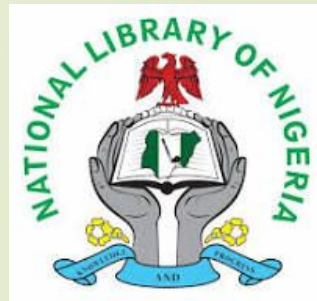# Visibility Analysis of African Institutional Repositories for Global Impact

by

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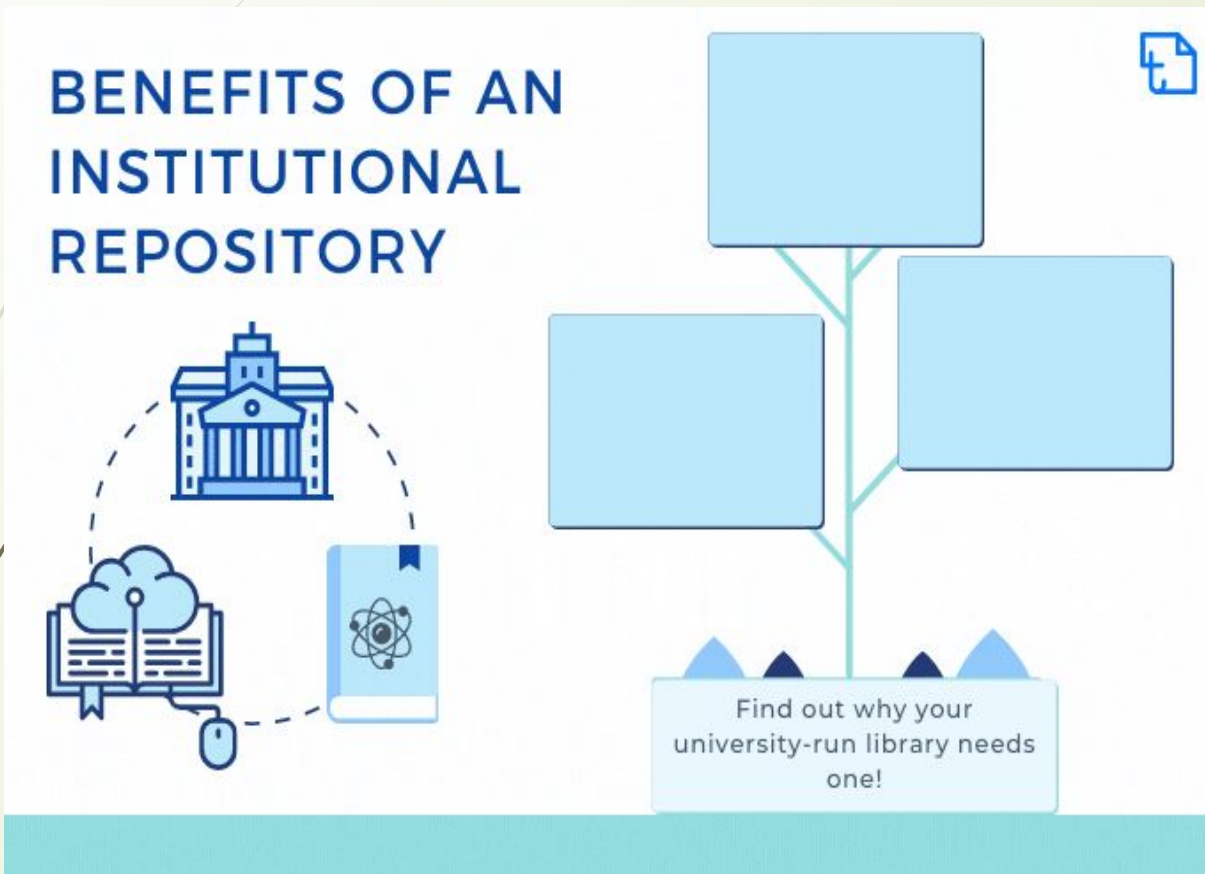
Introduction

□ Institutional Repositories (IRs) emerged as beacons of hope, propelling research onto the global stage.

