Impact of INFLIBNET on Higher Education Institutions: A Study

Eshwara Y.[1], Dr. P. Dharani Kumar[2], Dr. Hemantha Kumar[3]

[1]Research Scholar, Dept. of Studies & Research in Library and Information Science, Kuvempu University, Shankaraghatta in Shivamogga - 577412, Karnataka. Contact: eshwary@uahs.edu.in

[2]Professor, Dept. of Library & Information Science, Kuvempu University, Shankarghatta, Shivamogga, Karnataka.

[3]G.H., Library Assistant, Veterinary College in Hebbal, Bengaluru - 560024. Contact: ghhemanth@gmail.com
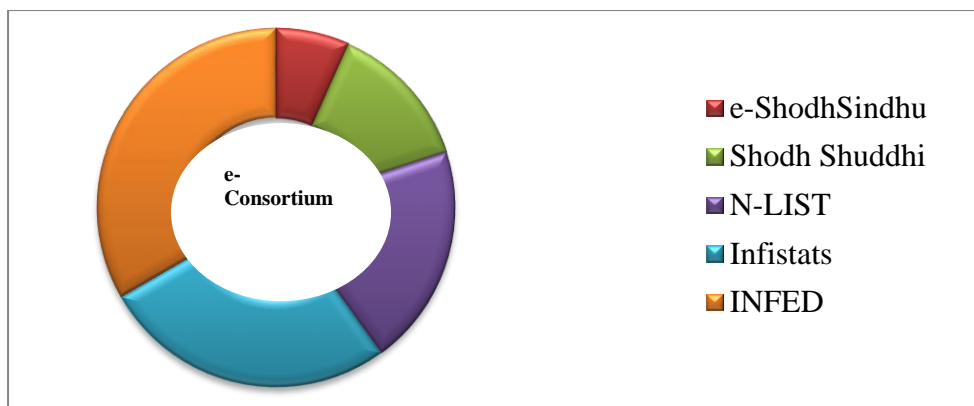
ABSTRACT

INFLIBNET Centre is an autonomous Inter-University Centre of the University Grants Commission (UGC) of India, established in 1991. It is located at Gujarat University Campus in Ahmadabad and plays a crucial role in facilitating academic communication, conducting system design studies, collaborating with institutions, and promoting research and development in higher education. The Indian higher education system is one of the largest globally, with a rich history of education. INFLIBNET's objectives include providing access to bibliographic information sources, archiving information in digital form, managing e-Consortiums, Open Access Initiatives, Projects and Services and Library Automation tools are also part of its offerings. Shodh Shuddhi has 1,148 member institutions and 178,836 users. N-LIST has 3,918 beneficiary colleges with 818,679 active users. Shodh Ganga has 573,096 theses, Shodh Gangotri has 14,955 synopses, 27 MRPs, and 51 PDFs. e-PG Pathshala covers Adult Education (190), Analytical Chemistry/Instrumentation (222), and Anthropology (559). Vidwan Database includes Agricultural Sciences (13,565), Arts & Humanities (24,434), and Biological Sciences (10,060). Vidya-Mitra is an e-content portal under the NME-ICT initiative. IndCat features a Union Catalogue with 1,64,36,980 book records, Theses with 4,55,397 records, and Serials with 37,159 records. Software for University Libraries (SOUL) is an integrated library management software. Online Copy-Catalogue System (OCS) for IndCat (Books) includes a total of 24,877,002 books. INFLIBNET promotes scholarly communication and higher education in India through various services and activities aligned with UGC and MHRD objectives of the INFLIBNET.

