

## **Reengineering Research Support Services in University Libraries in Nigeria**

**By**

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### **Abstract**

*Research support services in university libraries have become indispensable for enhancing research productivity, visibility, and quality. As the nature of research evolves in complexity, interdisciplinarity, and digital reliance, university libraries must reengineer their research support services (RSS) to align with contemporary needs of scholars and institutions. In Nigeria, where higher education is rapidly expanding, research output remains constrained by various systemic challenges including inadequate infrastructure, limited access to research tools, and weak integration between library services and institutional research ecosystems. Reengineering research support services involves redesigning library roles, adopting innovative technologies, strengthening partnerships, and developing competencies that enable librarians to contribute meaningfully to the research lifecycle. This paper examines the concept of research support services, the impetus for reengineering in the Nigerian context, key components of modern RSS, challenges facing Nigerian academic libraries, and practical strategies for transformation. Drawing on theoretical frameworks such as socio-technical systems theory, service quality models, and the research lifecycle approach, the study highlights how reengineered RSS can improve research visibility, data management, scholarly communication, and impact measurement. The paper concludes that Nigerian university libraries must adopt a holistic approach encompassing policy support, capacity building, digital infrastructure investment, and collaborative networks to reengineer RSS and effectively contribute to national and global research agendas.*

**Keywords:** Research Support Services, University Libraries, Nigeria, Reengineering, Research Lifecycle

### **Introduction**

Academic libraries have long served as cornerstones of research support within universities. Traditionally, this support centered on providing access to print collections, indexing services, and reference assistance. However, rapid advancements in digital technologies, globalization of scholarship, and the increasing complexity of research activities have fundamentally transformed research ecosystems. The contemporary research environment is characterized by data-intensive scholarship, interdisciplinary collaborations, open science mandates, and the use of sophisticated research tools and analytics (Tenopir et al., 2015). In response, university libraries worldwide are

rethinking and redesigning research support services (RSS) to remain relevant and impactful (Corrall, 2019).

In Nigeria, the importance of research support in achieving national development goals is underscored by government policies, university mandates, and international expectations for knowledge production. Yet, Nigerian universities continue to grapple with challenges such as limited research funding, inadequate digital infrastructure, and a skills gap in research methodologies (Aina, 2017; Ezeani & Igwe, 2021). University libraries, as integral components of academic ecosystems, must evolve from traditional service models toward more dynamic, collaborative, and technology-driven research support frameworks.

Reengineering research support services involves a fundamental rethinking of how libraries design, deliver, and assess services that contribute to the research lifecycle from idea generation and literature review to data management, publication, and research impact measurement. It requires a shift from reactive, transactional assistance to proactive, integrative services that anticipate research needs and provide strategic support. This paper explores the reengineering of research support services in university libraries in Nigeria. It begins by conceptualizing research support services and outlining their components. It then discusses the drivers for reengineering, including changing research dynamics and technological innovations. The Nigerian higher education and library contexts are examined to situate the discussion. The paper identifies challenges facing the reengineering process and proposes strategies for transformation. Finally, it offers recommendations and concludes on the role of reengineered RSS in fostering a vibrant research culture in Nigerian universities.

### **Conceptualizing Research Support Services**

Research support services encompass a broad range of activities and resources that assist researchers throughout the lifecycle of their work. While definitions vary, most conceptualizations emphasize the integration of resources, expertise, and tools to enable effective research. Research support services typically include:

1. **Information Discovery and Access:** Helping researchers locate, access, and evaluate relevant literature, datasets, and other scholarly materials (Gray, 2013).
2. **Research Data Management (RDM):** Assisting with the organization, documentation, storage, preservation, and sharing of research data (Cox et al., 2019).
3. **Scholarly Communication Support:** Guiding researchers through publication processes, open access options, copyright issues, and author rights (Pinfield et al., 2017).
4. **Research Impact and Metrics:** Providing bibliometric analysis, citation tracking, and altmetrics to help researchers understand and enhance scholarly impact (Gumpenberger et al., 2015).
5. **Digital Scholarship Services:** Supporting digital research methods such as text mining, GIS mapping, and visualization tools (Estelle & Hanricks, 2018).