  □ offer platforms that showcase and amplify research.

  □ have the potential to enhance the sharing of research information generated and open access initiatives in Africa (Dlamini & Snyman, 2017).

Introduction Cont'd

- Increase access to African research for scholars worldwide
- Boost citations and recognition of African researchers
- Augument/broaden the dissemination of African knowledge and perspectives

Introduction Cont'd

Source: Scispace, 2024

- Enhanced reputation of African universities
  - research institutions

- IRs are having noticeable impacts on the academic environment

Statement of the problem

- Nowadays, the need for IRs is becoming a common place in the international terrain with noticeable impacts on the academic environment.

- Researchers aim to leave their mark on the vast tapestry of global knowledge,
  - citations yearn for prominence in prestigious journals
  - research findings strive for dissemination across continents.

Statement of the problem cont'd

 The research landscape in Africa holds immense potential, yet its scholarly output often struggles to reach global audience.
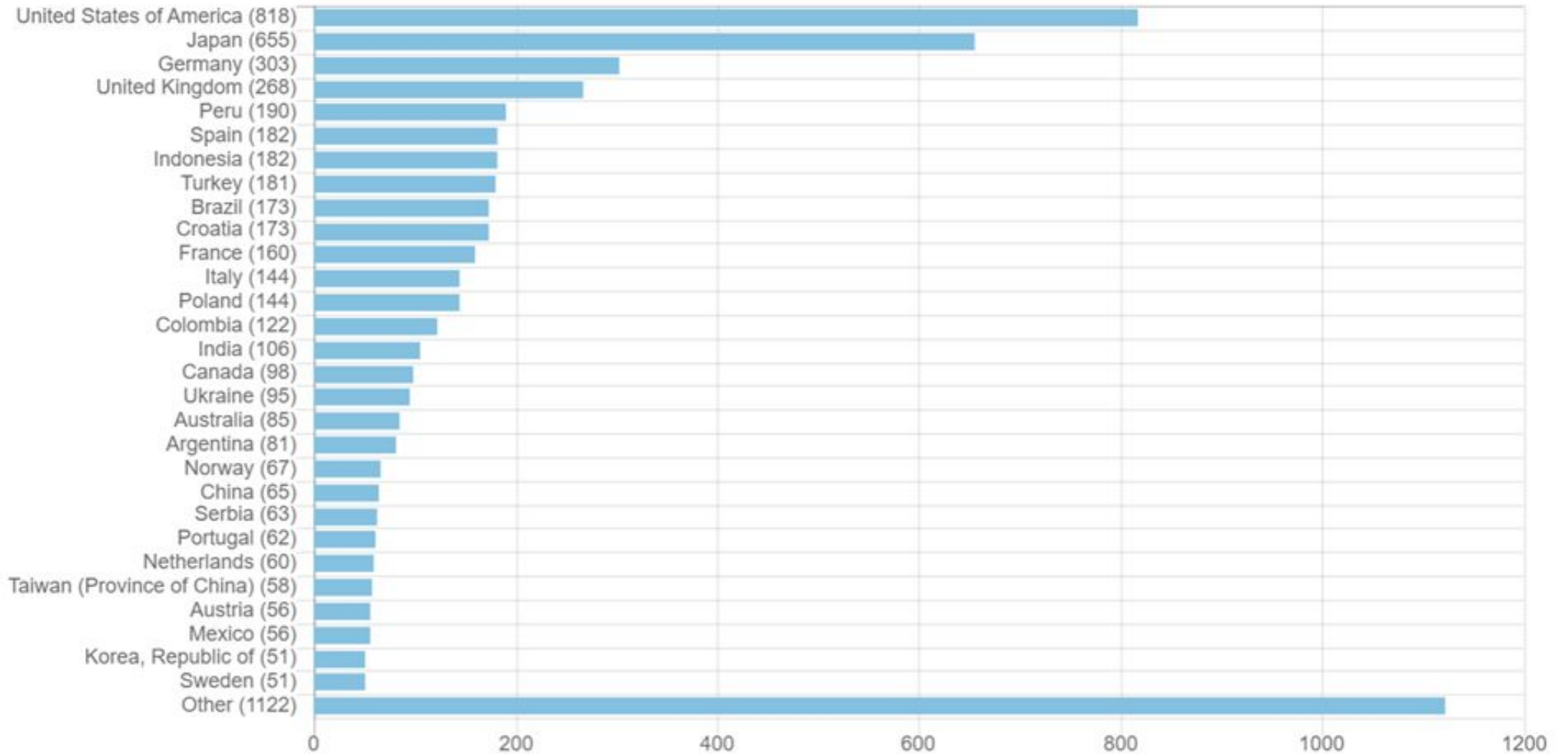
Literature review

