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REENGINEERING RESEARCH SUPPORT SERVICES IN INDIAN ACADEMIC LIBRARIES: A CASE STUDY OF INTEGRATED SCHOLARLY TOOLS AND DIGITAL REPOSITORIES AT GITAM UNIVERSITY (DEEMED TO BE UNIVERSITY) SANGAREDDY, TELANGANA

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ABSTRACT

In recent years, college libraries in India have undergone significant transformation. They are evolving beyond their traditional roles of storing and lending printed materials, becoming dynamic knowledge hubs that actively support research and scholarly communication. This shift has accelerated following the introduction of the National Education Policy (NEP) 2020, which emphasizes research orientation, digital integration, interdisciplinary learning, and global academic visibility in higher education.

This study focuses on the Knowledge Resource Centre (KRC) at GITAM University, Hyderabad, an institution accredited with NAAC A++. It explores how a strategic restructuring of library-based research support services has enhanced the university's research ecosystem. The study highlights the integration of digital repositories, plagiarism detection tools, discovery platforms, researcher profiling systems, and structured financial assistance for research and publication.

The impact of these initiatives is evaluated in terms of research quality, accessibility of scholarly output, ethical research practices, and academic visibility. The findings are based on institutional data collected from 2009 to 2025, including growth in collections, usage patterns of physical and electronic resources, on-site visits, remote access statistics, and utilization of research support services. Results indicate that a balanced integration of physical library infrastructure with advanced digital research tools is crucial for sustaining research activity, improving publication outcomes, and enhancing institutional rankings. The study proposes a practical framework that can guide Indian academic libraries in aligning with national research objectives and international academic standards.

Keywords: Reengineering Research Support Services, Indian Academic Libraries, Integrated Scholarly Tools, Digital Repositories, Gitam University.

Introduction

Libraries worldwide are experiencing considerable change due to the rapid growth of digital scholarship, the expansion of the open access movement, evolving research evaluation practices, and the increasing influence of global university ranking systems. In India, these developments have accelerated significantly following the implementation of the National Education Policy (NEP) 2020, which advocates for research-driven teaching, interdisciplinary approaches, extensive use of digital technologies, and wider dissemination of institutional research output.

In this evolving academic landscape, the role of academic libraries is being redefined. Libraries are transitioning from primarily collection-centered units to active partners in the research lifecycle, supporting researchers at various stages—from identifying research problems and accessing scholarly literature to manuscript preparation, publication support, institutional archiving, and citation tracking.

The Knowledge Resource Centre (KRC) at GITAM University, Hyderabad, exemplifies this transformation. Over the years, the KRC has systematically adopted a range of digital research tools, including Turnitin for promoting academic integrity, OpenAthens for seamless remote access, IRINS for researcher profiling, EBSCO Discovery Services for integrated resource discovery, and DSpace for institutional repository management. The university has also made sustained financial investments in electronic resources and publication support mechanisms.

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To assess the effectiveness and long-term implications of this transition, this study documents and analyzes institutional data and service performance indicators. By examining usage trends, access patterns, and research support outcomes, the study aims to provide insights into how academic libraries can significantly contribute to institutional research growth in the contemporary higher education landscape.

Study Goals

This study has been undertaken with the following objectives:

- To examine the transformation of the Knowledge Resource Centre (KRC) at GITAM Hyderabad from a conventional academic library into a digitally enabled, research-oriented knowledge ecosystem in the context of higher education reforms introduced by the National Education Policy (NEP) 2020.

- To assess the role of integrated academic technologies and digital platforms—such as institutional repositories, plagiarism detection tools, researcher profiling systems, and discovery services—in enhancing research productivity, scholarly visibility, and adherence to ethical research practices.

- To analyze the effectiveness of remote access infrastructure and online research platforms in providing uninterrupted and location-independent access to academic resources for faculty members, research scholars, and students.

- To evaluate the influence of institutional financial support mechanisms, including subscriptions to electronic resources, research software licensing, and scholarly publishing assistance, on the volume and continuity of institutional research output.

- To examine usage trends of e-journals, e-books, databases, and other digital resources using institutional data, and to understand their contribution to the growth of multidisciplinary research practices.

- To understand how hybrid library services, which combine physical infrastructure with digital research assistance, have fostered ongoing academic participation and research resilience in the post-pandemic academic community.

