

INFLIBNET as a National Digital Knowledge Infrastructure: Its Role in Transforming Higher Education and Research in India

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Abstract

India's higher education system, one of the largest in the world, has long faced challenges of resource fragmentation, high journal subscription costs, and unequal access between well-funded and resource-constrained institutions. The Information and Library Network (INFLIBNET) Centre, an autonomous inter-university centre of the University Grants Commission, has evolved since 1991 into the backbone of India's national digital knowledge infrastructure through services such as Shodhganga, e-ShodhSindhu, N-LIST, SOUL, INDCAT, and its coordination of the newly launched One Nation One Subscription (ONOS) scheme. This paper adopts a descriptive-analytical design based on documentary and secondary data drawn from INFLIBNET's official portals, government sources, and published literature to examine INFLIBNET's contribution to higher education and research in India. Analysis of repository growth, consortium coverage, and subscription reach indicates substantial expansion in digital resource access, narrowing though not eliminating the gap between well-resourced and under-resourced institutions. The study identifies persistent challenges, including an awareness-utilisation gap and the exclusion of private institutions from ONOS, and offers suggestions and recommendations for strengthening INFLIBNET's role as a genuinely national infrastructure supporting India's higher education and research goals under the National Education Policy 2020.

Keywords: INFLIBNET, Shodhganga, e-ShodhSindhu, digital knowledge infrastructure, One Nation One Subscription, higher education, India

Introduction

India's higher education system is among the largest in the world, comprising several hundred universities and tens of thousands of affiliated colleges. This vast, decentralised system has historically shown wide disparities in library funding and infrastructure between well-resourced central institutions and resource-constrained state universities and colleges. For much of the late twentieth century, university libraries functioned largely as isolated units, each negotiating its own subscriptions, maintaining its own catalogues, and struggling independently with rising journal costs and limited budgets. This fragmentation motivated the University Grants Commission (UGC) to conceive a national mechanism for library modernisation and

resource sharing, which materialised as the Information and Library Network (INFLIBNET) in February 1991, initially housed under the Inter-University Centre for Astronomy and Astrophysics before becoming an independent Inter-University Centre in May 1996 (INFLIBNET Centre, n.d.-a; University Grants Commission, n.d.).

Over three decades, INFLIBNET has grown from a library-automation project into a multi-layered national digital knowledge infrastructure. This infrastructure operates across three broad layers. The first is a resource-access layer, comprising the e-ShodhSindhu consortium—formed in 2015 by merging the UGC-INFONET Digital Library Consortium, N-LIST, and the INDEST-AICTE Consortium—and, most recently, the

government's One Nation One Subscription (ONOS) scheme, coordinated by INFLIBNET since January 2025 (INFLIBNET Centre, n.d.-b; Press Information Bureau, 2024). The second is a knowledge-repository layer, anchored by Shodhganga, the open-access repository of Indian doctoral theses, and its companion ShodhGangotri repository of research synopses. The third is a standards-and-services layer, comprising library-automation software (SOUL), the union catalogue (INDCAT), and integrity tools such as ShodhShuddhi for plagiarism detection.

Taken together, these services position INFLIBNET not merely as a library network but as the connective infrastructure underlying how Indian researchers discover, access, and disseminate scholarly knowledge. This is particularly significant given the National Education Policy (NEP) 2020's emphasis on research and innovation, and the recent push toward equitable access embodied in ONOS. This paper examines the evolution, scale, and contribution of INFLIBNET as a national digital knowledge infrastructure, drawing on documentary evidence to assess how far it has transformed the landscape of higher education and research in India.

Review of Literature

Several works relating to the role of INFLIBNET have contributed to the scholarly interest over the years which has been parallel to the growth of the Centre, initially describing the establishment of the Centre to evaluation of some of the services at individual institutions. Waghmode (2014) gave one of the earlier overview of role played by INFLIBNET in the growth and development of higher education in India and objectives established by INFLIBNET and extent of automation, networking and sharing of resources by University Library and defined it as a medium of breaking the isolation of University Library. The repository layer is of a great importance in this repository system and since then there has been a considerable amount of literature devoted to specifically study of Shodhganga. Panda (2016) studied the early movement of the repository and found that till 30th June, 2015 the repository has 40175 theses, of which 217 universities have contributed and amongst them Jawaharlal Nehru University and Anna

University contributed the highest, and recommended to deposit voluntarily by the private and deemed universities, IITs, NITs and IIMSEs. Mir and Sevukan (2021) then did a bibliometric study of Library and Information Science related doctoral thesis deposited in the repositories of Shodhganga, which revealed only below hundred universities had deposited around 1798 doctoral theses in LIS only and only a small proportion was cited, indicating a disconnect between deposit and downstream use. To explore the user awareness and usage of Shodhganga at Andhra University, Gorantla (2023) conducted a survey and found that user awareness level was reasonable but not many users were using Shodhganga, indicating that availability of infrastructure infrastructure does not always result in utilisation.

