves institutional adoption and data quality.
Researchers	Use Shodhganga for thesis mapping, IRINS/SheRNI for expert discovery, and e-ShodhSindhu for evidence-based literature access.	Strengthens ethical and efficient research workflows.

19. CONCLUSION

This paper evaluated Shodhganga, SheRNI, IRINS and e-ShodhSindhu as a collaborative approach which together increases research productivity and scholarly visibility in India's higher education scenario. The contribution of INFLIBNET can be best understood as a combination of complementary infrastructures. Shodhganga provides open access to PhD research and enhance the visibility of theses and dissertations. IRINS is a system for organizing researcher profiles, publication metadata, citation indicators and institutional research information. e-ShodhSindhu improves access to journals, data bases and e-books. On the other hand, it has a documented positive association of resource downloads with the

publication output. SheRNI incorporates a network of experts involving executed inclusion-oriented project, aiming to enhance visibility and collaboration of women researchers.

The research corroborates the general statement that the initiatives of INFLIBNET enhance the research environment in India's higher education. However, it does not make any unverifiable causal claims. The development of various infrastructures such as repository growth, profile-system expansion, e-resources access and expert-network formation does not, however, guarantee quality of research, citation impact, or equitable participation of institutions. The correlation between downloads and publication output promulgated by e-ShodhSindhu is the strongest verified statistical evidence. The most strongly verified evidence of growth comes from Shodhganga and IRINS SheRNI brings the strongest emerging equity dimension.

The main academic contribution of the paper is the building of a transparent comparative framework that disentangles official metrics from researcher-generated scores. It is very important to evaluate this. In future research, official dashboards should be combined with case studies from institutions, user surveys, bibliometric tracking, profile completeness analysis, and discipline-based access patterns. With stronger public data participatory planning and continuous institutional participation, INFLIBNET's platforms can become more effective tools for open access, research intelligence, network of scholars and evidence-based higher education policy within India.

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