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## ACADEMIC LIBRARIES AND RESEARCH SUPPORT SERVICES

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### **Abstract:**

*The advancement in technology and development of Library Science professional's skill will able to serve researcher community effectively. There are many advanced e-resources, databases, Reference management tools, which are helping for research supports service in a effective way. Use of shodhagangotri for preparing synopsis. Bibliographic service, inter library loan service, Reference management software, plagiarism checking service, grammar checking services , digitization of manuscripts, rare books collection, building digital library, Institutional repository, use of National Digital library of India , Research Alerts service. Schedule training and conducting workshop of research related activities will improve the service attitude of academic libraries towards research and researcher.*

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**Keywords:** Academic Libraries, Research Support Services, Research Activities.

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### **Introduction:**

The aim of writing this paper is to find out what are best practices / services which are available in the various libraries for the researcher. Literature review help to find the details for research support services. The role of academic libraries in research is increasing due to advancement in technology. Libraries as professionals adopting changes and are able to handle advanced technology in an effective ways, because of that the role of librarian's and academic libraries becoming crucial for fulfilling the objectives and need of researchers.

Academic libraries have high quality scholarly collections such as Print and E-resources, Print collection include Reference Books, rare books, manuscripts etc. E-resources in the form of e-books, e-journal, databases etc. These resources are

able to meet the needs of researchers. Academic libraries are mainly attached to an educational institution. They serve two main purposes such as:

1. To support the syllabus followed by the parent body.
2. To support the research activities conducted by students and faculties.

### **Academic Libraries:**

An academic library is a Library that is attached to a higher education institution and serves two complementary purposes: to support the curriculum and the research of the university faculty and students.

### **Definition of Research Support Services:**

Academic library services focused on supporting all the research processes.

Examples Bibliometric, research data management and digital scholarship etc.

#### **Scope and limitation of this article:**

The article is only for the developing research support service for the researcher in general. There are number of barrier are for higher education institutions and their libraries, particularly for college libraries. Such as grants, human resources, collection, space etc.

#### **Role of Academic Libraries(Iiesanmi , 2013):**

1. It serves as a repository for the institution's history, such as storing dissertations, university publications, UGC norms and orders, Government Gazettes etc.
2. Libraries play a vital role in sharing expensive resources such as data bases, e-books etc. Preserving and organizing artifacts and ideas and thereby serving a critical cultural role. Helps researchers in winning research grants and contracts especially in research intensive universities.
3. Libraries play a major role with their skills in improving the quality of research funding applications and thereby the institution becomes successful in winning the research income.
4. The functions of the academic libraries vary depending on the mission of the parent organization they belong to, some common responsibilities of providing information, managing projects, departments, community relationships, reference curriculum, research, classroom support, keeping up with the trends and technology in the field of LIS.

5. Training researchers to manage data for better results, reuse and long-term success. Academic librarian's role requires the provision of specialized research support services as well as creation of tools related to that support.

#### **Review of Literature on Research Support Services in Academic Library:**

Literature review on the topic find the most useful book "Providing Effective Library Services for Research"(Jo, Pat , & Moira, 2007) The role of librarian's towards research support service as per Bourg, Coleman and Erway (2009) hold the view that anticipation, understanding and engaging with new research practices to unearth the challenges and opportunities inherent in them, are a must for the librarians in the academic field so that they fulfill their roles as critical partners in research to the maximum.(Devan , 2020)

- Revaluation of their approach towards research
- Expansion of suite of research support services
- Reaction to ever increasing need of researchers.
- Open access and open journal publishing have moved academic library towards limelight.
- Librarians contributing towards successful completion of research, they also contribute towards knowledge creation, using their specialized skills and knowledge.
- There's an inevitable role for any librarian towards research support services.
- The times have come that the academic librarian from reacting to research needs to become a collaborative partner in the research journey.
- To fulfill the various roles, a proactive approach is being taken like assisting

researchers in understanding and managing data lifecycle, alternative metrics, and competency based learning and digital humanities.

- As academic librarians embrace their role as research partners, embed themselves in research enterprise by emphasizing collaboration and being connected their transition to the epic center of research process becomes more pronounced.