Studies of the resource-access layer point to a similar gap between provision and use. Siddiqui (2023), studying faculty members and research scholars at Chaudhary Charan Singh University, Meerut, found that the UGC-INFONET/e-ShodhSindhu consortium was of considerable help in meeting users' information needs, but recommended further training of faculty and scholars to raise the effectiveness of INFLIBNET's services. Dhule (2023) offered a broader overview of INFLIBNET's programmes, including SOUL-based library automation, INDICAT, and open-access initiatives, situating them within the Centre's stated mission of supporting scholarship and academic pursuit nationally.

Collectively, this literature establishes that INFLIBNET's individual services—Shodhganga, e-ShodhSindhu/N-LIST, SOUL, and INDICAT—have largely been examined in isolation, typically at the level of a single institution's user base, and mostly prior to two major recent developments: Shodhganga crossing the 600,000-thesis milestone in 2025, and the launch of the government-funded ONOS scheme in January 2025, which substantially reconfigured the resource-access layer (INFLIBNET Centre, n.d.-c; Press Information Bureau, 2024). A gap therefore remains for a consolidated, infrastructure-level appraisal of INFLIBNET that accounts for these recent developments and considers the Centre's several services jointly rather than

individually. The present study seeks to address this gap.

Statement of the Problem

Despite three decades of expansion, INFLIBNET's contribution has generally been assessed piecemeal—one service, one institution, or one user category at a time—rather than as an integrated national infrastructure. This fragmentation in the literature mirrors a fragmentation that historically characterised Indian library resourcing itself: well-funded central universities and Institutes of National Importance were able to subscribe to extensive journal collections, while resource-constrained state universities and affiliated colleges, particularly in tier-2 and tier-3 locations, faced severe access constraints (Esya Centre, 2025). e-ShodhSindhu, though a considerable improvement over pre-2015 arrangements, continued to offer differential access to a comparatively limited set of “core” member institutions, leaving a large proportion of colleges dependent on the more restricted N-LIST component.

The launch of ONOS in January 2025 represents the most significant attempt yet to resolve this disparity by providing uniform access to more than 13,000 journals to over 6,300 government-funded institutions (Press Information Bureau, 2024). However, whether this expansion translates into a genuinely transformed research and higher-education ecosystem—and what structural gaps remain, such as the continued exclusion of private institutions—has not yet been systematically examined in the post-2025 context. The problem this study addresses, therefore, is the absence of an updated, evidence-based appraisal of INFLIBNET's role as a national digital knowledge infrastructure that synthesises its repository, consortium, and standards functions in light of these recent developments.

Objectives of the Study

- To trace the historical evolution of INFLIBNET from a library-automation project to a multi-layered national digital knowledge infrastructure.
- To examine the current scale and scope of INFLIBNET's major services, namely

Shodhganga, e-ShodhSindhu/N-LIST, SOUL, INDCAT, and the One Nation One Subscription scheme.

- To analyse secondary data on repository growth and consortium reach as indicators of INFLIBNET's contribution to higher education and research in India.
- To identify persistent challenges and gaps in the utilisation of INFLIBNET's services.
- To offer suggestions and recommendations for strengthening INFLIBNET's role as a national digital knowledge infrastructure.

Research Methodology

The study uses a descriptive-analytical type of research which is suitable to map the structure, scale and evolution of an institutional infrastructure rather than to measure individuals' attitudes or behaviour (Kothari, 2004). Objective of this study is set in terms of infrastructure per se (service, reach and growth) rather than perception of individual clients, so no survey instrument is used to gather primary data but secondary and documentary data is used.

