

SUSTAINABILITY CHALLENGES OF ELECTRONIC THESES AND DISSERTATIONS IN NIGERIAN INSTITUTIONAL REPOSITORIES

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Abstract

Purpose: The study investigated the sustainability challenges of managing electronic theses and dissertations (ETDs) in Nigerian institutional repositories (IR).

Methodology: A qualitative research design was adopted for the study and ten institutional repositories administrators were interviewed on their responses were recorded in a questionnaire template. The IRs sampled were purposively sampled based on two criteria online presence for three months and inclusion of theses and dissertations as a community, sub-community, or are embedded in the contents of the faculties.

Findings: The study found that the major sustainability challenges with ETDs in Nigerian repositories were funding, content population, Poor synergy between IT and library staff and inadequately skilled staff. The study also proposed sustainability recommendations for ETDs.

Implications: Based on the challenges identified in this study, there is a need for a paradigm shift in the management process of ETDs. Libraries cannot afford to be onlookers in the knowledge economy.

Value/Originality: Several studies in the literature have investigated ETDs in Nigerian repositories. This study however investigated the challenges of managing these contents against the backdrop of poor use and visibility of ETDs from Nigeria.

Keywords: Electronic theses and dissertations, Institutional repositories, University libraries, Nigeria.

Paper Type: Empirical Paper

Introduction

E-theses repositories are digital archives of electronic theses and dissertations established to improve and increase the accessibility of researches which hitherto were hidden and locked away in University libraries. Institutions of learning and libraries worldwide have adopted and supported this initiative because of the advantages of visibility and

accessibility of research output that comes with it the wake of invisibility of scholarly research output from Africa. Suber (2008) reiterated that theses and dissertations are the most invisible form of useful literature and the most useful form of invisible literature. Corroborating Suber's point, Gul (2015) also stated that theses and dissertations are highly confidential documents in higher institutions that were

always put under locks, thus debarring scholars from accessing the researches and findings contained in them. This situation is very frustrating and discouraging for postgraduate students undertaking their research studies, because theses and dissertations are one of the essential sources of information which in the opinion of Sengupta (2014) contains detailed and often unexplored information, including methodology about a particular research area or concept. Accessibility outside the institution thus becomes complicated when submitted in print format. A situation which is not pleasant because in the opinion of Mohee (2016) carrying out research is not enough on its own, the use of the research output matters because it is through the uptake of research that the knowledge developed is made visible and usable.

Furthermore, there has been continuous emphasis on the dearth of research information for postgraduate researchers in developing countries like Nigeria. The Database of African Theses and Dissertations (DATAD) initiative indicated that African research results are rarely indexed in major international databases; a situation which they stated is exacerbated by the inaccessibility of theses and dissertations completed in the region, that contain local empirical data not available in international literature. Justifying the need for open access to research, Kleinman (2011) stated that new research usually depends on prior research. How then would these 'prior research' be found if Christian (2008) and Ezema (2011) stressed that research generated over the years are in different libraries in Africa which makes accessibility difficult for scholars and students. This

development according to Ezema (2011) makes African researchers depend highly on the information generated from the developed countries of Europe and the USA which in no small extent may not follow the format and context of African problems. In Nigerian libraries, the production of theses and dissertations is minimal, and the copies available for public access are usually in print and are physically consulted in a university library (DATAD, 2014).

This situation in addition to the strict and stern policies in place when accessing theses and dissertations is discouraging for Nigerian researchers and research students especially now that libraries all over the world have transited to an era where web technology has become pertinent for the dissemination of scholarly information and communication. Similarly, researchers may not be able to attend many related conferences or follow the vast range of publications available (Alhoori, Choudhury, Kanan, Fox, *et al.*, 2015). They may not also access the vast amount of research information published in local journals that are not accessible online, especially in developing countries. Reputable scholars and scientists see these barriers to access as ultimately endangering what constitutes the generation of new knowledge since they hinder the free exchange of thoughts and idea, which is a *sine qua non*-condition of research.

<http://www.fas.org/sgp/news/2004/08/nobel082604.pdf>). In some quarters, it has also been argued that the slow pace in socio-economic and political development in Africa has a link with inadequate information to propel knowledge and development (Ezema, 2011).