The role of librarian is to enhancing, improve, intensify the quality research activities. Changing academic pedagogy and rapid technology growth has affected the trends and processes in research and academic Libraries. Research support services such as bibliometric, systematic reviews, data management, digital preservation and curation, open access and open journal publishing have made academic library as the epic center for all research activities.(Sun et al., 2011)

The focus of academic libraries is to support teaching, learning and research in their immediate institutions. Academic libraries support research by providing research collections, services, data literacy training and research data management.(Adeniran & Oyovwevotu, 2019)

Academic libraries have traditionally two key functions, to support teaching and to support research. With the emergence of various technologies and substantial changes in scientific communication there is paradigm shift in the role to achieve the research objectives of academic libraries. Research support services in academic libraries have given a positive response to these changes, because of these Academic libraries adopt best practices, redefine services, establish new management and collaboration models etc. (Tang & Zhang, 2020)

**Cases on Research Support Services in Academic Libraries** is a critical scholarly resource that uses case studies to systematize the experiences of research support services in academic libraries for the support of higher education faculty. The cases focus on such items as the role of technology and its impact as well as how these services help to improve the excellence of universities. Featuring a wide range of topics such as library services, data management, and open science, this book is ideal for librarians, academicians, professionals, researchers, and students.(Tang & Zhang, 2020)

As science and technology libraries continue to evolve, specialized research support services are developed and offered at academic institutions or research organizations. Making sense of this changing landscape and determining the best programs for an institution can be a daunting task, especially for early-career librarians. This article aims to provide an overview of various small to medium size non-traditional or specialized research support services in academic and special libraries serving Science, Technology, Engineering and Mathematics (STEM) disciplines (Tchangalova, Coalter , & Trost , 2021)

#### **Role of Libraries in Research activities:**

To add the value of libraries for research and researcher some key messages are:

1. Good libraries help institutions to recruit and retain top researchers.
2. Libraries help researchers win research grants and contracts.
3. Libraries promote and exploit new technologies and new models of scholarly communications.

4. Repositories increase the visibility of the institution and raise its research profile.
5. Outward-facing libraries contribute to institution-wide initiatives.
6. Specialist staff works in partnership with academic department.
7. Connecting with researchers enhances the value of library's services.
8. Dedicated spaces provide a better work environment for researchers.
9. Easy access to high-quality content is a key foundation for good research.
10. Libraries are a physical manifestation of the values of the academy and of scholarship.

### **Research Support Services by Academic library:**

The following are some of research support services / activities which will help to enhancing the role of academic libraries in research:

#### **1. Library Orientation:**

Library organizes orientation program for faculty members and research student in the beginning of the academic year. The main aim to organize this program is to make members more familiar with library resources, services, staff and rules to be follow while using library. Use the multimedia techniques such as Power point presentation, video techniques to do the orientation in an effective way. The orientation program for research scholar high light the research support services, Library collection, facility available to them.

#### **2. Library Collection Development:**

Library has to build collection to its researcher by following collection

development policy. The collection resources have following types

- a. **Print Resources:** Books, current Journals, Journal Archives, Theses and Dissertation and Faculty publication.
- b. **Online Resources:** Such as e-books, e-journals, e-databases, e-video & Open Access Resources
- c. **Subscription of Scopus , Web of Science Indexed Journals & UGC Care list Journals in print or online forms**
- d. **Subscription of full text Journal databases:** As per the specialization of the parent intuitions e. g AMC Digital Library, American Chemical Society, American Institute of physics, American Physical Society, J-STOR, Nature, Scopus web of Science, N-list and DELNET database etc.
- e. **Open Access Movement:** To promote the open access movement there some of example are provided e. g National Digital Library (NDL), DOAJ, Open Archives < NISCAIR online periodical repository , PLOS ( Public Library of Science) , OALIB,
- f. **Search Engines:** Google Scholar, Internet archive, Digital Library of India, Project Gutenberg, & TOC etc.

#### **3. Research Support Services:**

The research support service focus on the following area:

- a) **Shodhagangotri :** Before applying for any research degree as well as to funding agencies researcher has to prepare synopsis. Shodhagangotri is database and electronic version of the approved synopsis submitted by research scholar to the universities for registering themselves for the PhD program. Now it is expanded to MRPs/PDFs/Emeritus fellowship etc. As on today it has uploaded 9128 synopses. It is expected that every new

research must take the advantages of this database.

