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Operationalising the RDM Framework to enhance the Wits Doctoral Academy Project: A Case Study at the University of the Witwatersrand, South Africa

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Operationalising the RDM Framework

Enhancing the Wits Doctoral Academy Project:

A Case Study at the University of the Witwatersrand, South Africa

(Certified Data Repositories in Asia-Pacific and Africa: towards Sustainable Science, Education, and Development – ID 36)

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Introduction & Project Context

Project Overview

Implementation of a comprehensive Research Data Management (RDM) framework for postgraduate studies at the University of the Africa

Authors: Lazarus Matizirofa (Associate Director: Research, Scholarly Communication & Digital Systems) and Daisy Selematsela (Director: Wits (Director: Wits Libraries)

Purpose

- Strengthen quality and accessibility of Electronic Theses and and Dissertations (ETDs)
- Facilitate and promote open data practices
- Guide postgraduate research through FAIR and CARE principles

Expected Outcomes

- Enhanced data curation and preservation
- Increased data reuse and collaboration
- Improved research quality and reproducibility
- Protection of Indigenous data through ethical guidelines

Guiding Principles: FAIR & CARE

Operationalizing the RDM Framework

The RDM framework at Wits University is guided by two complementary sets of principles to ensure comprehensive data management:

FAIR Principles

Findable

Metadata and data are easy to discover

Accessible

Data is retrievable by its identifier

Interoperable

Data uses standard protocols and

Reusable

Data has a license for redistribution

Purpose: Maximize data curation, reuse, and collaboration among researchers

CARE Principles

Collective Benefit

Data benefits research community

Authority to Control

Sovereignty over data decisions

Responsibility

Clear accountability for data

Ethics

Privacy and ethical considerations

Research Methodology

Operationalizing the RDM Framework

Theoretical Lens

Unified Theory of Acceptance and Use of Technology

A model that explains how users accept and use technology based on:

- Performance Expectancy (PE)
- Social Influence (SI)
- Facilitating Conditions (FC)
- Internet Skills (Digital Skills)

Data Collection

Online Questionnaire

Broad quantitative data gathering

Interviews

Qualitative insights from faculty

Participant Demographics

100 Participants

Masters and doctoral students

Five Faculties

- Health Science
- Humanities
- Science
- Commerce
- Law &Maanagement
- Engineering & Built Environment

Key Findings: Adoption Factors

Based on the Unified Theory of Acceptance and Use of Technology (UTAUT) model, our research identified key factors influencing postgraduate RDM:



Facilitating Conditions

The extent to which students believe organizational and technical exists to support RDM framework use.

Performance Expectancy

Students' belief that using the RDM framework will help achieve gains in performance, research quality, or success.

Internet Skills

Students' proficiency in using digital platforms, directly impacting their engage with RDM practices.

Social Influence

The degree to which students perceive important others (supervisors, peers) they should use the RDM framework.

Key Insight

These factors collectively influence students' understanding and adoption of RDM principles, with facilitating conditions and social influence showing correlations with actual implementation.

Key Findings: Institutional Needs

Our research identified critical areas requiring attention from Wits University to effectively operationalize the RDM framework:



RDM Policy Review

Comprehensive review needed to ensure policy is robust, current, and with international best practices and postgraduate research needs.



Robust RDM Roadmap

Development of clear, actionable roadmap for RDM activities across all and among students to guide implementation.



RDM-focused Digital Tools

Investment in appropriate digital tools and platforms specifically support RDM activities, including data storage, sharing, and curation.



Expansion of Research Commons Hub

Enlarging the Research Commons Hub at Wits Libraries to provide physical and digital infrastructure and support for RDM.

Stakeholder Roles & Required Skills

Operationalizing the RDM Framework

Key Stakeholders

Students
Producers and users of research data

Supervisors
Guide students in RDM practices

Faculty
Support RDM integration in curriculum

Librarians
Support data management infrastructure

Required Skills & Tools

Technical Skills
- Data literacy
- Data storage

Conceptual Skills
- Data curation
- Open science

Implementation Tools
- Training programs
- Policy guidelines

RDM Research Cycle



Recommendations

Operationalizing the RDM Framework

Continuous RDM Skills Development

- Target students, supervisors, and community
- Focus on open data-sharing principles
- Develop culture of responsible data stewardship
- Maximize utility of research outputs

"Equip with competencies to effectively manage data"

Enhance Library's Role

- Scholarly Communication unit plays
- Expertise in information management dissemination
- Central to advancing postgraduate research research cycle
- Formulate and implement RDM

"Library is uniquely positioned to lead RDM implementation"

Policy Mandate

- Align RDM principles with ETDs and papers
- Formally mandate by university policy
- Ensure reliability and validity of datasets
- Guarantee integrity of research outputs

"Policy-driven approach ensures research quality"

Implementation Roadmap

Strategic roadmap for RDM framework implementation at Wits University, focusing on policy development, infrastructure enhancement, and

Phase 1: Planning & Policy

- Review existing RDM policy
- Develop robust RDM roadmap
- Align with international best practices

Phase 2: Infrastructure

- Invest in RDM-focused digital tools
- Expand Research Commons Hub
- Enhance physical and digital resources

Phase 3: Training & Adoption

- Continuous RDM skills training
- Target students and supervisors
- Policy mandate for ETDs

Conclusion & Next Steps

Key Conclusions

- Students need continuous training in RDM skills and open data-data-sharing principles
- Library's Scholarly Communication unit is pivotal for RDM development
- Policy mandates are needed for RDM principles alignment with ETDs with ETDs

Future Actions

- Develop RDM training for students and supervisors
- Expand the Research Commons Hub at Wits Libraries
- Invest in RDM-focused digital tools and platforms

Impact Vision

Implementation of these recommendations will ensure reliability and validity of research outputs in the postgraduate research cycle strengthening the quality and impact of academic research.

Thank you for your attention

Questions and feedback are welcome



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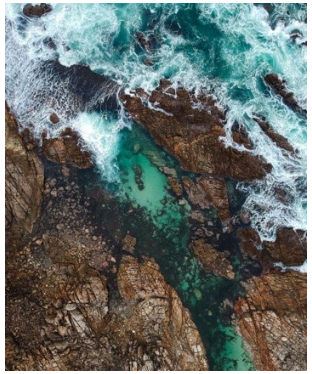



Acknowledgement of Country

We acknowledge and celebrate the First Australians on whose traditional lands we meet, and we pay our respect to their elders past and present.

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