 Literature reveals that:

 Africa compare unfavorably with the rest of the world with regard to research or academic scholarly output. For instance, from 1992 -2007, South Africa which is the leading country in Sub-Saharan Africa in terms of scholarly publications, produced 51,738 publications. This was half of what the United States and the United Kingdom were able to produce in one year (Cheryl de la Rey, 2010, p.viii).

Literature review Cont'd

- African countries' repositories -

  - not visible on major IR indexing aggregators such as

    - Directory of Open Access Repositories (OpenDoar) and

    - Registry of Open Access Repositories (ROAR)

  - in OpenDoar, tagged and captured among 'Other' as illustrated below:

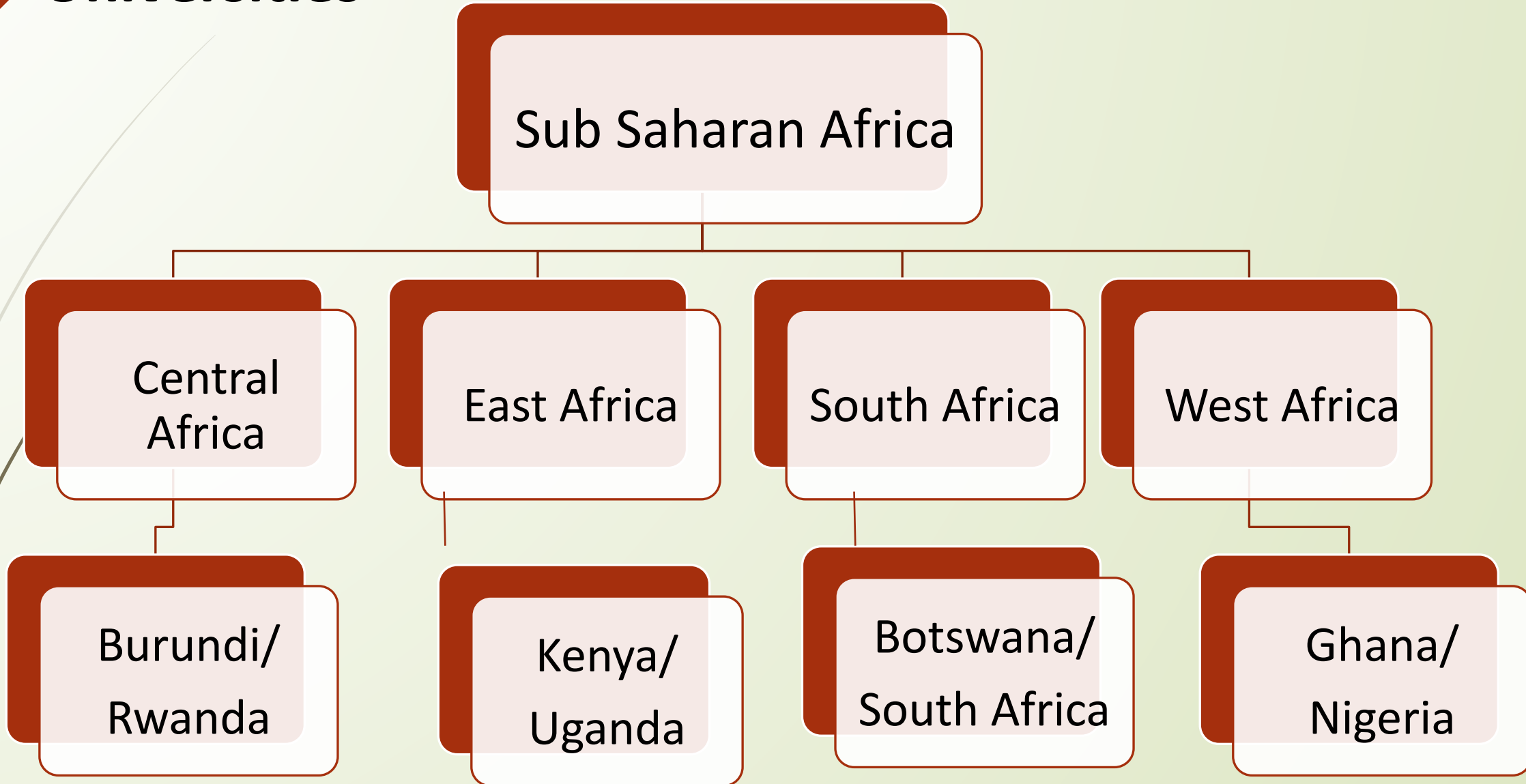Source: OpenDoar, 2024. (https://v2.sherpa.ac.uk/view/repository_visualisations/1.html)