- b) **Electronic Thesis & Dissertation (ETD):** Library website should provide the links to thesis and dissertation available to their institutional library. Along with they should provide links to various sites which are providing information on published information on thesis submitted to various universities in the worlds, such as Indian Theses and Dissertations, Shodhaganga, Indian institute of Science Dissertation and theses from the Indian Institute of Science, Bangalore, India. DART Europe E-Theses Portal, Ebsco Open Dissertations, EThoS (From the British Library), National ETD Portal (South Africa), Networked Digital library of theses and Dissertation (NDLTD), Ohio Link ETD Centre, Open Access Theses and Dissertations (OATD), Theses Canada, TROVE from Australia
- c) **Bibliographic Service:** Bibliographical services are services related to the library collection and access to those collections, whether print or online. In modern libraries, these services are provided online through website. A bibliography is a list of works on a subject or by an author that were used or consulted to write a research paper, book or article. It can also be referred to as a list of works cited. It is usually found at the end of a book, article or research paper. Gathering Information. Library should provide this service by using OPAC, WEBOPAC or by consulting subject bibliographic on a particular subject etc.
- d) **Inter Library Loan Service:** Inter library Loan (ILL) is a service

whereby a patron of one library can borrow books, DVDs, Music etc. and / or receive photocopies of documents that are owned by another library. This service is especially available with DELNET database to its member libraries. The Document Delivery Service is part of ILL. The Document delivery service (DDS) or document supply service “refers to the physical or electronic delivery of a document from a library collection to the residence or place of business of a library user, upon request.” This service saves the times of researcher.

- e) **Literature Search Services:** Literature search, is a “long range reference service”, where the search has to be more exhaustive, both in depth and extent. The range and complexity of reference sources to be consulted are wider and generally, more than one source has to be consulted to adequately carry out a literature search. Besides bibliographies, other secondary sources like abstracting and indexing services, reviewing periodicals are the main sources of information. The demand for this service has been growing with the growth of scientific and technical literature. The main function of an information service facility is to bring together the user and the information he needs.

A good approach to literature search is looking up a bibliography, an encyclopedia or a review publication. This provides background information as also some useful references. After this preliminary search is over, searches should be carried out with

secondary publications like abstracting and indexing services.

The other sources are conference proceedings, research reports, theses, patents, standards and specifications, trade literature and in some cases monographs and treatises. There may be cases where information will be available from non-documentary source like institutions and experts.

f) **Reference Management Software:** Reference management software, or citation manager, is a program or online service that helps you collect, organize, cite, and share your research sources. Most of these programs also allow you to create bibliographies and footnotes in your papers.

The purpose of any Reference Management Software is:

- It helps you to find information quickly and easily.
- It makes collaboration much easier
- It helps you stay organized

The best Reference management software are Mendeley, EndNote, Zotero, Docear, Citavi, Wizfolio, Paperpile, RefWorks, Papers, Sciwheel etc.

The library has to demo each and every reference management Tools pros and cons to the researcher and make them familiar for using these tools effectively for writing their research work.

g) **Plagiarism Checking Service:** It is essential for any institution to develop plagiarism policy as per the guidelines of the UGC (promotion of Academic Integrity and Prevention of Plagiarism in Higher Education institutions) Regulation 2018.

Need for Plagiarism Detection in Research

1. To ensure the plagiarism free work of researchers.

2. To avoid duplication, replication and repetition of research.

3. To exhibit the honesty and sincerity in research

4. To prove the credential of the researchers

5. Library should provide the best plagiarism detection Software for scholarly

Communication by using Urkund or Turniti or by using Open Source Plagiarism Detection Software such as:

- Small SEO Tools
- Dupli-checker
- Writer
- Prepost SEO
- Search Engine Reports

h) **Grammar Checking Service:** Library can provide the Grammar Checking Service with the help of following tools. Makes the researcher to know pro and cons of the Grammar checking tools. The following are the free Grammar checking tools which are available free of cost. But for advance checking they cost something on monthly and annual basis

- 1.The Grammarly is one of the best free grammar checker tools that you can use for grammar, spelling, punctuation errors, and more. ...

- 2.Ginger.

- 3.Scribens. ...

- 4.Writer. ...

- 5.Zoho Writer. ...

- 6.LanguageTool. ...

- 7.Jetpack. ...

- 8.Virtual Writing Tutor, etc.

i) **Digitization Services:** Library should provide high quality digitization service for materials in a wide variety of formats, manuscripts, rare books, back issues of periodical etc. Trained and experienced staff high quality digitization equipment are required, to

provide support for collection level digitization project. Systematic digitization or on demand request from researchers, library users etc.

a. **Digital Library:** A digital library also called an online library an internet library a digital repository or a digital collection is an online database of digital objects that can include text, still images, audio, video, digital documents or other digital media formats or a library accessible through the internet.

b. **Institutional Repositories:** Institutional Repositories (IR) is having following features

1. An Institutional repository is an online archive for collecting, preserving and disseminating digital copies of the intellectual output of an institution.
2. This is an online repository that contains the scholarly works of an institution.
3. An Institutionally defined database for collecting storing preserving and disseminating research output of an institution.
4. A digital library in which an institution deposits its academic research output.