Introduction

INFLIBNET Centre in Gandhinagar is an Autonomous Inter-University Centre under the UGC, Ministry of Education, Govt. of India. Established in 1991, its mission is to modernize university libraries in India through advanced technologies. INFLIBNET promotes scholarly communication and collaboration among academics and researchers, focusing on improving information transfer and access for academic pursuits. The centre connects libraries and information centers in universities, colleges, and research institutions to enhance communication and prevent duplication of efforts. It facilitates academic communication, conducts system design studies, collaborates with institutions, and promotes research and development. INFLIBNET generates revenue through consultancies and information services, making significant contributions to higher education institutions in India. The Indian higher education system is one of the largest in the world, with education being a part of our culture since ancient times. After gaining independence, the growth and development of education have been remarkable. The government and private agencies have established numerous schools, colleges, research institutes, and universities across the country to provide easy access to higher education for all Indians. The quality of higher education is crucial for the development of a country, playing a vital role in societal, economic, and cultural transformation. Education is considered the foundation of a person's life, enabling progress, innovation, and advancements in various fields. Higher education institutions aim to create a knowledgeable society and contribute to the development of a knowledge-based economy. Universities need to focus on Knowledge Management to address complex challenges and prepare students for the future. The University Grants Commission (UGC) was established in 1956 to coordinate and maintain standards of university education in India. The UGC has decentralized its operations by setting up regional centers across the country to ensure effective coverage. The Information/Knowledge revolution has transformed modern Indian higher education, with Library and Information Networks playing a crucial role in resource sharing. INFLIBNET, established post-independence, has been instrumental in the development of higher education in India.

Objectives

- Promoting computerization of operations and services in libraries nationwide with a uniform standard.
- Developing standards and guidelines for techniques, methods, procedures, computer hardware and software.
- Establishing a national network connecting libraries and information centers.
- Creating an online union catalog of library collections.
- Providing access to bibliographic information sources through databases and gateways.
- Developing methods for archiving information in digital form, especially in Indian languages.
- Optimizing information resource utilization through shared cataloging and inter-library loan services.
- Enabling nationwide access to information resources through INFLIBNET and union catalogs.
- Creating databases for online information services.
- Fostering cooperation among resource centers and training human resources in computerized library operations and networking.

e-Shodh Sindhu

The Ministry of HRD, now known as the Ministry of Education, has launched e-Shodh Sindhu by combining three consortia initiatives: UGC-INFONET Digital Library Consortium, NLIST, and INDEST-AICTE Consortium. This initiative aims to provide member institutions, including centrally-funded technical institutions, universities, and colleges covered under 12(B) and 2(f) Sections of the UGC Act, with access to over 10,000 core and peer-reviewed journals, as well as various databases in different disciplines from multiple publishers and aggregators. The primary objective of e-Shodh Sindhu is to offer academic institutions access to high-quality electronic resources, such as full-text, bibliographic, and factual databases, at reduced subscription rates. The e-Shodh Sindhu consortia for higher education e-resources have been established to enhance and expand the services provided by three MHRD-funded consortia. Its goal is to create a comprehensive collection of e-journals, e-journal archives, and e-books with perpetual access. The consortia promote and monitor the usage of e-resources in member universities, colleges, and technical institutions in India through awareness and training programs. They provide subscription-based scholarly information (e-books and e-journals) to all educational institutions and offer access to scholarly content available in open access through subject portals and gateways. The consortia aim to bridge the digital divide and move towards an information-rich society. They also extend access to selected e-resources to additional institutions, including open universities and MHRD-funded institutions not covered by existing consortia. Collaborative activities and services are undertaken to develop a national electronic library with electronic journals and books as its core components.

Sl. No.	Consortia Initiatives	No's
1.	CFT's	98
2.	Universities	217
3.	Colleges	3800+
4.	e-Journals	10,000
5.	e-Books	1,99,500+
6.	e-Books through NDL	6,00,000+
7.	Resources	20
8.	Databases	4

Shodh Shuddhi

The Ministry of Education, Government of India, has launched the "ShodhShuddhi" program based on the recommendation of the Sub-Committee of the National Steering Committee (NSC) of e-ShodhSindhu. This program provides access to Plagiarism Detection Software (PDS) to all universities and institutions in India since September 1, 2019. Over 1100 institutions, including Central Universities, State Universities, Deemed Universities, Private Universities, Centrally funded Technical Institutions (CFTIs), and Inter-University Centres (IUCs) of UGC, have been identified for this initiative. As part of the ShodhShuddhi initiative, universities and institutions in the country were granted access to Ouriginal (formerly Urkund), a web-based plagiarism detection software system. The program was officially launched by the Former Minister of Education (formerly MHRD) on September 21, 2019, and continued until the contract with M/s Ouriginal by Turnitin ended on September 30, 2023. Starting from October 1, 2023, the INFLIBNET Centre now offers the 'DrillBit-Extreme Plagiarism Detection Software' to Higher Education Institutions (HEIs) as part of the same ShodhShuddhi initiative. The trial phase for this software was scheduled for October 2023, with full-fledged service commencing on November 1, 2023.