6. Training and Capacity Building: Offering workshops and one-on-one consultations on research skills, tools, and methodologies (Nwosu & Olatunji, 2022). These components reflect a shift from resources-centric support toward integrated, researcher-centric services that engage with the full spectrum of research activities.

### **Theoretical Foundations**

To frame the discussion, this paper draws on three theoretical perspectives: socio-technical systems theory, service quality models, and the research lifecycle approach.

**Socio-Technical Systems Theory:** Socio-technical systems theory posits that successful organizational change requires alignment between social and technical components — technology, people, processes, and organizational structures (Trist & Bamforth, 1951). Reengineering RSS in university libraries involves adopting new technologies and reshaping human roles, workflows, and institutional relationships. A socio-technical lens emphasizes that technological tools alone are insufficient; effective service redesign must integrate training, policy support, and organizational cultures that embrace innovation.

**Service Quality Models:** Service quality frameworks, such as SERVQUAL (Parasuraman et al., 1988), highlight the importance of responsiveness, reliability, assurance, empathy, and tangibles in evaluating service delivery. Applying service quality models to RSS underscores the need for libraries to assess user expectations and experiences, ensuring services are timely, accurate, and aligned with researchers' needs.

**Research Lifecycle Approach:** The research lifecycle approach conceptualizes research as a series of interconnected phases from conception to dissemination and impact evaluation (Borgman, 2015). Reengineered RSS must support researchers at each phase, offering tailored resources and expertise that facilitate seamless transitions across activities such as literature review, methodology selection, data management, publication, and assessment. These theoretical frameworks provide a foundation for understanding how RSS can be redesigned to meet the demands of modern scholarship.

### **Drivers for Reengineering Research Support Services**

Several global and local drivers necessitate the reengineering of research support services in university libraries.

**Technological Advancements:** The proliferation of digital research tools, open access platforms, data repositories, and analytics necessitates that libraries rethink how they support research activities. Technologies such as cloud computing, AI-powered search engines, and research information management systems enable more efficient discovery, analysis, and sharing of research outputs (Wessels & Frenkel, 2021).

**Changing Research Practices:** Research practices are becoming more interdisciplinary, collaborative, and data-intensive. Scholars increasingly rely on large datasets, require advanced

analytical tools, and participate in collaborative networks that cross institutional and geographic boundaries (Borgman, 2015; Tenopir et al., 2015). Traditional library services that focus solely on access to literature are no longer sufficient to meet researchers' needs.

**Policy and Funding Mandates:** Research funding agencies and government policies increasingly emphasize open science, data sharing, and research impact. Compliance with funder mandates for data management plans, open access publication, and transparency in research requires libraries to expand their support services (Cox et al., 2019).

### **Competition and Institutional Expectations**

Universities compete for research funding, rankings, and reputation. Libraries that provide robust research support can enhance institutional performance by helping researchers publish in high-impact venues, manage research data effectively, and demonstrate measurable impact (Estelle & Hanricks, 2018). These drivers the urgency of reimagining RSS to align with emerging research ecosystems.

### **University Libraries in Nigeria and Research Support**

Nigeria's higher education landscape has expanded significantly over the past decades, with over 170 universities (Nigerian Universities Commission, 2024), a growing population of students, and increasing emphasis on research as a driver of national development. Despite this expansion, research output from Nigerian universities remains modest relative to global benchmarks (Adeyemi & Adu, 2019). Factors such as limited research funding, infrastructural deficits, and weak research cultures contribute to this challenge.

