The Changing Landscape in Research Data Management in Kenya's Universities: an Analysis of Development and Implementation

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Introduction

- Research data has become crucial in academic and research institutions globally, driven by:
  - the need for it to be findable, accessible, interoperable, and reusable (FAIR).
  - to meet the requirements of funding bodies, publishers, and research organizations.
  - Research data serves as the evidence supporting research questions and validating findings, encompassing quantitative or qualitative information collected through methods like experimentation, observation, modeling, interviews, or from existing sources (Cox & Verbaan, 2018).

  Hence the need to ensure effective RDM services in Universities

Cont'd Introduction

- Research data management is the process of organizing, storing, and preserving research data collected through various methods like experiments, observations, surveys, and interviews.

- RDM ensures that data is accessible, reusable, and compliant with ethical and legal standards.

Cont'd Introduction

- RDM offers key advantages for academic institutions, including:
  - enhanced data sharing,
  - reduced costs,
  - improved retrieval,
  - data preservation, and
  - compliance with funder requirements (Higgins, 2008).
- Given the irreplaceable nature and expense of research data, efforts must focus on its capture, preservation, and reuse to build on existing research (Patterton, 2017).
- Funders increasingly mandate data repository placement, with organizations like OECD advocating for open access to publicly funded research (Corti et al., 2011).

Cont'd Introduction

- Kenyan universities show limited RDM implementation,
- Though institutions like JKUAT and Kabarak University have made progress in policy adoption (Imbuga, 2017; Kabarak University, 2019), efforts remain minimal.
- Currently, only six Kenyan institutions, none of which are universities, are listed with data repositories (GFZ German Research Centre for Geosciences et al., 2024).
- This study seeks to assess current practices and address adoption barriers, aiming to align Kenyan institutions with global RDM standards like the FAIR principles

Objectives

The study outlines specific objectives:

- To establish the current status of RDM in universities in Kenya
- To establish the current policies and guidelines that have been developed to guide and support research data activities in universities in Kenya.
- Assess the preparedness of Kenyan universities in supporting research data management activities.
- To establish the availability of skilled personnel to support the implementation of research data management.

Literature Review

- **International Context:**

- Bratt (2022) highlights the increasing pressure on academic institutions to deposit data in open repositories, leading to the need for strategic "data articulations" to align with local and institutional goals.

- Academic libraries are increasingly involved in RDM, offering services like data management plans and training (Coravu, 2019).

Cont'd Literature Review

- **African Context:**
- Chawinga (2019) found that Malawian universities, despite generating significant amounts of research data, lack proper management practices due to infrastructure and incentive limitations.

Cont'd Literature Review

Kenyan Context

- Nakitare et al. (2024) explored early indicators of RDM in Kenya, highlighting a lack of a national framework, insufficient repositories, and varying support services as major challenges.

- JKUAT has emerged as a pioneer in RDM in Kenya, implementing policies and collaborating with international partners to promote data sharing and reuse (Imbuga, 2017).

- A study on Strathmore University revealed varying levels of RDM literacy among lecturers, with a need for enhanced training and policy support (Adika & Kwanya, 2020).

Overall, these studies indicate a growing global recognition of RDM's importance, but challenges remain in terms of implementation, particularly in African contexts

Methods

- The study used a mixed-methods approach, combining surveys, document analysis, and website reviews.

- Surveys gathered insights from university librarians and systems librarians

- Document analysis and website review provided additional depth by examining policies and institutional documents related to RDM

Results

- **Policy Presence:** Only two universities have formal RDM policies; 68.8% lack a guiding framework.

- **Document Analysis:** 7 universities mention RDM in research policies, but only 1 has a dedicated link on its website.

- **Personnel:** 57.1% of universities have designated RDM staff; 42.9% do not.

- **Repositories:** 58.3% have data repositories (primarily DSpace), while 41.7% lack this infrastructure.

- **Training:** 63.4% of library staff have received RDM training.

Cont'd Results

- **Challenges in RDM Implementation**
  - Lack of guiding policies and frameworks.
  - Insufficient skilled personnel and capacity-building gaps.
  - Limited infrastructure, especially in repository access and metadata management.

Recommendations

- **Policy Development:** Urgent need for comprehensive RDM policies.

- **Training Programs:** Invest in metadata management and data governance skills.

- **Dedicated RDM Personnel:** Appoint RDM Librarians to oversee initiatives.

- **Collaborative Networks:** Foster partnerships among institutions to share resources.

Conclusion

- There is need for:

- Development of RDM policies

- Capacity building

- Infrastructure improvement, such as establishing dedicated research data repositories

- Collaboration among universities in Kenya and beyond