

**RESEARCH DATA MANAGEMENT SERVICES: ARE  
ACADEMIC LIBRARIES IN ZIMBABWE READY?  
THE CASE OF UNIVERSITY OF ZIMBABWE  
LIBRARY**

*Presented by*

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**&**

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**At:**

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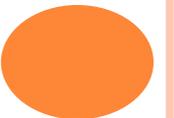
**Data Curator's Roles and Responsibilities: International and  
Interdisciplinary Perspectives**

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**in Warsaw, Poland**

# PRESENTATION OUTLINE

- Background of the study
- Contextual analysis
- Conceptual framework
- Aim and objectives of the study
- Methodology
- Key findings
- Conclusions



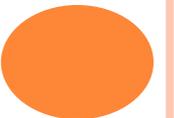
# BACKGROUND OF THE STUDY

- Libraries are increasingly interested in supporting the activities of researchers
  - e.g bibliometric services, research data management and library-led publishing services etc.
- RDM services are being established in response to:
  - the changing scientific research landscape and being supported both by the existence of cyber infrastructures;
  - data sharing mandates by funding agencies; and
  - researchers who are committed to open science, which advocates for open verification and reproduction of research data (Naum, 2014)



# BACKGROUND OF THE STUDY-CONT'D

- Starting a new data management service is much like starting any new service-there is need to assess the skills, willingness of intended beneficiaries, technical issues, economic and legal aspects
- RDM is a complex issue involving multiple activities carried out by various actors addressing a range of drivers and influenced by a large set of factors (Pinfield et al., 2014).
- Before setting up any RDM services, the infrastructure and investment need to be carefully assessed by each institution in line with their own mission, objectives and strategic aims (Lotter, 2014)



# CONTEXTUAL ANALYSIS

- The University of Zimbabwe (UZ) is a research centred institution and research is identified as one of the strategic thrusts of the UZ in its 2016-2020 strategic plan (UZ, 2016).
- There are over 100 active research partnerships
- UZ Library intends to introduce RDM in order to provide cutting edge research support services as articulated in the Library's mission statement
- There are no mechanisms in place to capture and store research data

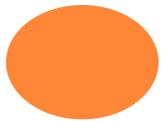
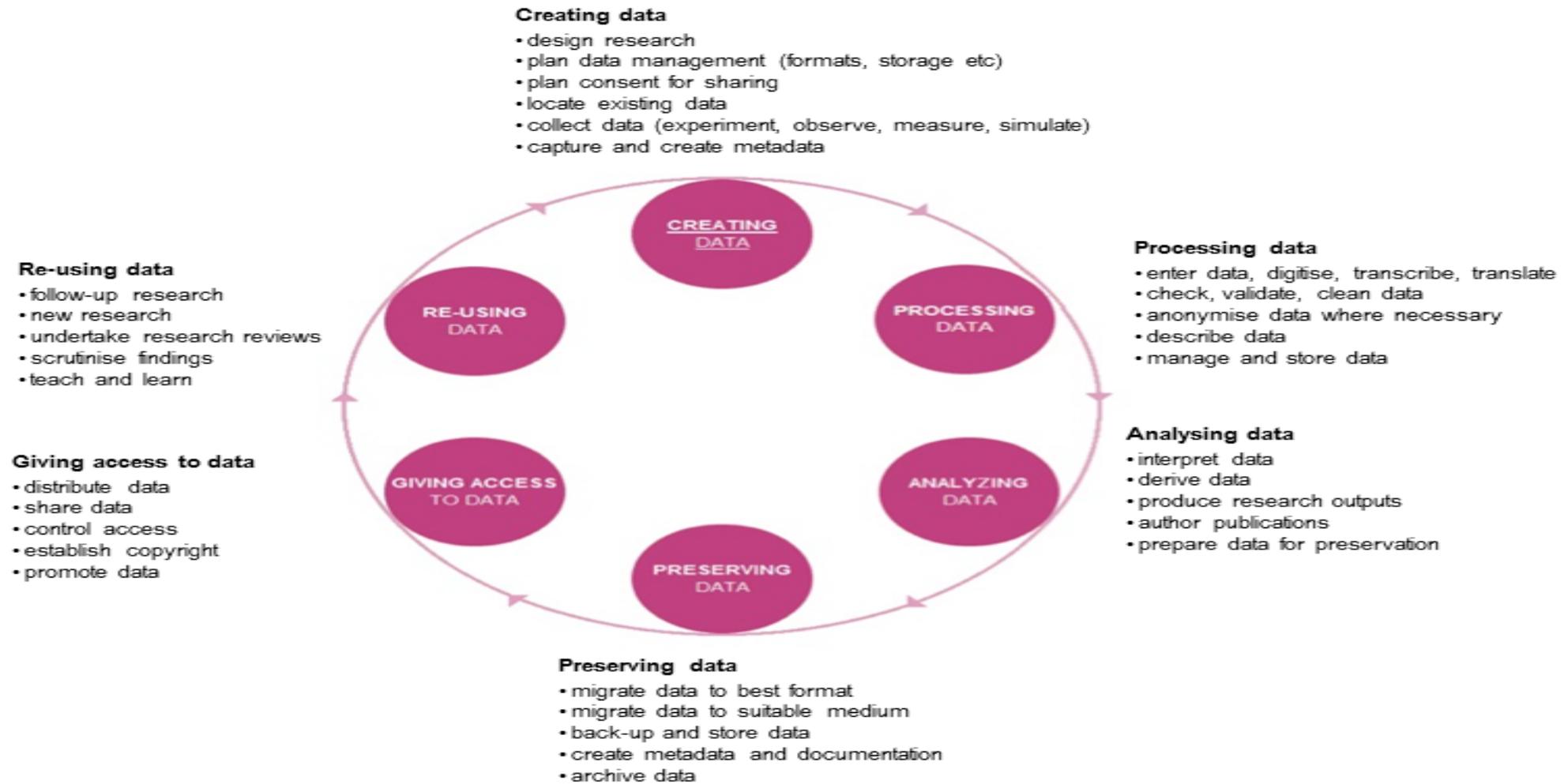