The several advantages of having these repositories in institutions of learning consequently propelled Nigerian University libraries to develop and implement repositories. The Directory of Open Access Repository (DOAR), the ranking web of repositories and direct search by the researcher revealed that 12% of University libraries in Nigeria have functional stand-alone repositories which contain Agriculture ETDs and other digital resources. Interestingly, of this percentage, 72% of these repositories are owned by Federal Universities while 21% and 7% are owned by private and state Universities respectively. Some of the public university repositories used open-source repository software for development and implementation, while others built proprietary software to manage their collections. However, the downtimes of these repositories and their contents have been low over time. Findings have revealed that most Nigerian IRs are ineffective and underutilized (Hinmikaiye, 2014; Valde, 2016) with contents falling dramatically after the initial take-off of the repositories. Direct interactions and observation by the researcher revealed some technical and managerial issues not reported in the literature. For example, some of these repositories are still running on older versions of DSpace (an open-source repository software) or have contents especially theses and dissertations uploaded after the initial take-off of the repositories. This situation must be the reason why scholarly information in the form of theses and dissertations from the country and even the continent has not been reflecting in the global scholarly articles. Also, from observation, the researcher noticed that the postgraduate

students find it challenging to access literature (especially theses and dissertations) online in their areas of interest especially from Nigerian University repositories despite the humble efforts of some institutions at developing repositories. In view of the aforementioned, this study investigated the challenges affecting the sustainability of ETDs in repositories in Nigerian repositories.

Objectives

1. Identify sustainability challenges of ETD in repositories of Nigerian university libraries.
2. propose sustainable implementation frameworks for ETD in repositories of Nigerian university libraries.

Review of Related Literature

Development of repositories for theses and dissertations comes hand in hand with the digitisation process. The contents in an ETD repository are digital. Thus, the digitisation of the backlog of theses and dissertation must precede. Digitisation of theses and dissertations in Nigeria can be traced back to 1980 and 1985 respectively in the University of Jos and Obafemi Awolowo University, Ile-Ife (Baro *et al.*, 2014.) Since then, quite several universities have joined the initiative.

Baro, Oyeniran, and Ateboh (2013) stated in their study of twelve repositories in Nigeria that theses and dissertations formed the bulk of library resources digitised. University of Nigeria, Nsukka, as reported by Eke (2011) had deployed staff and technical infrastructure to aid the digitisation project in the library. Similarly, Anunobi and Onyebinama (2011) and Ibinaiye (2012) both reported

the digitisation of theses and dissertation at Federal University of Technology, Owerri (FUTO) and Ahmadu Bello University, Zaria, respectively. FUTO digitisation process was initiated under the Database of Theses and Dissertations in Africa (DATAD), initiative while that of Ahmadu Bello University was initiated by the library management according to Ibinaiye (2012) when they acquired both hard and software to begin the digitisation of resources which included theses and dissertations and seminar presentations.

Baro, Godfrey and Eze (2014) identified challenges encountered at the initial stage of digitisation of theses and dissertations in Nigerian university libraries. Challenges reported included unstable internet connectivity, funding, irregular power supply, absence of submission policies and copyright issues. The authors further stated that if submission of theses and dissertations were not made mandatory for postgraduate students, the students would be unwilling to submit their work for digitisation. On the contrary, however, postgraduate students in Nigerian Universities are mandated to submit their theses and dissertations to the post-graduate schools for onward submission to the University libraries. The point of order should be the submission of soft copies of theses and dissertations to the repositories. The mandatory submission of the e-copies would have gone a long way to ease the challenge of irregular electricity for digitisation.

Schopfel (2013) investigated what can be done to improve the quality of content and service provision in an open environment. The author's research-based on review of communications of thirteen conferences on

electronic theses and grey literature outlined five ways institutions can add value to the deposit and dissemination of ETDs. They include interoperability, format, metadata and services. The article reiterated the roles of recent IR developments like data and current research information systems (CRIS) could play in also adding values to ETD. The awareness of open access repositories has no doubt increased over the years with academic staff and institutions directly or indirectly keying and benefiting from open access resources. However, awareness, in many cases, does not necessarily mean active participation. For example, many institutions that were the early adopters of electronic theses and dissertation repositories have along the line reduced or out rightly stopped uploading contents to these repositories. Dubinsky (2014) observed that the mean monthly growth rate of newer IRs was over three times that of the established IRs which should not be the case for e-theses and dissertations because of the institutional ownership, and so should be an advantage to help increase the content and web visibility of repositories.

Cayabyab (2015) systematically reviewed ETD initiatives, challenges and future developments. The researcher stated that although several global ETD initiatives were in existence, there was a need for more studies on ETD because of unmet goals of ETD initiatives, especially in developing countries. The researcher also cited references that were pointers to reasons for the failure of ETD to include minimal access to ETD, policy issues, abandoned systems, and minimal contents added to the database since the initial takeoff as identified with Nigerian

repositories among others. This research assessed the Nigerian ETD repositories to identify underlying reasons for the unmet goals of the initiatives.