- To create a flexible and scalable research support model for Indian academic libraries that aligns with national educational policies (NEP 2020), accreditation frameworks (NAAC, NIRF), and international scholarly communication standards.

Methodology of This Research Article

The current research employs a descriptive and analytical case study methodology to investigate the development of research support services at the Knowledge Resource Center (KRC) of GITAM Hyderabad. The study is entirely based on secondary data from the library's yearly service reports for the years 2009 through 2025 and other official institutional documents.

Data examined includes the demographic makeup of the user base, patterns of physical and virtual library usage, circulation figures from 2019 to 2025, trends in the growth of print and electronic collections, the library's seating capacity, and its physical infrastructure. In addition, information regarding the introduction and growth of research support services, as well as budgetary allocations for library software and information resources, was also examined.

The collected data underwent a longitudinal and comparative analysis to understand how library services have changed throughout time. Prior to and following the widespread use of digital technologies, this method facilitated a methodical evaluation of modifications to research support mechanisms, emphasizing changes in research facilitation, service delivery, and access patterns.

The GITAM Hyderabad Knowledge Resource Center's Institutional Profile

As a centrally integrated academic library intended to support teaching, learning, and research across disciplines, the Knowledge Resource Center at GITAM Hyderabad serves its purpose. It caters to a large and diverse academic community that includes students, teachers, researchers, and support personnel. Currently, the user base consists of over 9,400 active members, including 387 faculty members, 729 research scholars, 8,028 students, and 269 non-teaching personnel.

The library, which has a total area of about 3,821 square meters, is located in a nicely constructed four-story structure and can accommodate about 500 people at once. The library stays open until 9:00 PM on weekdays in

order to give students and researchers continued access to information resources outside of normal school hours, acknowledging the necessity for longer academic interaction.

Digital infrastructure and facilities

The infrastructure of the Knowledge Resource Center has been gradually improved in order to meet the demands of cutting-edge research and information access. The library has 94 networked computer workstations that allow for easy access to online services and digital resources. The KOHA Integrated Library Management System (ILMS) has been implemented, which has resulted in the complete automation of essential library functions, such as acquisition, cataloging, circulation, the online public access catalog (OPAC), and the production of statistical and analytical reports.

The library has dedicated print and digital laboratory spaces, charging stations on each floor for personal electronics, and scanning and printing services in addition to computer infrastructure. CCTV cameras, regulated entry systems, alarm systems, and well-identified emergency exits are used to maintain security and safety. Together, these technological and infrastructural arrangements have made a significant contribution to improving operational efficiency and the overall user experience.

Enhanced Research Help Services

The redesign of its research support services at the GITAM Hyderabad Knowledge Resource Centre signals a significant change. From research discovery to publication readiness, the library now offers full support for the full academic communication lifecycle, moving beyond traditional reference assistance.

Ethics, quality assurance, and academic writing

The library provides access to Turnitin for plagiarism detection and originality verification in order to enhance the caliber of academic work and promote ethical research methods. In addition to this, Grammarly Premium is offered to help researchers improve the language, organization, and clarity of their academic writing, which raises the general bar for academic writing.

Instruments for Academic Research and Discovery

To facilitate efficient literature discovery, the library uses the EBSCO Discovery Service, which provides a single interface for performing integrated searches across numerous databases. Researchers can also find pertinent academic material via subject-specific and publication-finding sites. Users may browse the library's collection from anywhere thanks to the remote searching capabilities of the KOHA Web OPAC.

Remote Access Systems Available Around the Clock

The library has implemented the INFED and OpenAthens remote access platforms in order to provide continuous access to information resources. These systems facilitate authenticated off-campus access to subscribed international databases and electronic materials, hence promoting research continuity outside the campus's physical limits.

Research Identity, Profiling, and Visualization

- IRINS represents the Indian Research Information Network System.
- Integration with ORCID, VIDWAN, and ResearcherID is provided.

These resources aid in mapping institutional research, tracking citations, promoting collaborative visibility, and documenting rankings.

Institutional Repositories and Open Access

- KRC D-Space Digital Repository is established.
- ShodhGanga serves as the National Thesis Repository.
- GITAM Faculty Publications Archive is available.

These resources ensure digital preservation, unrestricted sharing, and worldwide research exposure.

Research Lifecycle Assistance

- EndNote is the reference management application.
- An Article on Request Service is provided.
- Demand-Driven Acquisition is facilitated through ProQuest Ebook Central.
- Workshops for authors and research training sessions are offered.