Objectives of the study

 To present the development trajectories of Institutional Repositories (IRs) in Africa by analyzing their visibility by content availability/accessibility/metadata practices;

 To evaluate the interoperability of the IRs platforms with global platforms; and

 To infer the factors that drive IR global impacts.

Methodology

- The study is a case study focusing on the four regions of the Sub Saharan Africa using the evaluation technique.

- The study also adopts a multi sampling method (purposive and random). Two countries were purposively selected from each of the Regions.

- The African Digital Research Repositories list by International African Institute (2024) was used to randomly select one functional University Institutional Repository for appraisal.

Illustration of the Selection of Countries and Universities

Sub-Saharan Africa

Source: Baquedano, et.al., (2020)

Findings – Objective 1: Visibility

Table 1 – Functional Repositories in selected Countries

Regions in Sub Saharan	Countries	University Repositories Listed	Functional Repositories (Frequency/%)
Central Africa	Burundi	2	2 (100%)
	Rwanda	1	1 (100%)
East Africa	Kenya	31	31 (100%)
	Uganda	11	7 (64%)
Southern Africa	Botswana	2	2 (100%)
	South Africa	27	27 (100%)
West Africa	Ghana	5	1(20%)
	Nigeria	15	3(20%)
	Total	**94**	**74**

Source: https://www.internationalafricaninstitute.org/repositories

Findings – Visibility Cont'd

Table 2 – List of selected Universities and Repositories

S/N	Countries	Universities	Repositories	Language
1	Rwanda	University of Rwanda	http://dr.ur.ac.rw/	English
2	Burundi	University of Burundi	https://repository.ub.edu.bi/home	French
3	Kenya	University of Nairobi	http://erepository.uonbi.ac.ke/	English
4	Uganda	Makarere University	http://makir.mak.ac.ug/	English
5	South Africa	University of Pretoria	http://repository.up.ac.za/	English
6	Botswana	University of Botswana	https://ubrisa.ub.bw/	English
7	Ghana	Ashesi University	https://air.ashesi.edu.gh/home	English
8	Nigeria	University of Jos	https://irepos.unijos.edu.ng/jspui/	English