A major factor identified in the literature reviewed was the lack of in-depth assessment study of the stand-alone repositories in Nigeria even when research studies have revealed poor visibility and use of these repositories. Studies by Baro *et al.* (2014), Eke (2011) and Anunobi and Onyebinama (2011) only focused on the digitisation efforts of the repositories in their institutions. Also, the challenges identified by Baro *et al.* (2014) had to do with the digitisation process and not the repositories. The submission policy the authors reiterated was on print theses and dissertations which are already in place.

3.0 Methodology

A qualitative research design was adopted for the study. Data was collected from ten (10) repository administrators through interview and their responses were recorded in a questionnaire template. The repository administrators were selected because their repository had electronic theses and dissertations as communities and sub-communities. The breakdown of the sampling technique used is as follows. These repositories were identified using three sources

1. Directory of Open Access Repositories DOAR
(http://v2.sherpa.ac.uk/view/repository_by_country/ng.html)
2. Nigerian Research Education Network NgREN
(<http://repository.ngren.edu.ng:8080/>)
3. Internet Search for the online presence of repositories of the universities listed/not

listed on both Open DOAR and NgREN using GOOGLE.

Open DOAR and NgREN websites, lists and provides information on academic open access repositories, including ETD initiatives in Africa and Nigeria, respectively. Open DOAR's overview was not comprehensive because the inclusion on their directory was not compulsory. Some ETD initiatives were also listed on NgREN but were not available on the Open DOAR website. However, in order to take care of inconsistencies, the Internet search for the online presence of the ETD initiatives was used to validate the list from Open DOAR and NgREN.

Nigerian Federal University libraries had a total of 15 functional repositories. For this study; however, 10 of the repositories were purposively sampled based on two criteria:

1. Online presence for three months (The researcher visited the repository websites twice a week for three months from November, 2017 to January 2018)
2. The repositories must have theses and dissertations listed as a community, sub-community, or are embedded in the contents of the faculties.

The ten university repositories used for the study is shown in table 1 below.

Table 1: Assessed Nigerian IRs with ETDs

S/N	University	Repository URL
1.	Ahmadu Bello University, Zaria	http://kubanni.abu.edu.ng:8080/jspui
2.	Federal University of Technology, Minna	http://dspace.futminna.edu.ng/
3.	Federal University Oye-Ekiti	http://www.repository.fuoye.edu.ng/
4.	Federal University of Technology, Owerri	http://library.futo.edu.ng/index.php/2014-10-22-23-19-25/2015-05-08-10-14-02
5.	University of Ibadan	http://ir.library.ui.edu.ng/
6.	University of Ilorin	http://uilspace.unilorin.edu.ng:8080/jspui/
7.	University of Lagos	http://repository.unilag.edu.ng/
8.	University of Jos	irepos.unijos.edu.ng/jspui/
9.	University of Nigeria, Nsukka	http://repository.unn.edu.ng:8080/xmlui/
10.	Usman Danfodio University, Sokoto	http://oer.udusok.edu.ng:8080/xmlui/

Presentation and Discussion of Findings

Repository administrators were requested to state the challenges they perceived were

affecting the successful management and sustainability of the repositories.

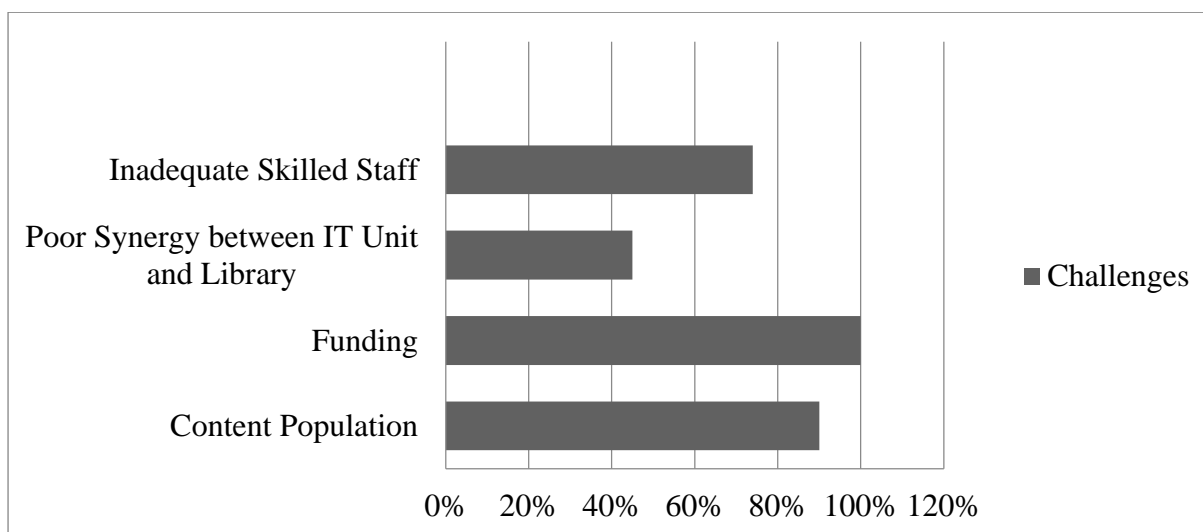


Figure 1: Challenges of Nigerian IR

Funding and content population were the critical challenges identified, as revealed in Figure 1 above. Funding has been a

