

An investigation into the extent to which South African repositories comply with international trust standards

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Overview

- Background
- Methodology
- Findings
- Conclusions
- Recommendations
- Next steps

Study background

The purpose of this research was to develop a South African digital repository trust assessment model as a hands-on tool that South African organisations can use to assess their institutional repositories.

Research questions

- What will a trust model look like that has been developed based on international trust standards?
- To what extent do South African research data repositories comply with the developed model in terms of trustiness?
- How should and/or how could this model be developed for South Africa as a developing country to make the striving for trustiness more feasible?

Institutional Repository (IR) vs. Trusted Digital Repository

- An institutional repository is a digital research archive consisting of accessible collections of scholarly work that represent the intellectual capital of an institution.
- An institution utilises a repository to manage the digital scholarship their communities produce, to maximise access to research outputs both before and after publication (Bentley & Oladiram, 2014).
- A trusted digital repository is one whose mission is to provide reliable, long-term access to managed digital resources to its designated community, now and in the future.
- A trusted digital repository should have practices, policies and performance that can be audited and measured (Dobratz et al., 2007)

International trust standards

For a Institutional Repository to be regarded as a trusted digital repository it has to comply with International Trust Standards.

- These standards provide an overarching **compliance framework**
 - Auditable checks
 - Authentication & integrity of data
 - Managing IR with approved structures
- Institutional Repository trust assessment can be done in terms of the following **international standards**:
 - Trustworthy Repositories Audit & Certification (TRAC)
 - The International Organization for Standardization (ISO) 16363
 - The 'Deutsches Institut für Normung' (DIN) 31644

Types of trust accreditation

- **Basic certification:** Granted to repositories which obtain Data Seal of Approval (DSA) certification. It comprises 16 criteria that may be self-assessed or peer reviewed.
- **Extended certification:** Granted to Basic certification repositories which perform a structured, externally reviewed and publicly available self-audit based on ISO 16363 or DIN 31644.
- **Formal certification:** Granted in addition to Basic certification. Obtain full external audit and certification based on ISO 16363 or equivalent DIN 31644.

Research methodology

- Qualitative approach.
- Case study design (to specifically focus on the IRs of the different institutions).
- Extensive literature review was conducted.
- Semi-structured interview schedule as the data collection instrument.
- Face-to-face interviews with a small number of purposively selected, digital repository managers, from South African institutions.