University libraries in Nigeria play vital roles as information providers and research enablers. However, their traditional focus on acquiring collections and managing physical spaces often limits their engagement with emerging aspects of the research lifecycle (Aina, 2017). The integration of digital resources such as electronic journals, institutional repositories, and citation databases has improved access to information, but many libraries still lack comprehensive RSS tailored to the needs of contemporary researchers (Nwosu & Olatunji, 2022). The need to reengineer research support services in Nigerian university libraries is therefore both a response to global trends and a strategic imperative for national research growth.

### **Key Components of Reengineered Research Support Services**

Reengineering RSS involves developing a suite of services that are strategic, researcher-centric, and digitally enabled. The key components include:

1. **Research Data Management (RDM) Services:** RDM services help researchers organize, document, store, preserve, and share data throughout the research lifecycle. Effective RDM support includes guidance on creating data management plans (DMPs), selecting appropriate storage solutions, metadata standards, and policies for data sharing and reuse (Cox et al., 2019).

Libraries can host institutional data repositories, provide templates for DMPs, and train researchers on FAIR (Findable, Accessible, Interoperable, Reusable) data principles (Wilkinson et al., 2016).

2. **Scholarly Communication and Open Access Support:** Librarians play a pivotal role in guiding researchers through the evolving landscape of scholarly publishing. This includes assistance with author rights, open access publishing options, journal selection, and compliance with institutional or funder open access policies. Libraries can also manage institutional repositories that disseminate theses, dissertations, and faculty publications, increasing visibility and citation impact (Pinfield et al., 2017).

3. **Bibliometrics and Research Impact Services:** Bibliometric tools enable researchers and institutions to assess publication performance, citation impact, and research collaboration networks. Services such as citation analysis, h-index calculation, and altmetrics reporting help researchers track the influence of their work and identify trends in their fields. Libraries can facilitate workshops on bibliometric tools like Scopus, Web of Science, and Google Scholar Metrics (Gumpenberger et al., 2015).

4. **Digital Scholarship and Analytical Tools:** Digital scholarship encompasses methods and tools that support advanced research tasks, including text mining, network analysis, GIS mapping, and data visualization. Libraries can establish digital scholarship units that provide access to software such as NVivo, R, Python, ArcGIS, and Tableau, along with training on their use (Estelle & Hanricks, 2018).

5. **Training and Capacity Development:** Continuous training is critical for equipping researchers with skills to navigate research tools, manage data, publish effectively, and evaluate impact. Libraries can conduct workshops, webinars, and one-on-one consultations on topics such as research methods, citation management (e.g., EndNote, Zotero), RDM, and digital literacy.

6. **Integrated Research Information Systems:** Integrated platforms that bring together publication records, datasets, profiles, and impact metrics facilitate streamlined access to research outputs. Libraries can collaborate with university IT units to implement research information management systems (RIMS) that centralize research data and support reporting to external stakeholders. These components represent a comprehensive suite of services that collectively support the research lifecycle from inception to dissemination and impact evaluation.

### **Challenges to Reengineering Research Support Services in Nigeria**

While the need for reengineered RSS is clear, Nigerian university libraries face several challenges that impede transformation efforts.

**Infrastructural Deficits:** Reliable technology infrastructure is a prerequisite for many modern research support services. In Nigeria, inconsistent power supply, limited broadband connectivity, and insufficient access to high-performance computing resources constrain the delivery of digital services (Afolabi, 2022).

**Limited Funding and Resource Allocation:** University libraries often operate within tight budgets that prioritize acquisitions of basic resources over innovation. Investments in research support technologies, software licenses, and specialized staff positions are frequently constrained by financial limitations (Ezeani & Igwe, 2021).

**Skills and Competency Gaps:** Reengineering RSS requires specialized skills in areas such as data management, digital scholarship, bibliometrics, and information analytics. Many librarians in Nigeria lack formal training in these domains, and opportunities for professional development are limited (Oladokun, 2021).

**Policy and Institutional Support:** The absence of comprehensive institutional policies that recognize and prioritize research support services hinders strategic planning. Without explicit mandates and performance indicators for RSS, libraries struggle to secure organizational buy-in and sustained support.