Ouriginal summary at a glance as on 30-09-2023			Drill Bit summary at a glance as on 16-12-2024	
Sl. No.	**Summary**	**No's**	**Summary**	**No's**
1.	Total Member Institutions	1091	Total Member Institutions	1148
2.	Total Users	149699	Total Users	178836
3.	Total Documents Submitted	3539671	Total Documents Submitted	1412492
4.	Documents Submitted in Sep. 2023	73608	Documents Submitted in Nov. 2024	48563

N-LIST

The "National Library and Information Services Infrastructure for Scholarly Content (N-LIST)" project is a collaboration between the e-ShodhSindhu consortium, INFLIBNET centre, and the INDEST-AICTE consortium at IIT Delhi. It offers cross-subscription to e-resources from both consortia, allowing universities to access INDEST-AICTE resources and technical institutions to access e-ShodhSindhu resources. Colleges also have access to selected e-resources through the N-LIST project. Authorized users can download articles directly from publishers' websites after authentication through servers at the INFLIBNET Centre. The project has four main components:
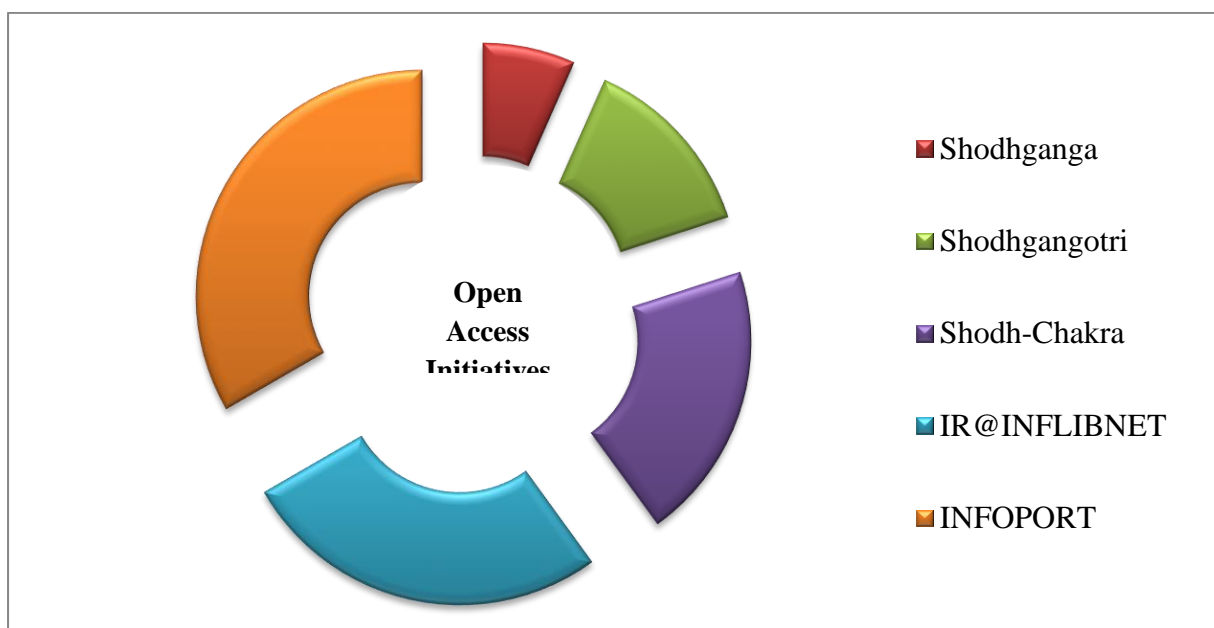
1. Subscribing to and providing access to selected e-ShodhSindhu e-resources for technical institutions (IITs, IISc, IISERs, and NITs) and monitoring usage.

2. Subscribing to and providing access to selected INDEST e-resources for selected universities and monitoring usage.

3. Subscribing to and providing access to selected e-resources for Government/Government-aided colleges and monitoring usage.

