
Enhancing scholarly communication through institutional repositories: salient issues and strategies by libraries in Nigeria

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Abstract:

The place of institutional repositories in enhancing scholarly communication is becoming obvious as academic institutions are embracing this activity which among many other key roles, enables wider circulation of research outputs of institutions. This study is concentrated on establishing the strategies and models adopted by libraries in Nigeria in ensuring that their institutional repositories effectively enhance scholarly communication. The descriptive survey research design was adopted for the study while the purposive sampling technique was employed in selecting libraries that have institutional repositories. Questionnaire complemented with oral interview were the instruments used for data collection. Data collected was analysed using SPSS software. The outcome revealed that the two most prevailing activities carried out by the libraries in modelling their institutional repositories for enhanced scholarly communication are; digitization of scholarly contents in printed format and allowing self- archiving of research outputs of members of staff. Announcing and publicizing their contents through the library website is the main strategy adopted by the libraries in promoting their institutional repositories for enhanced scholarly communication revealed. Challenges encountered include; issues with legal framework/ intellectual property right, difficulty in content recruitment, etc. The study concluded by recommending among others that the library management should expose members of staff in-charge of content upload to trainings in the area of copyright law, put in place a submission policy that will compel members of staff to submit their research outputs to the repository and, establish a reward system to academic members of staff who submit their works to the institutional repository.

Keywords: Institutional repositories, Scholarly communication, Research output, University libraries, Nigeria.

Introduction

Academic libraries as established sectors for the management and circulation of information and research outcomes, have been playing key roles in scholarly communication amongst other services. The service of scholarly communication during the period before the evolution of open access was fraught with many challenges ranging from high subscription rate for scholarly databases to preservation issues associated with print copies of journals, research reports and conference materials. This was buttressed by Carlson (2002) who reported that ARL statistics estimates that journal subscription rates have gone up to an average of 8.5 percent per year since 1986, while library budgets have increased at 5.6 percent per year. This according to him influenced governments and international research institutions' consciousness for alternative dissemination models in scholarly and research output. The advent of institutional repository which according to Crow (2002) made its first appearance in literature in 2002 with the publication of the SPARC position paper on Institutional Repositories, came as a palliative to these challenges. Obviously, institutional repositories are playing key roles in enhancing scholarly communication by enabling wider circulation of research outputs of institutions and, this has made academic libraries to embrace it.

Institutional repository in the terms of Lynch (2003) is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. Johnson (2002) defined it as a digital archive of the intellectual product created by the faculty, research staff, and students of an institution and accessible to end users both within and outside of the institution. Institutional repository has become one of the information communication boulevards through which academic and research communities make their research outcomes and implications available to the public. Its store of avalanche information resources including scholarly outputs and the ability to allow searches and discovery of same content locally and remotely has enabled it the opportunity of enhancing scholarly communication.

There are some salient issues worthy of note which has positioned institutional repositories as pivotal tool for scholarly communication. These include; its ability to enable self-archiving, enabling electronic publishing of institutionally-based journals and books, digitization and uploading of scholarly contents in printed formats, provision of links and displaying the webpage address of published works of members of staff in closed access journals or with journal aggregators. According to Yeates (2003) cited by Mohammed (2013) institutional repository has such benefits as: extending the range of knowledge sharing, existing investment in information and content management systems can be leveraged; and more flexible ways of scholarly communication are available. Crow (2002) and Chan (2004) cited by Mohammed (2013) affirmed that institutional repositories form the infrastructure for a new scholarly publishing paradigm that wrests control away from publishers and puts it back in the hands of the academy, increase visibility, prestige, and public value of contributors, maximize access to the results of publicly funded research, and increase the number and diversity of scholarly materials that are collected and preserved by academic institutions.

