ACADEMIC LIBRARIAN TO RESEARCH PARTNER: ROLES, SKILLS, AND OPPORTUNITIES IN THE EVOLVING RESEARCH ECOSYSTEM

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Abstract :

Traditionally, the role of a librarian was limited to the collection, classification, and preservation of books, periodicals, and other information sources. However, in the modern knowledge landscape, the librarian has evolved beyond being a mere custodian of information to become a research guide, information consultant, digital skills trainer, research data manager, and collaborator in the research process. Significant transformations in higher education and research are being driven by the increasing use of digital technology, artificial intelligence, open-access resources, research data, and online academic platforms. These changes have directly impacted libraries and the role of librarians.

In this context, the concept of a "co-pilot" serves as an effective metaphor for the librarian's evolving role. While the researcher remains the primary decision-maker for their study, the librarian acts as a crucial collaborator in tasks such as identifying appropriate information sources, conducting literature reviews, managing references, verifying information credibility, managing research data, navigating intellectual property and copyright issues, facilitating open access and research dissemination, and effectively utilizing digital tools. This article analyses the librarian's changing role, reviews the necessary skills, and examines research partnerships and modern library-based research support services. It also outlines measures to develop libraries into effective research partners.

Keywords : Librarian, Co-pilot, Digital library, Information literacy, Research data management, Research support, Research partnership, Artificial intelligence, Open access, Academic library

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Introduction :

Teaching and research are considered the two fundamental functions of the academic education system. Libraries play a crucial role in providing the knowledge resources, information tools, and technology-based services essential for these functions. Consequently,

a university or college library is not merely a repository for books and periodicals but a central hub that supports the process of knowledge creation. (Corrall, 2014; IFLA, n.d.).

Historically, the role of an academic librarian centered primarily on book selection, acquisition, classification, cataloging, serials management, reference services, and reader services. However, the digital revolution has transformed the nature of information creation, dissemination, and usage. Researchers now need to utilize a wide array of digital resources—such as global e-journals, e-books, theses, databases, institutional repositories, preprints, and research data—for their work. (ACRL, 2016; Corrall, 2014).

It is no longer sufficient to simply inform a researcher about *where* information is located or *how* to access it. They also require guidance on critical aspects such as identifying reliable information, selecting appropriate databases, choosing effective search keywords, managing references, storing research data, adhering to copyright regulations, and enhancing research visibility. (ACRL, 2016; Corrall, 2014). This shift has fundamentally transformed the role of the academic librarian, positioning them as a **"Research Partner"** within the research process. (Corrall, 2014).

Concept of the Research Ecosystem :

A research ecosystem is an interconnected network comprising the individuals, institutions, technologies, information resources, and processes involved in the entire research lifecycle—spanning from the inception of research to its publication, dissemination, evaluation, and societal application. (Corrall, 2014; UNESCO, 2021).

This ecosystem comprises the following components: researchers and students, teachers and mentors, academic libraries and librarians, universities and research institutions, publishers and journals, databases, digital repositories, research funding agencies, research data, digital technology, artificial intelligence, the open-access movement, and research evaluation systems. Within this entire ecosystem, the librarian acts as a connecting link between these various components. (Corrall, 2014; IFLA, n.d.).

Traditional Role of the Academic Librarian :

The traditional functions of an academic librarian include the following:

1. Library collection development,
2. Selection and acquisition of books and periodicals,
3. Classification and cataloguing
4. Reference services,
5. Reader services,
6. Periodical management,
7. Library automation,
8. Preservation of library resources,

9. Information search services,
10. User guidance.

These services remain significant in the digital age; however, their nature has become more expansive and technology-driven. (ACRL, 2016; Corrall, 2014).

From Academic Librarian to Research Partner: The Evolving Role :

Information Search Consultant :

Helping the researcher locate relevant information is a crucial role for the librarian. However, this service is no longer limited to merely finding reference books. It has become essential to provide training on advanced search techniques within various academic databases—including the use of Boolean operators, truncation, subject headings, and appropriate keywords. (ACRL, 2016).

Literature Review Assistant :

Research begins with a literature review. Librarians can assist researchers in conducting a comprehensive and systematic search for relevant research literature. The librarian plays a vital role in selecting appropriate databases, formulating search terms, compiling references, and managing the literature. (Corrall, 2014; ACRL, 2016).

Reference Management Expert :

Librarians can provide training on organizing references, applying citation styles, and creating bibliographies using tools such as Zotero, Mendeley, and EndNote. (ACRL, 2016).