4. Acting as a Monitoring Agency for colleges, evaluating, promoting, providing training, and monitoring all activities related to effective access to e-resources for colleges.

INDEST and UGC-INFONET are jointly responsible for components i) and ii) above, while the INFLIBNET Centre, Gandhinagar is responsible for components iii) and iv) above. The INFLIBNET

Centre is also responsible for developing and deploying software tools and techniques for authenticating authorized users.

Note: Since 2014, the N-LIST program is part of the e-ShodhSindhu consortium as the college component. Colleges in India (excluding Agriculture, Engineering, Management, Medical, Pharmacy, Dentistry, and Nursing) are eligible to access e-resources under the N-LIST program.

Sl. No.	Institutions	No's
1.	Beneficiary Colleges	3918
2.	Total Active Users	818679
3.	Users Activated in Dec. 2024	28975

Shodh Ganga

Shodh Ganga is a repository of Indian theses that offers valuable information. Theses and dissertations are often the only research work that remains unpublished, leading to duplication and resource wastage. The UGC Notification of 2016 mandates researchers to submit electronic versions of their theses to promote open access to Indian research globally. This initiative aims to enhance research quality by making doctoral theses easily accessible online. Shodh Ganga, maintained by the INFLIBNET Centre, hosts and manages the digital repository of Indian electronic theses and dissertations. It utilizes the DSpace open-source digital repository software developed by MIT and HP. Research scholars can deposit their Ph.D. theses for open access to the scholarly community. The repository captures, indexes, stores, disseminates, and preserves ETDs. INFLIBNET centre encourages the establishment of institutional and ETD repositories in member universities using OAI-PMH compliant software. Universities can maintain their ETD repositories and utilize Shodh Ganga as a backup archive. The centre also aggregates metadata from distributed ETD repositories to offer unified access to theses and dissertations. Shodh Ganga organizes the academic structure of each university by categorizing departments, centers, and colleges for easy navigation. This structure allows research scholars to submit their theses to the specific department, center, or college. The homepage provides simple and advanced search options, as well as the ability to browse through universities and departments. Additionally, the centre is developing a semantic web-based interface to enhance subject-based browsing, navigation, search, and retrieval of repository content.

Sl. No.	Repository	No's
1.	Theses	573096
2.	Synopses	14955
3.	MRPs/PDFs/Fellowships Reports	83

Shodh Gangotri

The "Shodh Gangotri" initiative, inspired by the Sanskrit word for research and discovery, aims to establish a repository of ongoing research, synopses, MRPs, PDFs, and Emeritus Fellowship documents. Named after the gangotri glacier, the source of the ganges river, the project symbolizes India's rich cultural heritage and the continuous flow of knowledge. Research scholars and supervisors are encouraged to submit electronic versions of approved synopses for Ph.D. registration, with plans to include other research documents in the future. This repository will highlight research trends in Indian universities and prevent redundant efforts. Synopses in "Shodh Gangotri" will be linked to full-text theses in "Shodh Ganga" for convenient access and reference.