contentious issue globally especially with regards to open repositories. However, in Africa it is even more challenging primarily because of the issues around proper policy planning and

implementation. Schopfel and Soukouya (2013) reported that copyright, infrastructure and institutional support were some of the challenges with institutional repositories which they observed were specific to the sub-Saharan African countries. Kitchin, Collins and Frost (2015) clearly stated that while open digital repositories were free to access, there were significant cost implications for implementation and most especially maintenance.

The authors believed that unstable and cyclical funding posed risks to their sustainability. Several studies (Corleley, 2011; Baro and Otiodo, 2014; Dlamini and Snyman, 2017) also identified funding as a challenge in the management of repositories. In this study, the researchers found out that although the institutions had varying funds for the implementation of their repositories, majority of the funds for maintenance was from the library. It was understandable to have varying funds for implementation, but the main issue was with the maintenance of the IRs which was why funding was identified as a significant challenge. It is no longer news that academic libraries are grappling with dwindling funds, but for the intervention of the Tertiary Education Trust Fund (TETFUND), most libraries would be a shadow of what they should be. Little wonder why some IR in Federal Institutions packed up barely few months after their initial take off.

The maintenance of Institutional repositories is capital and workforce intensive, and including this task in the already lean library budget is not sustainable. Amidst dwindling funds allocated to libraries, adding the maintenance of repositories to library budget would take the back seat after information resource allocation. There is, therefore, a need to look inward and harness the benefits repositories would bring to libraries such that it would be

convenient to accommodate their maintenance in the budgets. Rasuli, Alipour-Hafezi and Solaiman (2015) stated that one major issue with ETDS is how to be and remain economically viable. The authors in their paper created awareness about the business aspects that can be harnessed from ETDS in order to make them sustainable. Corroborating this, Ashikuzzaman (2018) also reported funding, lack of IR expertise from both library and IT staff, IR infrastructure as severe bottlenecks impeding the management of IRs in India. In the opinion of Kennedy (2019), there is an urgent need for new models to institutionalise relations among private capital, public enterprise and knowledge curation. The recurring issue of inadequate funds will no longer be tenable in the near future, as such; libraries cannot afford to be onlookers in the knowledge economy.

Another major challenge identified was inadequately skilled staff to handle repositories. For repositories and other technology-aided services in libraries to be well managed and sustained, there must be adequate workforce. The inadequacy of skilled library staff explains an observation made by the researcher, which is that some of the repositories are managed by the Information Technology (IT) units. In fact, in some institutions, the library staff did not have any input in the implementation or even the maintenance of the repositories. This gap was visibly seen in the maintenance of Nigerian repositories. Cayabyab (2015) identified some challenges which led to the failure of ETD projects worldwide to include unforeseen possibility of collaboration and interoperability; lack of participation of stakeholders; lack of training; lack of policy; complexity of software. Majority of the respondents in Anyaoku *et al.* (2018) study indicated that their IRs do not have long-term funding and lack the necessary technical staff with required skills to handle and manage them.

An observation made from the researcher's study and this finding is the uniform trend of some of the challenges identified especially on policy, interoperability and staff synergy. This indicates that these challenges can be tackled harmoniously among the university libraries in developing countries in order to come up with sustainable ETD projects.

5.0 Conclusion

Based on the findings of the study, it could be concluded that the management of ETDs in Nigerian repositories had challenges of funding, contents population and inadequately skilled staff. Although, this study focused on ETD of federal university libraries and as such, cannot make a generalisation of ETD management in other institutions repositories; the results mirrors what may be obtainable in these institutions. The fact remains that the federal universities, especially the first-generation universities included in this study, have more theses and dissertations than the state and private universities excluded from this study. Therefore, there is a need for a management paradigm shift in terms of sustainability frameworks that address the challenges of contents, policies, funding, contents and technology.

Proposed Recommendations

1. University libraries should view ETD repositories as a publishing system for their ETDs. Thus, they invest in scholarly infrastructure and services such that the value of the IR increases as more people use it.
2. Libraries should design a content populating framework stating clearly how ETD contents should be added to the repository.
3. Libraries should have alternative funding models for the management of ETDs
4. Libraries should come up with a comprehensive policy specifically for ETDs

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