Research Data Management :

Research data is a crucial component of modern digital research. Librarians have the opportunity to guide researchers on data creation, classification, storage, security, metadata generation, long-term preservation, and reuse (Cox et al., 2017; Tenopir et al., 2012).

Guidance on Open Access :

Open Access enables research output to reach a wider audience. Guiding researchers on institutional repositories, self-archiving, open-access journals, and Creative Commons licenses has become a key role for the modern librarian (ACRL, 2016).

Guidance on Copyright and Intellectual Property :

Researchers need to be knowledgeable about the use, reproduction, and citation of others' work, as well as licensing and plagiarism issues. In this context, librarians can foster information literacy and raise awareness regarding intellectual property.

Enhancing Research Visibility :

Librarians can assist in making published research available on appropriate digital platforms, archiving it in institutional repositories, and boosting the online visibility of the research. (Suber, 2012; Swan, 2012; UNESCO, 2021).

Support for Research Assessment :

Librarians can assist researchers in the initial application of research assessment methods such as citation analysis, bibliometrics, altmetrics, and the h-index. These services are valuable for understanding the impact and visibility of a researcher's publications (Corrall, 2014).

Artificial Intelligence and Research :

The increasing use of artificial intelligence has accelerated the research process. Librarians now face the new responsibility of guiding researchers on the responsible use of AI-based discovery tools, literature analysis, summarization, and research support tools (ACRL, 2016).

The Role of the Academic Librarian as a Research Partner :

As a research partner, the librarian can participate at various stages of the research process.

Research Stage	Librarian's Contribution
Selection of research topic	Searching for information sources and preliminary research (ACRL, 2016)
Literature review	Database searching and literature collection (ACRL, 2016; Corrall, 2014)
Research question	Relevant information and existing literature (ACRL, 2016)
Data collection	Information sources and data resources (Cox et al., 2017; Tenopir et al., 2012)
Reference management	Citation management (ACRL, 2016)
Writing	Verification of references and information (ACRL, 2016)

Publication	Journal selection and publication guidance (Corrall, 2014; UNESCO, 2021)
Research dissemination	Repositories and Open Access (Suber, 2012; Swan, 2012; UNESCO, 2021)
Research evaluation	Bibliometrics and citation analysis(Corrall, 2014)
Research preservation	Digital preservation and repositories (IFLA, n.d.; UNESCO, 2021)

This enables the librarian to contribute not just at a single stage, but across various stages of the research lifecycle. (Corrall, 2014).

Essential Skills for the Modern Academic Librarian :

To adapt to changing roles, librarians need to acquire new skills alongside traditional library science skills. Contemporary academic librarians require competencies in information literacy, digital resources, research support, scholarly communication, and emerging technologies (ACRL, 2016; Corrall, 2014).

Information Literacy :

The ability to search for, evaluate, and appropriately use information is a fundamental skill for the modern academic librarian. Information literacy enables researchers to identify, evaluate, understand, and use information effectively and ethically (ACRL, 2016).

Digital Literacy :

Proficiency in the effective use of e-resources, digital repositories, databases, and online research tools is essential. (ACRL, 2016; IFLA, n.d.).

Data Literacy :

It is necessary to know how to find and manage data, understand basic concepts of analysis, and be familiar with methods for preserving research data. (Cox et al., 2017; Tenopir et al., 2012).

Technical Skills :

Knowledge of Library Management Systems, institutional repositories, metadata standards, discovery services, and digital preservation technologies is required. (IFLA, n.d.).

Knowledge of Research Methodology :

Basic knowledge of research methods, literature reviews, citation, data collection, and research writing enables the librarian to work effectively with researchers. (Corrall, 2014).

Communication and Collaboration Skills :

The ability to communicate effectively with researchers, faculty, the IT department, publishers, and the administration is essential. Artificial Intelligence Literacy

Awareness is essential regarding the responsible use of AI tools, information verification, potential errors in AI-generated content, plagiarism, and academic integrity. (Corrall, 2014).

Key Opportunities in Research Partnerships :

The changing research environment provides several opportunities for academic libraries to develop structured research-support services. These opportunities can strengthen the relationship between librarians and researchers and position the library as an active partner in the research process (Corrall, 2014).

Research Support Desk :

By establishing a Research Support Desk in college or university libraries, various research services can be provided to researchers at a single point of contact. (Corrall, 2014).

Research Consultation Service :

Individual or group-based research consultation services can be developed for researchers. (ACRL, 2016; Corrall, 2014).

Systematic Literature Search Service :

Planned and structured literature search services can be provided for specific research topics. (ACRL, 2016).