The data were obtained from three kinds of sources. Establishing certain service level statistics such as number of participating Universities, number of theses deposited, the number of journals and e-books available through the consortia were taken from the official INFLIBNET portals and publications including the Centre's main website, the Shodhganga and e-ShodhSindhu portals and thereby available published Activity brochures. Second, the size, financing and institutional outreach associated with the One Nation One Subscription scheme was documented from government sources such as Press Information Bureau Press Releases and from the official ONOS website. Thirdly, the literature published from 2014 to 2025 in library and information science journals in peer reviewed form was analyzed to put institution level's findings on awareness and use of services of INFLIBNET on the threshold of literature context and cross checking.

All data have been taken and verified again in July 2026 and reported as they were at the time of their compilation; the statistics should be read in this light as they provide an idea of the scale and/or the trend rather than as real-time

counts due to the constant nature of the many repository- and/or consortium-related numbers. All the data was organised descriptively, netted out in tabular form and analysed to identify growth trends in the data and thematic analysis was conducted on the literature to identify recurring findings and gaps. The type of the study is a documentary and descriptive one, which means it was only possible to describe the magnitude of the infrastructure provided by INFLIBNET, and synthesize documented

Growth of the Shodhganga Repository

Table 1: Shodhganga Repository — Growth Milestones

Reference Date	Theses Deposited (cumulative)	Contributing Universities	Source
30 June 2015	40,175	217	Panda (2016)
27 May 2024	~5,35,000 (milestone)	—	INFLIBNET Centre (n.d.-c)
7 May 2025	6,00,000 (milestone)	830+ (timeline figure)	INFLIBNET Centre (n.d.-c)

Note. University counts for 2024–2025 reflect the Centre's most recently published contributor milestone rather than a precisely dated count for that exact day; see Section 5 for limitations of secondary-data reporting.

As Table 1 shows, Shodhganga's growth over the past decade has been substantial. An early assessment found that by mid-2015 the repository held just over 40,000 theses contributed by 217 universities (Panda, 2016). A decade later, according to the repository's own published milestones, cumulative deposits crossed 5,35,000 theses in May 2024 and 6,00,000 theses in May 2025, with more than 830 universities recorded as contributors on the Centre's timeline (INFLIBNET Centre, n.d.-c). This represents roughly a fifteen-fold increase in deposited theses over the decade, indicating that Shodhganga has moved from a partial,

pattern of awareness and use of Information sources as reported by the studied institutions in previous studies and cannot infer causal effects of the services on research output or learning outcomes.

Interpretation of Data: INFLIBNET's contribution can be interpreted through three indicators of infrastructural scale: the growth of the Shodhganga repository, the reach of its resource-access consortia, and the scale of the newly launched ONOS scheme.

voluntary repository toward something approaching comprehensive national coverage of doctoral output, particularly following the UGC's 2016 regulatory amendment making electronic submission mandatory. However, as Mir and Sevukan (2021) demonstrate at the disciplinary level, growth in deposits has not been matched by proportionate growth in downstream citation and reuse—in their sample of library and information science theses, fewer than one in six had been cited elsewhere—suggesting that the repository's contribution to research visibility, while real, remains only partially realised.

Reach of the Resource-Access Consortia

Table 2: e-ShodhSindhu and N-LIST — Resource Holdings

Component	Coverage
e-ShodhSindhu (core institutions)	7,000+ full-text journals from 11 publishers; 4 bibliographic databases
N-LIST (college component)	6,500+ journals; 7,99,500+ e-books

Note. Source: INFLIBNET Centre (n.d.-b).

Table 2 summarises the current scale of e-ShodhSindhu and its college-level component, N-LIST. Core member institutions—chiefly

universities and centrally funded technical institutions—have differential access to more than 7,000 full-text journals from eleven

publishers and four bibliographic databases, while the broader college membership under N-LIST accesses a smaller but still substantial pool of over 6,500 journals and nearly 800,000 e-books (INFLIBNET Centre, n.d.-b). The tiered structure of this access—fuller consortium access for well-resourced

institutions and a lighter package for colleges—illustrates the persistence of the disparity identified in the Statement of the Problem: even within a single national consortium, the scale of access an institution receives continues to depend on its category.

Scale of the One Nation One Subscription Scheme

Table 3: One Nation One Subscription (ONOS) — Scale and Investment

Parameter	Value
Launch date	1 January 2025
Budget allocation	₹6,000 crore (2025–2027)
Publishers covered	30 international publishers
Journals accessible	13,000+
Institutions covered	6,300+ government HEIs and central R&D institutions
Estimated beneficiaries	~1.8 crore students, faculty, and researchers

Note. Source: Press Information Bureau (2024).