Source: https://www.internationalafricaninstitute.org/repositories

Findings - Visibility Cont'd

Table 3: Available items on IRs

University	Available items in IRs	%
University of Rwanda	1737	0.98%
University of Burundi	924	0.52%
University of Nairobi	77822	43.92%
Makarere University	12757	7.20%
University of Pretoria	77759	43.88%
University of Botswana	2172	1.23%
Ashesi University	914	0.52%
University of Jos	3114	1.76%
Total	177199	100

Source: Selected Universities IR

- Content availability
  - Research articles;
  - Theses and Dissertations;
  - Open Educational Resources
  - Others

- Metadata practices –
  - 85% of the IRs use standardized metadata

Findings – Objective 2: Interoperability

Table 4: Interoperability of the IRs with Global Platforms

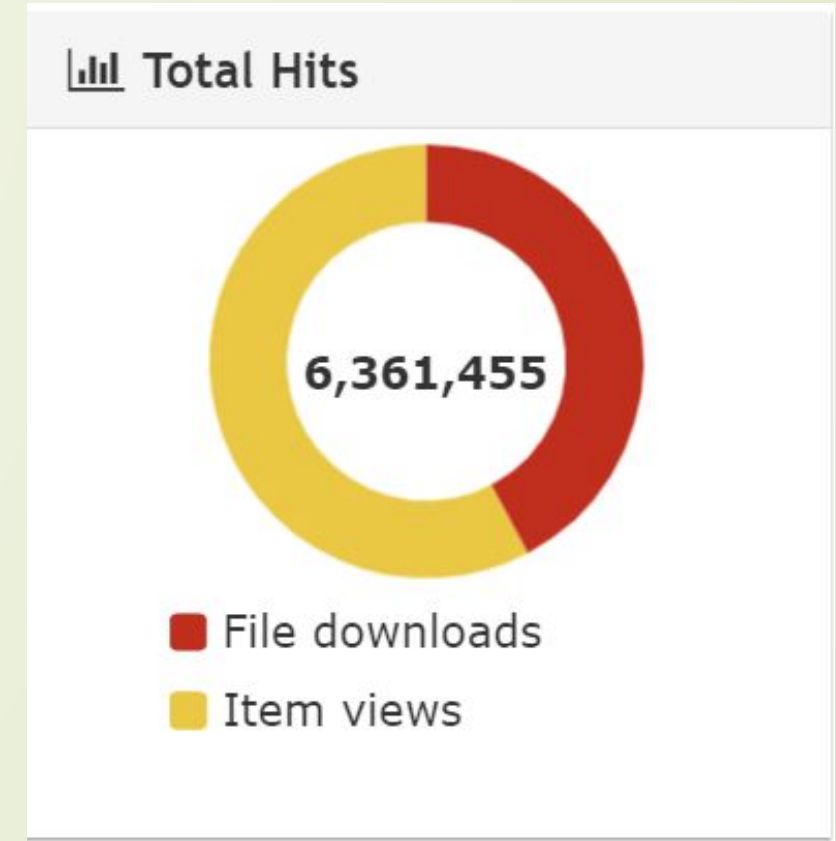| Countries	Google Scholar	AJOL
Rwanda	Yes	No
Burundi	No	No
Kenya	Yes	No
Uganda	Yes	No
South Africa	No	No
Botswana	Yes	No
Ghana	No	No
Nigeria	Yes	No

- Interoperability with global platforms –
  - None of the IRs are indexed by African Journals Online (AJOL)
  - 63% are indexed by Google Scholar

Findings – Interoperability Cont'd

Users Engagement: Samples of IR Usage and Total Hits

Uganda - http://makir.mak.ac.ug/

Bostwana - https://ubrisa.ub.bw/

User engagement – very high

Inferences drawn for the findings as well as literature:

- Content and Accessibility –

   - Almost all the IRs (87.5%) have varieties of scholarly content – journal articles, theses and dissertations, special collections

- Open Access- No restricted access or embargo.