However, certain strategies need to be adopted for institutional repositories to function effectively towards enhancing scholarly communication. This is necessary because the creation and availability of institutional repositories does not automatically translate to its optimal use. The place of awareness creation among the academics by the library as well as

public promotion of the repository site should not be ignored. This study therefore is focused on examining the strategies and models adopted by libraries in Nigeria in structuring their institutional repositories to effectively promote scholarly communication.

Statement of the Problem

Circulation and accessibility of research outputs from and by researchers from the developing nations were very difficult tasks until the evolution of open access and institutional repositories. The libraries had challenges paying the subscription fees for journals and databases because of their high cost. Similarly, researchers found it highly challenging to pay the publication fees for highly rated international journals which has the potentials of making their research outputs globally visible. For instance, Nigeria with over one hundred and sixty (160) universities compared to any other country in sub-Saharan Africa generate large volume of research outputs that are of great important to the scholarly community. Regrettably, these important documents, which some of it were presented at local conferences, gather dust in the various departments, faculties and institutional libraries with little or no access to them. Some which eventually gets published in local journals enjoy minimal accessibility rate resulting from poor distributorship, global visibility and reputation of such journals. Consequently, these vital scholarly materials perish at institutional or local level with the access barriers. Institutional repositories have been acknowledged by scholars to play vital role in the preservation and dissemination of institutional research outputs which constitute part of the global research outputs pivotal to scholarly communication (Harnad, 2003, Durrant, 2004, Lynch and Carlton, 2009, Ezema, 2010 and Mohammed 2013). Literature search conducted to find out the strategies and models adopted by libraries in Nigeria in structuring their institutional repositories to enhance scholarly communication revealed that there is a gap to be filled in this area. It is against this backdrop that this study is being carried out.

Objectives of the study

The broad objective of this study is to examine the strategies and models adopted by libraries in Nigeria in structuring their institutional repositories to effectively promote scholarly communication.

The specific objectives are to:

1. Identify the specific activities carried out by the libraries in structuring their institutional repositories to enhance scholarly communication
2. Find out the strategies adopted by the libraries in promoting scholarly communication using their Institutional Repository
3. Establish the salient issues that enables the institutional repositories to enhance scholarly communication
4. Ascertain the factors that pose as impediments to carrying out these activities.

Scope of the study

This study covered all the university libraries in Nigeria that have functional and globally accessible institutional repository at the period of the conduct of this research. The libraries that has just commenced work on their repositories were not captured as they do not presently have the capability to enhance scholarly communication.

Literature review

The dawn of institutional repository has opened new avenues for scholars to communicate, disseminate and share their research findings with one another. The main goal of institutional

repositories situated in universities is to store, manage, and preserve the institution's born-digital and digitized assets, making them freely available to both local and international users via the internet and by extension, enhancing scholarly communication. According to Johnson (2002) while traditional publishing model limits readership, obscures institutional origin, costs much, the new model through institutional repositories implies no monopoly, increase of output and, awareness. Supporting the above, Ratanya (2010) affirmed that access to scholarly research is improving as a result of the growth of institutional repositories and associated information technology developments

Institutional repository has gained overwhelming global acceptance following its strategic role in scholarship. This necessitated Mohammed's (2013) assertion that the role of alternative scholarly communications models, such as institutional repositories, in breaking the monopolies of publishers and increasing the awareness of university intellectual output grows increasingly clear. Gozetti (2014) stated that in the last 30 years, scholarly communication has been affected by the so-called 'serial crisis': scholarly journals' prices have increased more rapidly than research institutions' budgets, forcing libraries to cancel subscriptions, reducing access, readership and circulation of scholarly output. The implication of this is that institutional repository also plays the relevant role of filling the gap created by the high cost of journals and database subscription rates.