# THEORETICAL AND CONCEPTUAL FRAMEWORK

- The study drew its theoretical framework from the TELOS feasibility study framework (Hall, 2007)
- The framework looks at the Technological, Economic, Legal, Organisational and Schedule feasibility of a proposed intervention
- Research data management services are seen as platforms that bring together the socio-technical elements (Pinfield et al., 2014).



# UK DATA ARCHIVE RESEARCH DATA LIFECYCLE MODEL (UK DATA ARCHIVE, 2015)

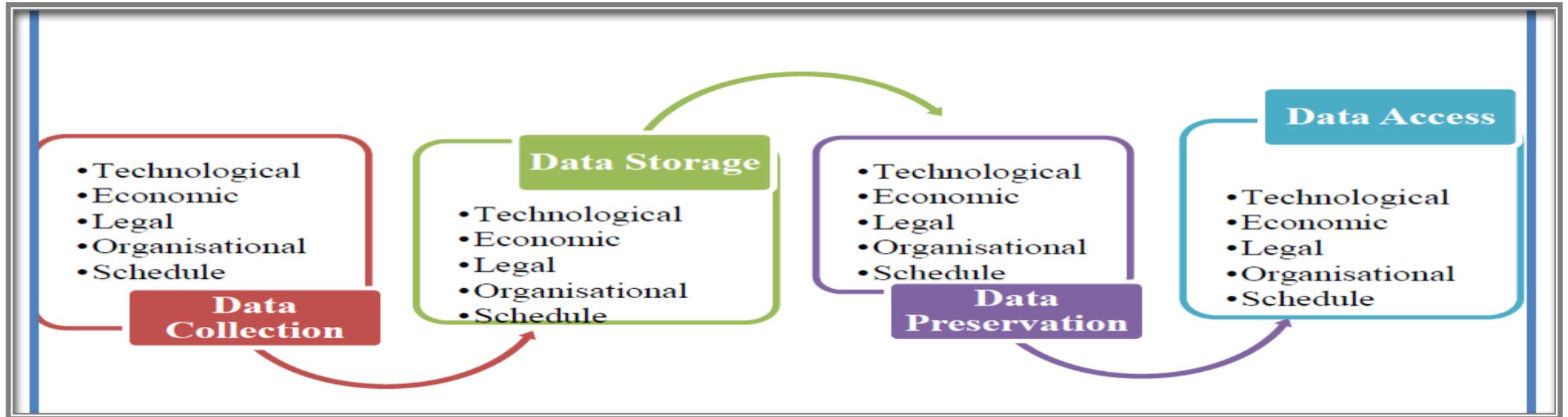


# CONCEPTUAL FRAMEWORK

- The Research Data Lifecycle model brings out the key activities that are involved in RDM
- The TELOS framework was applied to selected stages of the Research Data Lifecycle model where the library can assume responsibility (data collection, data storage, data preservation and data access)



# CONCEPTUAL FRAMEWORK



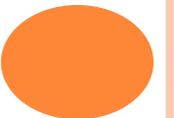
- **Collection**-involves gathering research data from researchers using various media
- **Storage**-After data has been acquired from different researchers, there has to be mechanisms in place to store the data.
- **Preservation**-migrating data to suitable formats and media for preservation, creating backups, and creating any additional metadata that is necessary for preservation
- **Access**-whereby an institution distributes data, share data, control access, establish copyright and promote data



# AIM AND OBJECTIVES OF THE STUDY

## **To assess institutional readiness to offer RDM services**

1. To find out the technological requirements for establishing RDM services at the UZ library;
2. To identify the economic needs for setting up RDM services at the UZ library;
3. To establish the legal obligations for providing RDM services at the UZ library;
4. To review the organisational capabilities of the UZ library in offering RDM services; and,
5. To find out how RDM services can be scheduled at the UZ library