- Released on 1 January 2025, ONOS will have a funding of about ₹ 6,000 crore for three years, as seen in Table 3. The scheme, which has been coordinated by INFLIBNET, has been designed to provide uniform access to more than 13,000 journals of 30 major publishers to over 6,300 government higher educational institutions and research units with an estimated population of 1.8 crore students, faculty and researchers (Press Information Bureau, 2024). The change here is ‘step change’ from the previous model (pre-2025 – consortium) – whereas in the previous model distinction was made based on the institution type, ONOS, in-principle, can offer the same journal package to a central university, a state university, and a government college. This directly addresses the noted tier-1/tier-2/tier-3 divide in the literature, with some independent comments highlighting that this scheme is limited to Government funded institutions, and there was a significant private sector of higher education in India comprising of a majority of all Universities in the country (Esysa Centre, 2025).
- Findings**
 - There has been significant growth in the overall size and extent of the repositories and consortium infrastructure of INFLIBNET (the total number of theses deposited and the number of journals that can be accessed) in the last 10 years, which can be regarded as a real step towards strengthening the national level digital knowledge infrastructure of India, at least from the beginning of 2010s.
 - The Centre's architecture is becoming more consolidated, following a merger in 2015 that led to the formation of e-ShodhSindhu and with the launch in 2025 of ONOS, which has been carefully planned to bring together the various different access arrangements from the fragmented service specific architecture into one single, centrally coordinated arrangement.
 - There is still a hierarchy in access, by category of institution. There are differentiated packages for core e-ShodhSindhu members, N-LIST colleges and in the recent development, government colleges/ universities incepted in the ONOS framework while private higher education institutions are not in the consideration at all (Esysa Centre, 2025).
 - Improvements in research impact it how it's measured has outpaced gains in repository

deposits. Studies at both the institution and discipline level (Mir & Sevukan, 2021; Gorantla, 2023) have consistently come out with some positive findings like while the awareness level is quite high, the actual or repeated use cases and downstream citations are not as high as that, therefore the document/scholarly publication reporting in Shodhganga is not only an access gap but also an awareness-utilisation gap.

- Faculty and scholar training comes up time and time again as a limiting factor in the literature. Even if the respondents highlighted the importance of e-ShodhSindhu resources, Siddiqui (2023) reported that there is need to develop more structured training sessions for effective utilization of these resources, implying that the infrastructural investment has outpaced the capacity building investment in some cases.
- No longer is the Centre a one-function provider but now INFLIBNET has been progressively assuming roles of resource provider, repository service provider, research-integrity infrastructure provider (shodhshuddhi) and standard-setting (SOUL, INDCAT) making it a multi-function backbone of Indian higher education system.

Suggestions

- Bridging the gap between the awareness and utilisation of Shodhganga, e-ShodhSindhu and ONOS that exists as reported by Gorantla (2023) and Siddiqui (2023) can be done by incorporating regular awareness and training events on Shodhganga, e-ShodhSindhu and ONOS in faculty induction programmes and research-scholar orientation programmes in a structured way.
- University libraries might collaborate with INFLIBNET and use InfiStats data to make information publicized at departmental level that will identified the low utilised areas for which support should be given.

- Disciplines-based outreach, particularly where lesser down-stream scholarly activity in terms of usage/citation of Shodhganga theses is observed (Mir & Sevukan, 2021) would help bring to the notice of the researchers of the discipline how to search and use/cite repository content in their work.
- ONOS access is now limited to government funded institutions and institutional INFLIBNET and the Ministry of Education could consider differential-fee based access- extension phases to private institutions and independent researchers to thwart a new access divide in the place of the previous one.
- There is a need for periodic and independent surveys measuring user-perception, complementing the documentary data taken on in this study, so as to indicate whether the growth of ONOS and Shodhganga is resulting in growth in research output and learning outcomes and not merely access.