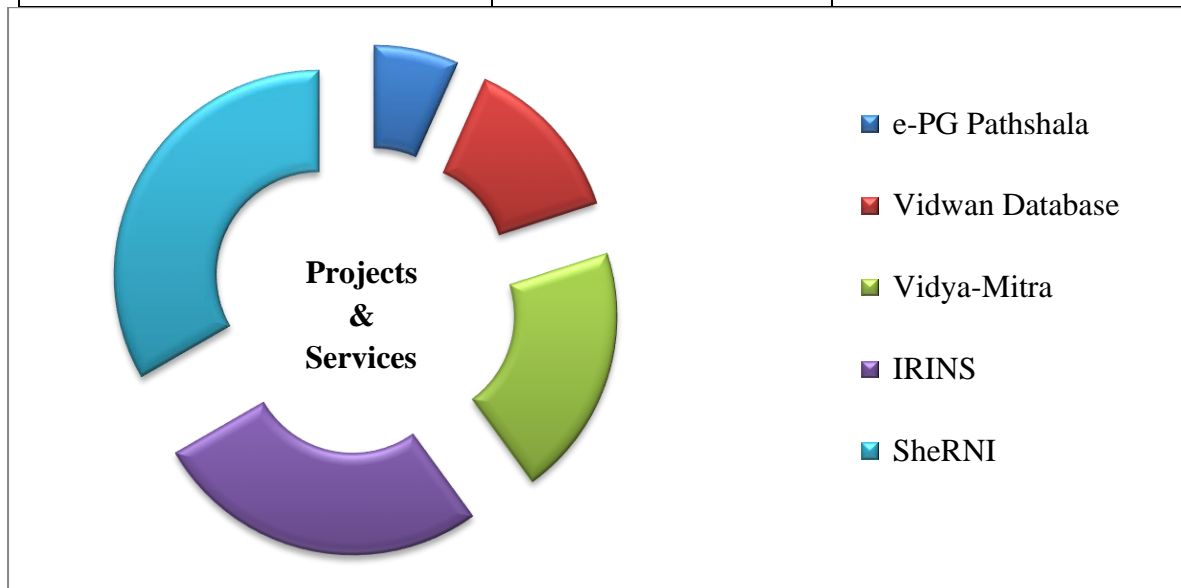| Sl. No.	Repository	No's
1.	Synopses	14955
2.	MRPs	27
3.	PDFs	51
4.	Fellowship	5
5.	PG Dissertations	78
6.	Total	15179

Shodh-Chakra

Research is a systematic investigation of a problem or question, involving various components based on appropriate research methodology. It is a continuous process aimed at bringing societal changes and improving human life. With over 950 universities in India engaged in teaching and research across different disciplines, managing and monitoring research activities can be time-consuming and challenging. To streamline this process, the use of modern tools and techniques is essential to complete research work efficiently. Shodh-Chakra, an initiative by the Information and Library Network (INFLIBNET) Centre under the guidance of the University Grants Commission (UGC), aims to support the academic community throughout their research lifecycle. It provides a digital workspace for researchers, guides/supervisors, and universities to manage research activities effectively. Researchers can use Shodh-Chakra to collect, store, organize, and cite their research work, creating profiles and managing preferences within the platform. To access Shodh-Chakra, universities must sign a MoU with the INFLIBNET Centre and provide accurate information about researchers and supervisors. Once registered, researchers, supervisors, and universities receive login credentials to access the platform and utilize its features for research management. The objectives of Shodh-Chakra are as follows:

- ✈ Provide consistent support to researchers.

- ✈ Offer a single point access for all research needs of higher education institutions in India.

- ✈ Provide a dedicated platform for searching, storing, organizing, and managing literature.

- Supply bibliographic information of millions of scholarly communications through a single platform.

- Support the academic community with the latest research tools.

- Empower and educate research scholars in conducting research.

- Facilitate interaction between guides and researchers.

- Provide a centralized view of research activities of all scholars.

- Understand research trends across universities.

- Serve as a single portal for managing researchers, guides, and university research activities.

Researchers	Guides / Supervisors	Universities
Profile Management	Dashboard	Dashboard
Knowledge Resources	Profile Management	Profile Management (Researcher & Guide)
Assistance for Literature Work	Work Progress Tracking	Communication / Intimation Module among Researchers, Guides and University
Resource Aggregation	Interaction with Researchers	Work Progress View
Publications (Workshops & Conferences	Knowledge Resources	Report Generation
Reference Management		
Interaction with Guide		
Thesis Submission		

e-PG Pathshala

e-PG Pathshala is a platform that provides access to postgraduate courses. It is an initiative of the Ministry of Human Resource Development (MHRD) as part of the National Mission on Education through ICT (NME-ICT) managed by the University Grants Commission (UGC). The platform offers high-quality, interactive e-content in 70 subjects covering various disciplines. The content has been developed by subject experts from Indian universities and research institutes. Each subject has a

dedicated team comprising principal investigators, paper coordinators, content writers, reviewers, language editors, and multimedia experts.