   - openly accessible contents increases discoverability and citations.

- Usability and Discoverability

   - user-friendly interface

   - ease for researchers to find and access content.

Findings - Factors that drive IR Global Impacts

- Search Engine Optimization (SEO)
  - All the IRs except for three are optimised for search engines like Google Scholar. This increases the visibility during online searches for users.
- Interoperability
  - use of standardized metadata
  - the IRs are able to integrate with other repositories.
  - Evidence in the number of Total Hits, Visits, Views and Downloads.
  - Easy for users to find content across different platforms.
- By and large IR development has a global impact import particularly towards the development of the 2030 SDG Agenda.

Summary of findings

- The study was guided by three (3) objectives
- The study identified a total of 94 IRs from the four (4) Regions that made up the Sub Saharan Africa
- Only 74 IRs were functional representing 78.7%
- Functional repositories - varied
  - Kenya East Africa - 31(100%)
  - Southern Africa 27(100%)
  - Nigeria 3 (20%)
- Too low frequency of IR
  - Burundi 2(100%) and Rwanda 1(100%)

Summary of findings Cont'd

- Objective 1 – Visibility (Content Availability)
  - East Africa (University of Nairobi) - 43.91% - highest
  - South Africa (University of Pretoria) - 43.88%.
- Visibility (Content Accessibility)
  - Journal/Research Articles. Books, theses and Dissertations, Collection Development
- Metadata Practices : 85% of the IRs use standardised Metadata

Summary of findings Cont'd

- Objective 2: Interoperability
  - Appraisal revealed that majority of the Africa IRs are not interoperable.
  - Compliance with global indexing platforms such as AJOL and Google Scholar is at low ebb.

Summary of findings Cont'd

- Objective 3. Inference on Factors of IRs Global Impact:
- The African University IRs limited in scope and content
  - have the potential to contribute immensely to global scholarly discourses.
  - The % of the current contents on the African IR platform is infinitesimal to contents yet unrevealed or unassessed.
- The IRs demonstrated openness - hallmark of a vibrant IR.
- Visibility and interoperability can be enhanced.
- Scholarly outputs on IRs have both direct and indirect bearing and impact on global developments and sustainability.

Conclusion

- African research can attain global visibility by unlocking the potentials of Institutional Repositories. However, the visible contents and communities are still lower the perceived yet to be uploaded materials in the Sub Saharan Region and Africa at large.
- African scholars can be empowered .
  - impact the global agenda
- Knowledge is the key element for achieving 2030 Agenda for Sustainable Development
  - Thus, knowledge generated in all Universities must be open
  - African Universities must become knowledge easily accessible through the IRs.

Recommendations for Enhancing the Visibility & Interoperability of African IRs

 Capacity building - reskilling

  Librarians and Researcher to manage and use IRs effectively.

  Open access policies

  for advocacy and implementation of IR

  Improvement of Infrastructure, Funding and awareness

  Standardized metadata for global interoperability

 User engagement

  promotion and international collaborations

References

- International Digital Research institute (2004). https://www.internationalafricaninstitute.org/repositories.html

- Baquedano, F., Christensen, C., Ajewole, K., and Beckman, J. (2020). *International Food Security Assessment, 2020–30, GFA-31, U.S.*; Department of Agriculture, Economic Research Service: Washington, DC, USA.

- Cheryl de la Rey. (2010). Foreward. *Scholarly publishing in Africa: opportunities & impediments*. Solani Ngobeni (Ed.). Pretoria: Africa Institute of South Africa

- Dlamini, N. N., & Snyman, M. (2017). *Institutional repositories in Africa: obstacles and challenges. Library Review, 66(6/7), 535–548.* DOI:10.1108/lr-03-2017-0021

- OpenDoar Statistics (2024). https://v2.sherpa.ac.uk/view/repository_visualisations/1.html