An institution has to build their own repository, by using open source software such as Dspace, Greenstone etc.

c. **National Digital Library of India (NDLI):** NDLI is a virtual repository of learning resources containing textbooks, articles, video, audio books, teaching simulations, fiction and all other kind of learning media for the user community makes the researcher familiar with institutional repository and National Digital Library of India.

j) **Research Alerts Service:** The aim of this service is to receive automatic

notifications about new research in any area choose by researchers. This service will help to keep up to date with the literature published in a given field. The notification will receive through emails. For this purpose, a user has to create user e- profile by using DeepResearch, Google Scholar etc.

k) **General Reference (Ask a Librarian):** This service is usually providing free, quick reference service and the basic answer to brief, factual question which help research student to get answers from the library.

### 1. Training and Workshop:

Library have to organize training and workshop throughout the year to assist the researchers for making them to use the library information sources and research related training tools and techniques to enhance the research activities. The following training and workshop related topics will help for promoting research activities:

- To conduct Research and Publications Ethics (RPE) 2 credit program for Research students.
- Creating E-profile & Finding books and articles using Google Scholar, Research Gate Profile, Academia .edu profile, Mendeley Profile & Twitter profile
- Literature search strategy & Search tools: use of OPAC, WEBOPAC, Databases, DeepResearch , Google Scholar and Yewno etc.
- Creating alerts to stay up to date
- Copyright and intellectual property Right issues
- Data collection, Data Analysis by using statistical Tools
- Writing skills / Scientific Paper:
- Funding supports for Research:

- Use of Reference Management Tools
  - To Create Research E-profile: by using Research ID, Scopus ID, Microsoft Academic ID, Google Scholar ID, ORCID ID and NRINS ID for academic identity.
  - How to Create profile on Vidwan(Expert Database and National Researcher Network)
  - Use of Latex in writing Dissertation / Thesis
  - Publishing strategy-choosing the right journals, Journal Publication in UGC Care List, Scopus & Web of Science indexed Journals
  - Increased citation through Open Access Publication.
  - Bibliometric, citation analysis and journal metrics
- 1 **To conduct Survey for enhancing Research Activities such as Information Needs and seeking behavior periodically on regular basis.**
- 2 **Innovative Facility for Researcher:**  
Library should provide following facilities for enhancing the research activities effectively
- Library computerization through ILMS
  - Space for Researcher
  - Free Browsing Unit (Internet Access Facility)
  - Desktop Computers, Laptops and tablets
  - Computer printouts and scanning
  - Dynamic Library Website for Dissemination of Research related information
  - 24/7 Access to E-Resources through World Wide Web
  - Photocopying
  - Wireless internet access
  - Digital Repositories
  - Digitization of Manuscript
- Electronic Surveillance System by using 3M Magnetic Tape System, CCTV and RFID technologies.
- 3 **Research Support Service by R B NarayanraoBorawake College Shrirampur:** The following are the services which are in practice for enhancing research activities by the library
- Library orientation program especially arranged for research scholar
  - Use of Vridhhi Software for library computerization, Library OPAC & WEBOPAC
  - Organization of workshop on the Publication in the UGC Care list Journals
  - Workshop on “ How to use N-List and DELNET Database in a effective ways”
  - Use of Shodhgangotri for preparing synopsis &Shodhaganga publishingPh D thesis on the site.
  - Provided quality space for research in reading hall
  - Participated in the Data Sharing activities with DELNET Database for enhancing inter Library facility for researchers
  - Subscription of international and UGC care list Journals.
  - Special provision for Internet browsing facility for research Scholar
  - Photocopying of resource materials
  - Workshop on the copyright, Patent and intellectual property right.
  - Use of open access resources

### Conclusion:

Librarian should serve as Research Consultant, Library professional has to adopt service attitude for serving especially to researchers. The role of

librarian and libraries helps for improving the quality of research is valuable. The academic libraries in higher education has to follow anticipation , understanding and engaging themselves with new research practices so that they are able to provide better Research Support services. Bibliographic services, Literature Search Services, use of Reference Management Tools. Providing digital library services, use of National Digital library of India (NDLI). Research Alerts Service, data management, preservations, open access, open publishing have made the academic as knowledge Resource Centre. Institutional Repository, specialist staff, dedicated space and parent institute support will help the quality of academic libraries.

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28. <https://vidwan.inflibnet.ac.in/>
29. <https://irins.org/irins/>