Universities through their contents, structure their institutional repositories to enhance scholarly communication. According to Bailey and Ho (2005) institutional repository supports scholarly communication through the variety of materials it contains which include: a variety of materials produced by scholars from many units, such as e-prints, technical reports, theses and dissertations, data sets, and teaching Materials. Lynch (2003) reports that the development of institutional repositories emerged as a new strategy that allows universities to apply serious, systematic leverage to accelerate changes taking place in scholarship and scholarly communication. This was supported by Jones, Andrew and MacColl (2006) who affirmed that institutional repositories have a greater potential than other types of information resources for disseminating research. The understanding of the relevance of these information resources for scholarly communication made Casey (2012) to emphasize that the success of institutional repositories depends on contributions from the faculty.

Despite the numerous benefits of an IR, there are implications and potential barriers to its success. Bjork (2004) identified the barriers to include: Legal framework, IT Infrastructure, Indexing services and standards, Academic reward system and, Copyright issues. Pickton & Barwick (2006) summarized the barriers as follows:

- **Cost:** even though the initial cost for the software adopted by most institutions might not high, the recurrent costs, especially staff costs (e.g. time spent drafting policies, developing guidelines, publicizing, training, supporting users and creating metadata, specialist IT consultancy) may be significant.
- **Difficulties in generating content:** the success of an IR depends on the willingness of authors to deposit their work voluntarily, but there may be local barriers and hindrances to be overcome.
- **Sustaining support and commitment:** most often, it is difficult to sustain continuous support and commitment from the management and academic staff.
- **Rights management issues:** Sometimes researchers are skeptical about infringing publishers' copyright and have little knowledge about their own intellectual property rights. This could make them to resist requests to upload their works online

- **Policy Issues:** it is believed that an IR will only function to its capacity when a mandate is in place to populate it
- **Lack of incentives:** there is the possibility of academics feeling reluctant to provide even bibliographic details of their scholarly output when there is absence of any incentive.

Methodology

The descriptive survey design was adopted for this study. The purposive sampling technique was employed in selecting twenty universities in Nigeria that have institutional repository. Ten librarians, each from the universities were randomly selected for the study, making the sample size to be 200. Self-constructed questionnaire was the instrument used for data collection. Data collected was subjected to descriptive statistical analysis using frequency counts, percentages, mean and standard deviation. The Statistical Packages for Social Science (SPSS) was used for data analysis.

Questionnaire distribution and response rate.

A total number of 200 questionnaires were sent to the librarians working in the libraries under study while 178 which is 89% of the entire questionnaires were returned and used for the study.

Results

For clarity purpose, the results and discussion of finding is presented following the objectives of this study.

1. The specific activities carried out by the libraries in structuring their institutional repository for enhanced scholarly communication.

To achieve the above objective, respondents were provided with a list of activities and requested to indicate the specific ones that their libraries carry out. Their responses is presented in Table 1.

Table 1: Library activities in structuring the institutional repository for enhanced scholarly communication

Activities	Yes (%)	No (%)
Allowing self- archiving of research outputs of members of staff	178 (100)	-(0)
Digitization of scholarly contents in printed format	178 (100)	-(0)
Linking up and displaying in the IR published works of staff in other open access journals	174 (97.8)	4 (2.2)
Linking up and displaying the URL/ Webpage address of published works of staff in closed access journals or with Journal Aggregators	174 (97.8)	4 (2.2)
Having a Policy that mandates all staff to submit papers presented at conferences to the IR	151 (84.8)	27 (15.2)
Making submission of research output to the IR as part of the requirement for appraisal	128 (71.9)	50 (28.1)

The result generated in Table 1 shows that the two most prevailing activity carried out by the libraries in structuring their institutional repository for enhanced scholarly communication are; digitization of scholarly contents in printed format and allowing self- archiving of research outputs of members of staff, both of which yielded 100% acceptance. This was

followed by linking up and displaying in the institutional repository published works of staff in other open access journals and linking up and displaying the URL/ Webpage address of published works of staff in closed access journals or with Journal Aggregators (97.8%). Making submission of research output to the institutional repository as part of the requirement for appraisal was accepted by 71.9% of the respondents. The implication of this result is that the libraries are making serious efforts towards ensuring that their institutional repositories enhances scholarly communication. However, not making submission of research output to the institutional repository as part of the requirement for appraisal as indicated by some of the respondents could make some members of staff to ignore the request for submission of their research outputs to the institutional repository.