Recommendations

- UGC and INFLIBNET should consider mandating a minimum annual training quota for research supervisors and doctoral scholars on the use of INFLIBNET services, verified as part of existing doctoral regulatory compliance mechanisms.
- INFLIBNET should publish an annual, consolidated status report bringing together Shodhganga, e-ShodhSindhu/N-LIST, and ONOS statistics in one place, enabling researchers and policymakers to track the infrastructure's growth holistically.
- The Ministry of Education should evaluate, within the first ONOS review cycle (2025–2027), a defined pathway for extending subscription access to NAAC- or NIRF-ranked private institutions, given that private institutions constitute a majority of India's higher-education capacity.

- Universities should incorporate Shodhganga deposit and discoverability metrics, such as citation counts of previously deposited theses, into research-supervision quality reviews, encouraging supervisors to guide scholars toward more visible, well-indexed thesis writing.
- INFLIBNET could strengthen interoperability between Shodhganga, the National Digital Library of India, and institutional repositories, so that a single deposit enhances a scholar's discoverability across platforms, reducing duplication of effort for scholars and library staff alike.

Conclusion

Since its establishment in 1991, INFLIBNET has evolved from a library-automation project into the central pillar of India's national digital knowledge infrastructure, encompassing resource-access consortia, an open-access thesis repository, and a set of standards and integrity tools that together underpin how Indian researchers discover, access, and disseminate knowledge. The documentary evidence examined in this study shows substantial and accelerating growth across every major service, culminating in the 2025 launch of the One Nation One Subscription scheme, which extends uniform journal access to over 6,300 government institutions. This growth represents a genuine, measurable transformation in the resourcing of Indian higher education and research, particularly for previously under-resourced state universities and colleges.

At the same time, the study finds that infrastructural expansion has not been fully matched by utilisation, downstream research impact, or equitable coverage across the entire higher-education sector, with private institutions notably excluded from ONOS. INFLIBNET's future contribution to transforming Indian higher education and research will therefore depend less on further expanding raw access—already substantial—and more on closing the awareness-utilisation gap, building end-user capacity, and extending its coordinated-access model to institutions still outside it. Addressed together, these steps would allow INFLIBNET to fulfil its founding

mandate more completely: not simply connecting India's libraries, but ensuring that every researcher, regardless of institutional affiliation, can make full use of what that connection provides.

References

1. Dhule, S. S. (2023). Role of INFLIBNET in higher education in India. Zenodo.
2. Esya Centre. (2025, February 6). One Nation One Subscription – The dream scheme for researchers? <https://www.esyacentre.org/perspectives/2025/2/6/one-nation-one-subscription-the-dream-scheme-for-researchers>
3. Gorantla, S. P. (2023). User awareness and use of INFLIBNET Shodhganga Indian electronic theses and dissertations digital repository at Andhra University, Visakhapatnam: A survey. PEARL: A Journal of Library and Information Science.
4. INFLIBNET Centre. (n.d.-a). About us. University Grants Commission. Retrieved July 2026, from <https://www.inflibnet.ac.in/>
5. INFLIBNET Centre. (n.d.-b). e-ShodhSindhu: Consortium for higher education electronics resources. Retrieved July 2026, from <https://ess.inflibnet.ac.in/>
6. INFLIBNET Centre. (n.d.-c). Shodhganga: A reservoir of Indian theses. Retrieved July 2026, from <https://shodhganga.inflibnet.ac.in/>
7. Kothari, C. R. (2004). Research methodology: Methods and techniques (2nd ed.). New Age International.
8. Mir, A. A., & Sevukan, R. (2021). Library and information science theses in Shodhganga repository: A study. *Annals of Library and Information Studies*, 68(2). <https://doi.org/10.56042/alis.v68i2.329>
9. Panda, S. K. (2016). Shodhganga – A national level open access ETD repository of Indian electronic theses: Current status and discussions. *Library Hi Tech News*, 33(1), 23–26.

- <https://doi.org/10.1108/LHTN-09-2015-0062>
10. Press Information Bureau. (2024, November 25). Cabinet approves One Nation One Subscription (ONOS). Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2089179>
 11. Siddiqui, J. A. (2023). INFLIBNET and its use among faculty members and research scholars: A study of Ch. Charan Singh University, Meerut. International Journal of Library and Information Studies.
 12. University Grants Commission. (n.d.). Information and Library Network Centre (INFLIBNET). Retrieved July 2026, from <https://www.ugc.gov.in/Aboutus/inflibnet>
 13. Wikipedia contributors. (2026). Western Peripheral Expressway. Wikipedia, The Free Encyclopedia.