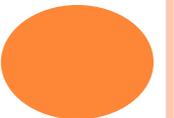
# METHODOLOGY

- Research approach-Mixed methods (concurrent)
- Research strategy-case study
- Target population of 520 lecturers (permanent full-time) from 9 faculties, Nine (9) Faculty librarians, University Librarian, Library ICT manager
- Sampling-proportionate stratified random sampling and purposive sampling
- Data collection methods-questionnaire and semi-structured interviews



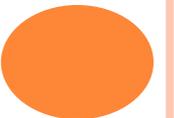
# KEY FINDINGS-TECHNOLOGICAL REQUIREMENTS

- It was found that hardware and software for RDM were the main technological requirements
- Hardware storage space (Approx 4 TB), RAM 16 GB, Processor (Above 3.0 GHz)
- Software for renaming files, encryption, securely deleting files.
  - Metadata-Dublin Core, Software options-Dspace,
  - Compatibility with existing IT systems
- UZ had hardware and software that can accommodate research data storage
- Similarly, Parsons (2013) said that research data collection, storage, preservation and access is highly dependent on hardware and software used.



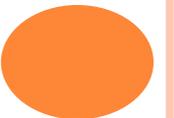
## KEY FINDINGS-TECHNOLOGICAL REQUIREMENTS

- Researchers generate different types of data-most researchers generate textual data (87%), spreadsheets (62%)
- Most researchers (40%) generate large quantities of research data per annum that range from 101MB-1TB
- The available technology cannot accommodate all the stages involved in Data Lifecycle-servers can only accommodate data storage, for preservation and back-up there is need to upgrade the servers
- The existing repositories can be extended to accommodate research data



## KEY FINDINGS-ECONOMIC NEEDS

- The study findings show that major costs of managing research data involve acquiring ICT resources, training library staff on RDM, advocacy
- The results of the study showed that there was commitment from library management to secure financial resources for RDM
- The finding is in agreement with Berman's (2008) assertion that during the onset of the RDM project, it is imperative to ascertain who will bear the costs of setting up and maintaining the service.



# KEY FINDINGS-LEGAL OBLIGATIONS

- Legal requirements for RDM that emerged from the study include copyright and data protection policies, RDM policies
- These findings are similar to those of Fitzgerald and Pappalardo (2007) who assert that the legal framework for a RDM service should cater for copyright, privacy issues and data protection and access
- It was found that the University of Zimbabwe did not have any policies that govern RDM activities of researchers but had an Intellectual Property Rights (IPR) policy which caters for copyright issues.



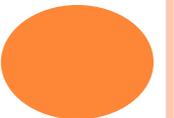
# KEY FINDINGS-ORGANISATIONAL CAPABILITIES

- The results of the study showed that the skills that are needed to take up RDM roles include ICT skills, digital curation, advocacy and training skills.
- The faculty librarians did not possess all of these skills. They possessed ICT and training skills but not in the context of RDM
- The findings reinforce previous results of a baseline survey of academic librarians by Tenopir et al. (2011) which showed that many academic librarians do not feel prepared to take on RDM new roles in spite of plans by their libraries to offer RDM services.



# KEY FINDINGS-ORGANISATIONAL CAPABILITIES

- The results of the study revealed that most researchers (80%) at UZ were interested in RDM and the associated services.
- Most researchers pointed that the primary responsibility for research data management should be bestowed upon librarians.
- The results resonate the findings of previous studies which acknowledged that librarians are well positioned to play an important role in RDM (Kennan and Markauskaite, 2015; Tenopir et al., 2015; Erway, 2013; Jones, Pryor and Whyte, 2013; Lyon, 2012).



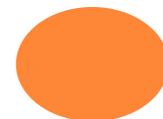
## KEY FINDINGS-SCHEDULING RDM SERVICES

- Most researchers (77) required RDM services in the next one year
- The library is planning to implement RDM services in 2017
- Researchers preferred a centralised multidisciplinary data repository
- On the contrary, previous studies provided that there are factors such as the availability resources, skills and technology that have a bearing on whether an institution should take a campus wide approach or departmental approach to RDM (Shen and Varvel, 2013).



## CONCLUSIONS

- The UZ library had technological resources that can only accommodate data storage
- It can be concluded that the economic needs for setting up RDM services at UZ include staff training costs and costs of acquiring ICT resources.
- The researcher concluded that the legal obligations for offering RDM include copyright, framework on RDM was still very much in a flux at the UZ library therefore, it was not ready in as far as RDM legal issues are concerned.
- Faculty librarians did not possess the requisite skills for RDM
- UZ library can start offering RDM in the next one year

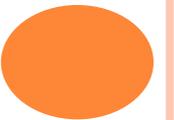


# OVERALL CONCLUSION

- The UZ library is partly ready to take up RDM services. In terms of the technological, scheduling and economic requirements for setting up RDM services the UZ library was prepared. However, the UZ library was not prepared in terms of the RDM legal obligations and skills that are required to take up RDM activities. Given the current technological, economic and schedule environment, the library is prepared to offer research data collection and storage services. Researchers at UZ require and view RDM services as beneficial so the library was in the right path in planning to offer RDM services.



**THANK YOU**



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