Subjects	No's	Subjects	No's
Adult Education	190	Information Technology	318
Analytical Chemistry / Instrumentation	222	Japanese	453
Anthropology	559	Jyotish-Ganit	560
Architecture	164	Law	462
Biochemistry	261	Library and Information Science	395
Bioinformatics	1	Linguistics	493
Biophysics	450	M Plannning	45
Biotechnology	261	Management	599
Botany	189	Material Science	465
Buddhist Studies	67	Mathematics	567
Business Economics	457	Media and Communication Studies	383
Chemistry	565	Performing Arts(Dance/Drama/Theatre)	560
Chinese	26	Pharmaceutical Science	215
Commerce	469	Philosophy	333
Comparative Study of Religions	77	Physical Education, Sports and Health Education	37
Computer Science	633	Physics	343
Criminology	482	Political Science	222
Earth Sciences	49	Population Studies	383
Economics	567	Psychology	599
Education	106	Public Administration	102
Electronic Science	117	Risk / Disaster Management	21
English	560	Russian Studies	436
Environmental Sciences	530	Sanskrit (Acharya in Vyakrana)	534
Food and Nutrition	602	Sanskrit (M.A)	640
Food Technology	329	Social Medicine and Community Health	111
Forensic Science	560	Social Work Education	487
Geography	337	Sociology	526
Geology	136	Spanish	560
Hindi	592	Statistics	595
Home Science	640	Urdu	312
Hotel & amp; Tourism Management	639	Visual Arts	487
Human Resource Management	599	Women Studies/Gender Studies	431
Human Rights and Duties	364	Zoology	184
Indian Culture	524		

Vidwan Database

VIDWAN is a comprehensive database that profiles scientists, researchers, and faculty members from top academic institutions and research organizations in India. It provides valuable information about their backgrounds, contact details, experience, publications, skills, achievements, and researcher identities. The database is managed by the Information and Library Network Centre (INFLIBNET) with funding from the National Mission on Education through ICT (NME-ICT). VIDWAN serves as a
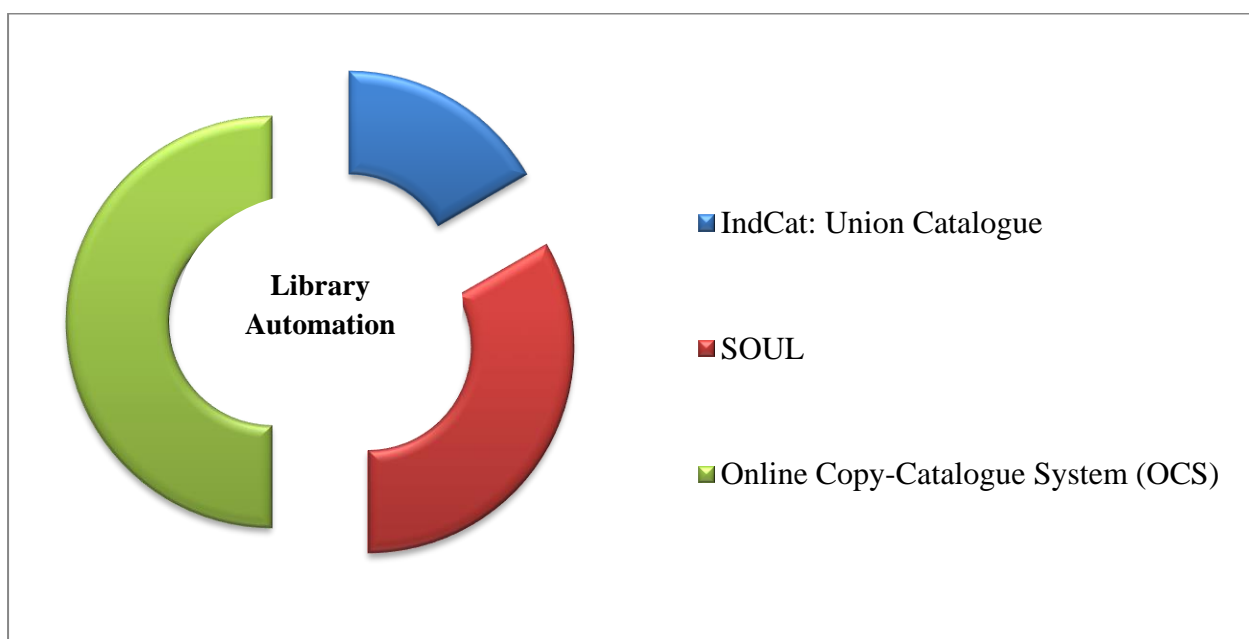
resource for selecting expert panels for committees and task forces established by government ministries and organizations for monitoring and evaluation purposes. The objectives of Vidwan are as follows:

→ Provide quick and convenient access to information about experts for peers, prospective collaborators, funding agencies, policy makers, and research scholars in the country.