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Financial Support Mechanisms for Research and Publishing

The achievement of research environments heavily depends on financial stability. GITAM Hyderabad has established various financial assistance methods:

Article Processing Charge (APC) Waivers

The library provides support for waivers on APCs from publishers and locates open-access journals that feature lower fees for publication.

Institutional Funding for E-Resources

The library holds active subscriptions for:

- 38,62,762 e-books
- 16,493 e-journals
- Various global research databases

Long-Term Investment in Print and Digital Collections

Between 2009 and 2025, the institution allocated more than ₹85 crores solely for the acquisition of books.

Financial Support for Research Software

Institutional licenses cover tools such as Turnitin, Grammarly, EndNote, IRINS infrastructure, KOHA, and discovery systems.

Research Skill Development Funding

The institution provides funding for ongoing author workshops, training in digital literacy, NDLI Club events, and programs aimed at enhancing staff skills.

Strength of Print and Digital Collections

The combined strength of KRC's collections offers extensive coverage across various disciplines:

- Physical Books: 1,09,041 volumes
- Digital Books: 38,62,762
- Digital Journals: 16,493
- Physical Journals and Magazines: 65

This extensive collection underpins research in engineering, pharmacy, management, humanities, architecture, sciences, and interdisciplinary studies.

Coverage of E-Journals and Databases

S.No	Publisher	No. of Journals
1	ASME	33
2	ASCE	38
3	ACM	52
4	IEEE	328
5	Springer	1400
6	EBSCO BSP	5193
7	Taylor & Francis	1079
8	American Institute of Physics	19
9	Oxford University Press	435
10	EPW	1
Total		**8578**

Database Coverage: Scopus – 1 (Comprehensive multidisciplinary citation database)

Evidence-Based Library Usage Statistics

Annual Circulation Transactions

- 2021: 8,991
- 2022: 25,691
- 2023: 21,180
- 2024: 24,225
- 2025 (January to July): 8,867

The significant increase in 2022 and ongoing circulation levels indicate a robust recovery of academic activities following the pandemic.

Physical Walk-In Statistics

- 2021: 29,815
- 2022: 91,435
- 2023: 68,599
- 2024: 74,597
- 2025 (Jan–July): 33,142

The considerable physical attendance even post-digital transformation underscores the ongoing significance of library learning environments.

Digital Library Walk-Ins

- 2022: 9,902
- 2023: 6,540
- 2024: 5,562

This suggests a stable hybrid research trend.

Monthly Average Usage (2024)
Physical Walk-ins: 6,217

- E-Resource Users: 2,29,124
- OPAC Users: 4,76,909
- Remote Users: 1,470

E-Journals Usage Statistics (Publisher-wise)
The usage patterns of e-journals reveal a significant reliance on prominent international publishers in fields such as science, engineering, management, law, and multidisciplinary studies.

SN	Publisher	Jan–Oct Usage Trend
1	ACM	Regular monthly engagement showcasing research in computing and engineering
2	American Chemical Society (ACS)	Notable peaks in usage pointing to chemistry and pharmaceutical studies
3	American Physical Society (APS)	Robust usage in the middle of the year demonstrating support for physics research
4	Bentham Science	Consistent use across various disciplines
5	Cambridge Journals	Significant acceptance in academia spanning humanities and sciences
6	EBSCO BSP	High levels of research engagement from undergraduate and graduate students
7	Emerald Insight	Leadership in management and social science fields
8	IEEE Xplore	Among the most frequently used platforms, highlighting a strong focus on engineering research
9	JSTOR	Consistent engagement in humanities and social science studies
10	LexisNexis	Substantial engagement in legal and policy-related research
11	Manupatra	Reliable usage for legal research within the Indian context
12	Nature Journals	Extremely high engagement reflecting cutting-edge scientific research
13	Oxford Academic	Strong focus on humanities, medical studies, and interdisciplinary research
14	Royal Society of Chemistry	Sharp increases in usage correlating with laboratory-based research activities
15	ScienceDirect	One of the top platforms utilized across a wide range of academic disciplines
16	SpringerLink	Highest rate of usage, highlighting extensive multidisciplinary coverage
17	Taylor & Francis	Robust engagement in social sciences and management research
18	Wiley e-Journals	High engagement during the initial phase, supporting STEM-related research

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Results

- Research from the Knowledge Resource Centre (KRC) at GITAM Hyderabad indicates that it fosters a balanced research environment. Digital services complement the physical library, enhancing access to a wide range of electronic resources that promote academic engagement. This approach supports ongoing research among students and faculty while maintaining strong face-to-face interactions.