### **Cultural and Organizational Resistance**

Transformational change can encounter resistance from staff accustomed to traditional service models. Reengineering requires shifts in roles, workflows, and institutional mindsets, which can be met with reluctance or uncertainty.

**Limited Awareness among Researchers:** Some researchers may be unaware of the range of services libraries can provide or may undervalue library contributions to research workflows. This perception limits engagement and collaborative potential between faculty and library professionals. Addressing these challenges is critical for enabling effective RSS redesign and ensuring sustainable impact.

### **Strategies for Reengineering Research Support Services**

To overcome the challenges outlined above, Nigerian university libraries can adopt the following strategies:

1. **Leadership and Policy Advocacy:** Library leadership must engage with university administration to articulate the strategic value of RSS. Policies that integrate RSS into institutional research agendas, budget plans, and performance metrics will strengthen organizational commitment. Advocacy initiatives should highlight how enhanced RSS contributes to research quality, funding competitiveness, and academic reputation.

2. **Capacity Building and Professional Development:** Targeted training programs are essential to equip librarians with competencies in research data management, digital tools, bibliometrics, and scholarly communication. Libraries can partner with professional associations, international organizations, and academic departments to deliver workshops and certifications.

3. **Collaborative Partnerships:** Collaboration with internal stakeholders including faculties, research offices, and IT units fosters integrated support models. External partnerships with

consortia, publishers, and technology vendors can expand access to tools, shared expertise, and funding opportunities.

4. **Investment in Digital Infrastructure:** Universities should prioritize investments in reliable internet connectivity, cloud platforms, data storage solutions, and analytics tools. Exploring open-source research management platforms can provide cost-effective alternatives to commercial software.

5. **Awareness and Engagement Programs:** Libraries need to actively promote their services through orientations, seminars, newsletters, and outreach to research groups. Building awareness of RSS offerings increases utilization and strengthens library-researcher partnerships.

6. **Pilot Projects and Continuous Evaluation:** Implementing pilot projects such as launching an institutional repository, RDM services, or a digital scholarship unit enables libraries to experiment, learn, and scale successful initiatives. Continuous assessment of service usage, satisfaction, and outcomes informs iterative improvements. Collectively, these strategies provide a roadmap for reengineering RSS in Nigerian university libraries.

### **Emerging Practices**

While comprehensive RSS models are limited in Nigeria, there are emerging examples of similar initiatives:

**Institutional Repositories:** Several universities, including the University of Ibadan and Ahmadu Bello University, have developed institutional repositories that archive theses, dissertations, and faculty publications, increasing visibility and access to research outputs (Suberu & Musa, 2023).

**Workshops on Research Tools:** Libraries at institutions such as Covenant University and Lagos State University have piloted workshops on citation management and database searching, indicating a willingness to expand toward broader research support (Nwosu & Olatunji, 2022). These examples, though nascent, provide a foundation for broader service reengineering.

### **Conclusion**

Reengineering research support services in university libraries in Nigeria is not merely an option; it is an imperative in the global research competitiveness, digital transformation, and increasing demands for research impact. Reengineered RSS encompass a suite of services that support researchers throughout the lifecycle of scholarly activities. They require strategic leadership, investment in infrastructure and competencies, and a shift toward collaborative, digital-enabled service models. While challenges such as limited funding, infrastructural deficits, skills gaps, and organizational resistance persist, they can be addressed through targeted strategies that prioritize policy advocacy, capacity building, partnerships, and continuous evaluation. By embracing a holistic approach to RSS redesign, Nigerian university libraries can position themselves as strategic partners in research, contributing to national development goals and global scholarly impact. The future of research support in Nigerian academic libraries lies in aligning services with

emerging research practices, leveraging digital technologies, and cultivating an institutional culture that values library contributions to knowledge creation and dissemination.

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