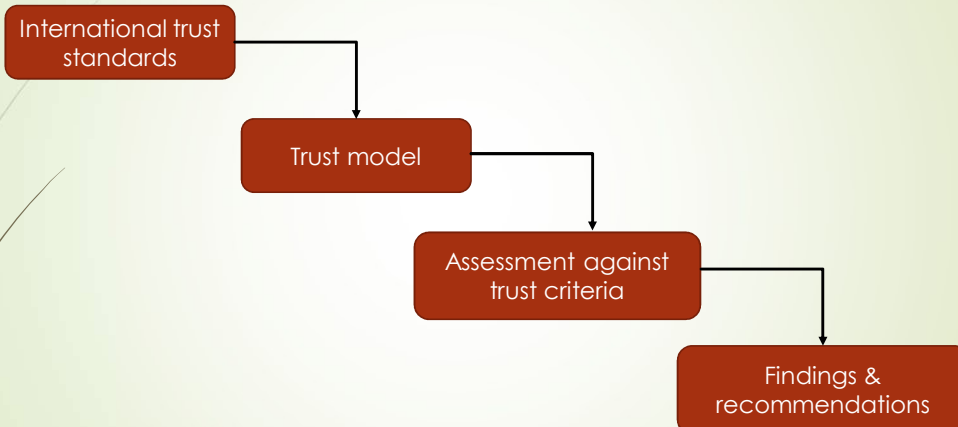
Research framework

International trust standards

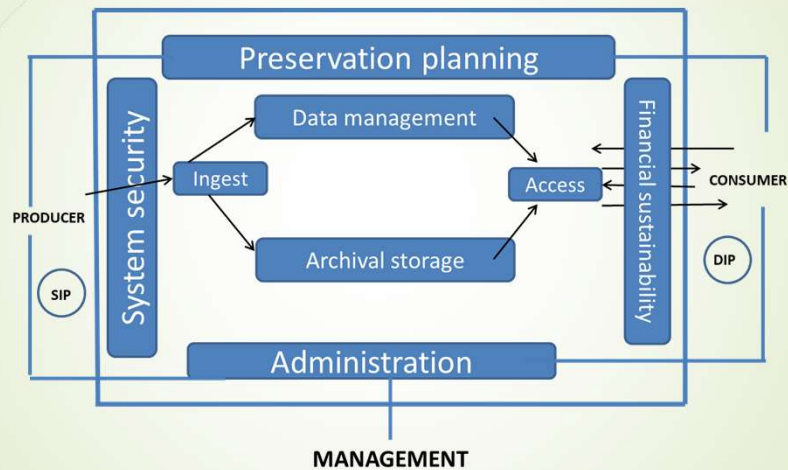
Trust model

Assessment against trust criteria

Findings & recommendations






The model



Findings

- **Admin coordination infrastructure** 😊
 - Comply with the criteria to a large extent
 - Shortfalls caused by institutional structures and processes
- **Ingest capability infrastructure** 😊
 - Adequate tools and processes to manage the ingest processes
 - Compliance requirements are being met
- **Data management infrastructure** 😊
 - Comply with the criteria on a medium to full extent
 - Shortfalls caused by not having skills to manage research data
- **Metadata management infrastructure** 😊
 - Full compliance with criteria
 - Areas to improve on include checking interpretability on a regular basis

Findings (Cont.)

- **Access capability infrastructure** 
 - Comply with the criteria to a large extent
 - Policies are in place for the disseminating digital objects
- **Preservation capability infrastructure** 
 - Compliance requirements are met minimally
 - A common shortfall is not having preservation strategies.
- **Financial sustainability infrastructure** 
 - Compliance requirements are met minimally.
 - A common challenge is the absence of a fiscal programme to sustain the repository.
- **System security sustainability infrastructure** 
 - Comply with the criteria on a medium to full extent.
 - Shortfalls caused by risk assessments not being conducted regularly and having no security protection measures.

Conclusion

The South African digital repositories studied

- Do not fully comply with the assessment standards.
- Comply with international repository assessment standards at a certain level.
- May not be ready for full accreditation, but may be closer to the target than what was previously anticipated.
- It is possible for South African repositories to meet the international standard requirements for trustiness.

Recommendations

- The four participating repositories should at least attempt to do a formal evaluation of their trust status.
- In order for South Africa's IRs to fully comply with international trust standards, the following goals need to be achieved:
 - South African digital repositories need to review the processes in place that inform sustainability.
 - The financial and human resources elements of digital repositories need improvement from an organizational perspective.

Recommendations (cont.)

- Training in the use of international repository assessment standards should be introduced.
- Digital repositories could conduct feasibility studies based on the criteria of the OAIS based model.
- Similar assessments can be conducted at intervals to determine the level of digital repositories working towards compliance of international repository assessment standards.




What next?

At the moment I couldn't find any information on a South African institution that is conducting a formal repository evaluation.

My PhD studies. Title of my thesis: "Developing a quality focused framework to guide the data management planning process in a Social Sciences Research Organisation".

The aim is to develop RDM best practice framework that will inform the data management planning phases for social sciences research.

References



Bentley, P. J. G. & Oladiram, M. 2014. The Role of Institutional Repository in Digital Scholarly Communications. [Online]. http://www.ais.up.ac.za/digi/docs/jain_paper.pdf [Accessed 11 November 2016].

Day, M. 2007. The Reference Model for an Open Archival Information System (OAIS), Planets and Nestor training event Vilnius, Lithuania.

Higgins, S. 2015. European Framework for Audit and Certification of Digital Repositories. [Online]. <http://www.trusteddigitalrepository.eu/Trusted%20Digital%20Repository.html> [Accessed 12 August 2015].

Tshweu, G.T. 2016. An investigation into the extent to which South African repositories comply with international trust standards, Master's Mini-dissertation, University of Pretoria.



Thank you.