2. Strategies adopted by the libraries in promoting scholarly communication using their Institutional Repository

Strategies for promotion	Mean	Standard deviation	Decision	Rank order
Announcing and publicizing Institutional Repository contents through the library website	4.38	0.89	Strongly agree	1
Creating awareness on the availability and accessibility of the scholarly materials in the Institutional Repository platform	4.24	1.06	Strongly agree	2
Training users for effective use of the resources	3.81	1.12	Agree	3
Helping users in searching and retrieving information	3.62	0.96	Agree	4
Sending notices to Faculty members on IR updates	2.89	1.23	Agree	5
Sending updates on uploaded contents to the user community through a listserv	2.69	1.05	Disagree	6
Announcing and publicizing Institutional Repository contents through the library/ institutional bulletin	2.64	1.20	Disagree	7
Creating and displaying documentaries (video recording) on resources in the Institutional repository	2.50	0.84	Disagree	8

The mean score computed on the strategies adopted by the libraries in promoting their institutional repositories for enhanced scholarly communication as presented in the above table revealed that announcing and publicizing contents through the library website ranked first with mean of 4.38 and standard deviation of 0.89, creating awareness on the availability and accessibility of the scholarly materials available in the institutional repository platform ranked second with mean of 4.24 and standard deviation of 1.06, while training users for effective use of the resources ranked third with mean score of 3.81 and standard deviation of 1.12. Creating and displaying documentaries (video recording) on resources in the Institutional repository was the least accepted strategy with a mean score of 2.50 and standard deviation of 0.84, followed by announcing and publicizing Institutional Repository contents through the library/ institutional bulletin with a mean score of 2.64 and standard deviation of 1.20. The interpretation here is that the libraries depend mainly on the institutional and library websites for the promotion of their institutional repository while the marketing of same to the academic community within the institution is neglected. This finding corresponds with the result of a study carried out by Okumu (2015) on “adoption of institutional repositories in dissemination of scholarly information” which revealed that the library management has not

fully exploited the marketing and promotion of the institutional repository to their immediate community. The implication is that academic members of the institutions who do not regularly visit the library website might be ignorant of the contents of their institutional repository and this could make them to negate its relevance in scholarly communication.

3. Their perception on salient issues that enables the institutional repositories to enhance scholarly communication

To achieve the above, the respondents were asked to indicate from a list provided for them, the ones they perceive to be salient issues that have enabled their IRs to enhance scholarly communication. Their responses were analysed and presented in Table 3.

Table 3: Salient issues that enabled the institutional repositories to enhance scholarly communication

Salient issues	Mean	Standard deviation	Decision	Rank order
The IR captures the scholarly output/ intellectual capital of the institution	4.23	0.89	Strongly agree	1
It enables long term preservation of the institution’s digital asset for continued consultation by users	4.11	0.85	Strongly agree	2
It creates room for greater citation rates for the works	3.88	1.08	Agree	3
The IR exposes staff researches with students’ theses and dissertations to a wider international audience	3.64	1.22	Agree	4
It provides opportunities for research collaboration	3.01	1.30	Agree	5