- The use of plagiarism detection software, such as Turnitin, has significantly strengthened research ethics at the university. These tools contribute to building a culture of academic integrity by discouraging unethical practices and encouraging originality in scholarship.

- Platforms like IRINS, ORCID, and institutional repositories have increased the visibility and traceability of scholarly work. These systems bolster the institution's reputation within the global research community and enhance author identification and citation tracking.

- The implementation of OpenAthens has ensured continuous, location-independent access to academic resources. This system has allowed researchers to maintain their work despite physical constraints and interruptions, proving especially beneficial during and after the COVID-19 pandemic.

- We have adopted structured author awareness campaigns, reference management tools, and discovery platforms, which have enhanced publication outcomes. These services have simplified literature searches, improved citation processes, and increased researchers' confidence in navigating the scholarly communication landscape.

- Data on the usage of e-journals, e-books, and subscribed databases indicate that the KRC's resource selection aligns well with the research needs of faculty, research scholars, and students across various fields. The high level of engagement demonstrates the relevance and effectiveness of these resources in supporting academic inquiry.

- Moreover, the findings suggest that achieving research excellence requires more than just digital transformation. Sustainable academic growth can only be realized through the thoughtful integration of digital infrastructure with research resources, funding programs, capacity-building initiatives, and ongoing user engagement.

- The KRC framework is ultimately in close accordance with national academic and research policies, such as the UGC's recommendations on research integrity and quality assurance, the National Education Policy (NEP) 2020, the NAAC accreditation standards, and the NIRF ranking parameters.

Suggestions

The findings of the study suggest the following improvements for academic libraries' research support services:

- To facilitate evidence-based planning, monitor research outcomes, and enable timely decision-making, academic libraries should consider implementing AI-driven research analytics dashboards.

- To assist researchers in organizing, preserving, and responsibly reusing research data throughout the research lifecycle, specialized Research Data Management (RDM) services should be established.

- To alleviate the financial burden on researchers, institutions are encouraged to enhance international collaborations and work closely with publishers to improve support for Article Processing Charges (APCs).

- In line with emerging global practices in open science, libraries should develop open research data repositories to promote transparency, accessibility, and reproducibility.

- Bibliometric and scientometric services should be enhanced to support comprehensive research evaluation, institutional benchmarking, and informed strategic planning for future research initiatives.

Conclusion

The Knowledge Resource Centre (KRC) at GITAM (Deemed to be University), Hyderabad, exemplifies how academic libraries in India can effectively transition from traditional information repositories to research-focused, digitally enhanced knowledge centers. This case study illustrates that by purposefully reorganizing library services based on empirical data, institutional vision, and policy frameworks, significant improvements in research productivity, accessibility, visibility, and ethical standards can be achieved.

The KRC has developed a comprehensive research support ecosystem by integrating advanced discovery systems, remote access platforms, plagiarism detection tools, research profiling services, institutional

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repositories, and academic communication support. The library is now actively engaged in all facets of the research process, including literature discovery, ethical manuscript preparation, publishing support, dissemination, citation tracking, and long-term preservation. This expanded role has fostered greater academic engagement across campus and ensured continuous research activity, particularly in the post-pandemic academic environment.

The sustained high usage of online services, databases, e-books, and e-journals throughout 2024 underscores the success of KRC's investments in digital infrastructure and user-focused services. A vibrant and inclusive research culture is evident through active participation across various fields. Furthermore, the successful implementation of platforms such as OpenAthens, IRINS, Turnitin, DSpace, and discovery tools has enhanced the visibility of institutional research, bolstered ethical compliance, and positively contributed to national evaluation frameworks like NAAC, NIRF, and UGC benchmarks.

Most importantly, the KRC experience underscores the importance of ongoing financial investment, continuous staff training, user education, and policy-driven governance to achieve long-term benefits from digital transformation. The success and sustainability of this model depend on GITAM Hyderabad's commitment to investing in research resources, promoting publishing initiatives, and enhancing research capabilities. The library's data-informed management practices advance transparency, accountability, and strategic decision-making, positioning the KRC as a key driver of institutional research excellence.

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