→ Identify peer reviewers for articles and research proposals.

→ Discover potential collaborators for ongoing research projects.

→ Enable direct communication with experts possessing the required expertise.

→ Facilitate information exchanges and networking opportunities among scientists.

Sl. No.	Subject Category	No's
1.	Agricultural Sciences	13565
2.	Arts & Humanities	24434
3.	Biological Sciences	10060
4.	Chemical Sciences	11633
5.	Engineering & Technology	101588
6.	Medical & Health Sciences	27932
7.	Physical Sciences	23863
8.	Social Sciences	45916

Vidya-Mitra

Vidya-Mitra is an e-content portal that acts as a central hub for learners. It houses various e-content projects developed by the MHRD under the NME-ICT initiative. The portal enables users to easily search and explore a wide range of learning materials, including audio/video content, text-based resources, and multimedia materials, all accessible through a single interface. Key features of the portal include faceted search, usage statistics, project-specific access, and personalized user spaces. The content on Vidya-Mitra covers diverse subjects such as Arts, Humanities & Languages, Engineering and Technology, Life Science, Medical and Health Sciences, Physical & Basic Sciences, and Social Sciences.

Special issue on "**Challenges and Opportunities to Ensure Quality Education Through Modern Technology**"

IndCat: Union Catalogue

IndCat is a free online Union Catalogue of Books, Theses, and Serials from major university and institute libraries in India. It provides bibliographic information, location, and holdings of these materials in standard formats like MARC and MARCXML. IndCat covers a wide range of subjects including Psychology, Statistics, Political Science, Economics, Law, Public Administration, Education, Commerce, Linguistics, Mathematics, Astronomy, Physics, Chemistry, Biology, Life Sciences, Botany, Zoology, Medicine, Engineering, Agriculture, Management, Architecture, Sports, Literature, History, and Computer Science. The web-based interface facilitates easy access to the merged catalogues, making it a valuable resource for Inter-Library Loan, Collections Development, Copy Cataloguing, and Retro-Conversion of bibliographic records. The primary objective of IndCat is to provide seamless access to bibliographic records of books, serials, and theses available in Indian university libraries, institutes, and research organizations. It aims to help users locate materials in nearby libraries for borrowing through Inter Library Loan.

➤ Encourage users to utilize the union catalogue.

➤ Collect bibliographic records from multiple institutions, universities, and research organizations.

➤ Maintain continuous 24/7 online accesses to all database records.

➤ Support researchers by offering a platform to search for relevant literature.

➤ Provide interlibrary loan services to users.

Name of Database	No. of Records	No. of Universities
Books	1,64,36,980 (Unique Records) & 2,48,77,002 (holdings)	357
Theses	4,55,397	464
Serials	37,159	239

SOUL

Software for University Libraries (SOUL) is advanced integrated library management software developed by the INFLIBNET Centre. It is tailored to meet the specific requirements of college and university libraries, featuring a user-friendly interface that operates in a client-server environment. The software complies with international standards for bibliographic formats, networking, and circulation protocols. SOUL was created after thorough research and consultation with library professionals to automate all library housekeeping operations. It is suitable for academic libraries of all sizes, including school libraries. The initial version, SOUL 1.0, was launched during CALIBER 2000, followed by SOUL 2.0 in January 2009 and the latest version, SOUL 3.0, in February 2021. The new version of SOUL is compatible with modern database systems like MS-SQL and MySQL, ensuring efficient data management. SOUL 2.0 supports international standards such as MARC 21 for bibliographic formats, Unicode for multilingual records, and NCIP 2.0 and SIP 2 for electronic surveillance and control protocols. Key Features of SOUL include:

• UNICODE-based multilingual support for Indian and foreign languages
• Compliance with international standards like MARC21, AACR-2, MARCXML
• NCIP 2.0 protocol compliance for RFID and electronic surveillance applications
• Client-server architecture with a user-friendly interface
• Support for multiple platforms for bibliographic databases (SOUL 2.0)
• Cataloguing of electronic resources and digital library support
• Online copy cataloguing from MARC21 databases