The responses revealed that capturing the scholarly output/intellectual capital of the institution was strongly agreed by the respondents ($\bar{X}=4.23$, $SD=0.89$) as the highest salient issue that enables institutional repositories to enhance scholarly communication. This is followed by enabling long term preservation of the institution’s digital asset for continued consultation by users ($\bar{X}=4.11$, $SD=0.85$), creating room for greater citation rates for the works ($\bar{X}=3.88$, $SD=1.08$), the exposure of staff researches with students’ theses and dissertations to a wider international audience ($\bar{X}=3.64$, $SD=1.22$) and providing opportunities for research collaboration ($\bar{X}=3.01$, $SD=1.30$). The understanding here is that the ability of the IR to capture the intellectual capital of the institution, enable long term preservation of digital asset, exposing staff researches to wider international audience, among other factors, have contributed in making it a relevant tool for scholarly communication. This result corresponds with the outcome of Maron and Smith’s (2008) study which revealed that the digital scholarly resources provided by the library has enabled the creation of many new kinds of works that are accessible to end users directly, and many of these resources have become essential tools for scholars conducting research, building scholarly networks, and disseminating their ideas and work.

4. Ascertain the factors that pose as impediments to carrying out these activities.

To achieve objective 4 above, the respondents were requested to indicate the factors they identify as challenges to their optimal use of the IRs for scholarly communication. Their responses are presented in Table 4.

Table 4: Challenges to optimal use of the IRs for scholarly communication

Challenges	Mean	Standard deviation	Decision	Rank order
Legal framework/ intellectual property right	4.01	0.94	Strongly agree	1
Difficulty in content recruitment	3.82	0.98	Agree	2
Unavailability of policy mandating staff to submit their research outputs	3.48	1.28	Agree	3
Internet connection problems	3.21	1.06	Agree	4
Epileptic power supply	3.04	1.31	Agree	5
Software and hardware issues (Upgrading and replacement)	3.02	1.36	Agree	6

The result presented in Table 4 revealed that the most prevailing item strongly agreed by the respondents is the challenge of legal framework/ intellectual property right (\bar{X} =4.01, SD=0.94). This is followed by difficulty in content recruitment (\bar{X} =3.82, SD=0.98), unavailability of policy mandating staff to submit their research outputs (\bar{X} =3.48, SD=1.28), Internet connection problems (\bar{X} =3.21, SD=1.06), epileptic power supply (\bar{X} =3.04, SD=1.31) and finally, software and hardware issues (Upgrading and replacement) (\bar{X} =3.02, SD=1.36). This result agrees with the findings of Okumu's (2015) study which revealed that 92.5% of their entire respondents strongly agreed that copyright issue is the major challenge to the adoption of institutional repository followed by difficulty in content recruitment (86.2%). This outcome could result from limited knowledge of copyright law among the library staff in-charge of content upload and, lack of incentive/ reward system to academic members of staff. The implication of this result is that the institutional repository could fail to capture many of the relevant researches carried out by the academic members of the institution thus, limiting its efficiency in enhancing scholarly communication.

Conclusion

The place of institutional repository as a relevant tool for enhancing scholarly communication can no longer be over-emphasized. This study has established the specific activities carried out by the libraries in structuring their institutional repository for enhanced scholarly communication. It has also revealed the strategies adopted by the libraries in promoting scholarly communication using their Institutional Repository and also identified salient issues that enable institutional repositories to enhance scholarly communication. The two major challenges to optimal use of the IRs for scholarly communication were identified to be legal framework/ intellectual property right and difficulty in content recruitment

To overcome the challenges identified, the study recommends the following:

- The library management should expose members of staff in-charge of content upload to trainings in the area of copyright law as this will equip them with knowledge of the type and the aspects of the materials that need to be uploaded, thus, saving the institution from copyright infringement issues.

- The institutions should put in place a submission policy that will compel members of staff to submit their research outputs to the repository. Such policy could make submission of works to the institutional repository as part of promotion assessment for academic members of the institution.
- The institution should establish a reward system to academic members of staff who submit their works to the IR. This could be carried out by celebrating and awarding research grant to members of staff whose list of publications during appraisal time tallies with the contents available for such staff on the IR.
- Library management should consult with librarians knowledgeable in the area of software when taking decision on software adoption rather than rely solely on Software Vendor's promotional information.

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