Research Data Management Service :

Policies, guidelines, and training programs for research data management can be developed. (Cox et al., 2017; Tenopir et al., 2012).

Institutional Repository :

Research theses, articles, conference papers, reports, and other academic materials can be made available through an institutional repository. (Suber, 2012; Swan, 2012; UNESCO, 2021).

Researcher Training Programmes :

Training sessions can be organized through the library on the following topics:

- Effective Literature Search (ACRL, 2016)
- Reference Management (ACRL, 2016)
- Research Metrics (Corrall, 2014)
- Plagiarism Awareness (ACRL, 2016)
- Copyright (ACRL, 2016)
- Open Access (Suber, 2012; Swan, 2012)
- Research Data Management (Cox et al., 2017; Tenopir et al., 2012)
- ORCID and Researcher Profiles
- AI Tools for Research (ACRL, 2016)

Role of Technology in the Research Ecosystem :

Digital technology has made library services more dynamic. Cloud-based library management systems, discovery tools, digital repositories, electronic resources, and AI-based services have streamlined the process of accessing information (IFLA, n.d.; ACRL, 2016).

Furthermore, metadata standards, persistent identifiers, and interoperability standards enable interconnection between various research resources (IFLA, n.d.).

Consequently, the modern library can function more effectively as a "Digital Knowledge Infrastructure" rather than merely a physical space (Corrall, 2014).

The Librarian in the Age of Artificial Intelligence :

Artificial Intelligence is being extensively used in the research process. AI tools are employed for information retrieval, literature classification, text analysis, translation, summarization, and the development of research ideas. (ACRL, 2016).

In this context, the librarian's role should not be to oppose AI, but rather to facilitate its responsible, ethical, and information-literate use. Librarians need to raise awareness among researchers regarding the following aspects:

- Verification of AI-generated information
- Identifying incorrect or fabricated information
- Academic integrity
- Plagiarism
- Copyright
- Data privacy
- Proper attribution
- The importance of human intellectual contribution (ACRL, 2016).

Challenges faced by academic librarians :

Evolving roles bring with them several challenges:

1. The need for continuous learning of new technologies
2. Lack of training to keep skills up-to-date
3. Inadequate financial provisions
4. Rising costs of e-resources
5. Limited awareness among researchers regarding library research services
6. Shortage of technical manpower
7. Rapid changes in AI and digital tools
8. Complexities regarding copyright and licensing
9. Issues concerning research data security
11. Lack of institutional policies for research partnerships (Suber, 2012; Swan, 2012; UNESCO, 2021).

Effective research partnerships :

Measures to be Taken Academic libraries need to implement the following measures: (Corrall, 2014).

1) Skill Development :

Continuous professional development programs should be organized for librarians. (ACRL, 2016; Cox et al., 2017).

2) Direct Communication with Researchers :

Conduct a 'Research Needs Assessment' to understand the requirements of researchers. (Corrall, 2014).

3) Department-wise Library Liaison :

Consider appointing a Liaison Librarian or Subject Librarian for each academic department (IFLA, n.d.; Corrall, 2014).

4) Inclusion of the Library in Research Policy :

The institution's research policy should explicitly include the library's research support services. (Corrall, 2014).

5) Digital Infrastructure :

Develop the necessary infrastructure for institutional repositories, discovery services, digital archives, and research data management (Cox et al., 2017; Tenopir et al., 2012; IFLA, n.d.).

6) Collaborative Work Culture :

Foster a collaborative work culture among librarians, researchers, faculty members, and IT experts. (Corrall, 2014).

Conclusion :

The role of the academic librarian is undergoing a fundamental transformation due to the changing nature of knowledge creation. Previously, librarians were known primarily as information managers and service providers; today, they are emerging as knowledge collaborators, information experts, research consultants, and partners actively involved in the research process. (Corrall, 2014; Association of College and Research Libraries [ACRL], 2016).

At every stage of research, the quality, availability, reliability, and management of information are of paramount importance. The librarian's traditional expertise in information management, combined with newly acquired skills in digital, data, technical, and research domains, positions them as a vital component of the research ecosystem. (ACRL, 2016; Cox et al., 2017; Tenopir et al., 2012).

The success of future academic libraries will not be measured solely by the size of their collections; rather, their significance will be determined by how effectively they support the research process, contribute to knowledge creation, and facilitate the dissemination of research to society. (Cox et al., 2017; Tenopir et al., 2012).

Therefore, transitioning from the traditional role of "librarian" to the new role of "research partner" is not merely a matter of change but an imperative of the modern higher education system.

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