- Customizable data entry templates
- Report generation with various formats and query parameters
- Practical library functions like stock verification and book bank management
- Report sharing via email and saving in different formats
- User-friendly OPAC with export options
- Authority files support for personal names, corporate bodies, subjects, and series
- Data exchange through ISO-2709 standard
- Budgeting system and streamlined circulation functions
- Regional coordinators for maintenance support
- Online and offline support through email, chat, and dedicated telephone line during office hours.

Why Choose SOUL?

- SOUL offers UNICODE-based multilingual support for Indian and foreign languages, ensuring compliance with international standards like MARC21, AACR-2, and MARCXML.
- It provides robust region-wise support for maintenance through regional coordinators.
- SOUL offers online and offline support through email, chat, and a dedicated telephone line.
- It supports cataloging of electronic resources like e-journals and e-books, as well as various types of materials.
- Online copy cataloging from MARC21-supported bibliographic databases is also possible with SOUL.

Online Copy-Catalogue System (OCS)

The OCS application is a valuable tool for university libraries looking to contribute their bibliographic data to INFLIBNET's online union catalogue of Indian universities (IndCat). OCS offers "IndCat book data" with simple and advanced search options, as well as features like 'copy', 'edit', and 'create new' for creating online bibliographic records of book data to share with INFLIBNET's IndCat. This collaboration benefits academic communities worldwide. On August 18, 2021, Prof. Yogesh Singh, Hon'ble Chairman of the Governing Board at INFLIBNET Centre and Vice-Chancellor of DTU, New Delhi, launched the OCS 2.0 Portal. The objectives are as follows:

ॐ To contribute the maximum number of bibliographic records to the INFLIBNET's Union Catalogue (IndCat) through online mode.

ॐ To assess the frequency of use and usefulness of the OCS Application among the SOUL Users of Indian Universities.

ॐ To promote resource sharing activities.

Sl. No.	INDCAT (Books)		OCS	
1.	Total Books	24877002	Total OCS	82575
2.	Participated University	291	Participated University	74

Conclusion

Enhance access to scholarly electronic resources in academic institutions by establishing a virtual network that promotes collaboration, innovation, and persistence. Ensure seamless availability of peer-reviewed resources for all educational institutions. Focus on improving services, tools, and processes to maximize the value of information. Develop secure access management tools for users to conveniently access electronic resources. Create resource guides and tutorials to optimize resource utilization. Facilitate the creation of open access digital repositories in educational institutions.

Automate library processes and establish online catalogs for real-time access to resources. Encourage digitization of legacy documents and the creation of electronic content. Provide training on digital content creation and repository management. Offer discounted subscription rates to faculty, researchers, and students through consortia. Evaluate the impact of scholarly content access on research productivity. Provide training and support to optimize electronic resource usage. Coordinate committees, negotiate subscription rates, ensure IP-based access, and resolve issues with publishers. Develop tutorials, promotional materials, and provide technical support. Promote the consortium and enroll associate members. Evaluate subscribed resources, review license agreements, and maintain the consortium's website. Organize awareness programs and enhance communication among member universities. Assess the impact of e-resource access on research output and provide periodic reports on usage and impact.

References

[1]. Waghmode, Shahaji Shankar (2014) Role of INFLIBNET in the Growth and Development of Higher Education in India. Retrieved from: https://www.researchgate.net/publication/281458288

[2]. Website: https://www.inflibnet.ac.in/ (Accessed in December 2024)

[3]. Anand Kumar, N. V., & Uma, G. V. (2012). Design and development of meta-model for knowledge management in higher education domain. Chennai: Anna University.

[4]. Devi, P., & Singh, S. (2006). Role of UGC in Manpower Development in the field of Library and Information Science in India. Annals of Library and Information Studies, 53 (September), 147.

[5]. Karn, S. K., & Das, B. K. (2009). Information and Library Network (INFLIBNET): A Boon for Higher Education in India. International Conference on Academic Libraries (ICAL-2009) (P-698700). Delhi: Delhi University.