Factors Influencing Institutional Repositories in Some Universities in Nigeria

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Abstract

Establishment, development and sustenance of institutional repository has been a challenging task for many institutions of higher learning in Nigeria while many other institutions across the globe have effectively managed issues of institutional repository in their institutions. Although, studies has be conducted on institutional repository in Nigerian Universities but such studies are yet to identify factors that influence institutional repositories in the country. Therefore, the study assessed factors influencing institutional repository in some universities in Nigeria. The study adopted the descriptive survey research design using a self-developed structured questionnaire. A multistage sampling procedure was employed to sample 751 staff (436 males and 315 females) of universities in Nigeria. Two research questions were raised. Data generated were analysed using descriptive statistics. The finding revealed that the development and sustenance of institutional repositories in university libraries in Nigeria have been very slow and quite uneven, due to the numerous institutional and external factors affecting the sustenance of institutional repositories. Based on the findings, some recommendations were made.

Keywords: Institutional repositories; universities; libraries, institutional and external factors.

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1. Introduction

An institutional repository (IR) is a set of services offered by a university or group of universities to members of its community for the management and dissemination of scholarly materials in digital format created by the institution and its community members, such as e-prints, technical reports, theses and dissertations, data sets, and teaching materials. Stewardship of such materials entails their organization in a cumulative, openly accessible database and a commitment to long-term preservation when appropriate. Some institutional repositories are also used as electronic presses to publish e-journals and e-books. An institutional repository is distinguished from a subject-based repository by its institutionally defined scope. Institutional repositories are part of a growing effort to reform scholarly communication and break the monopoly of journal publishers by reasserting institutional control over the results of scholarship. An IR may also serve as an indicator of the scope and extent of the university's research activities [1]. According to the author in [2] "the purpose of IRs, in part, is to serve as open access repositories of the intellectual output of the faculty at their institutions and to showcase the tangible results of those pursuits globally." Therefore, the success and sustenance of IRs depends on contributions from the faculty.

In recent times IR has become a springboard for disseminating scholarly works in tertiary institutions and it is a valuable solution to serials crisis. The benefits of IR are immense; as a result, many universities have implemented it. Authors in [3, 4] see IR as appropriate model that performs the four functions of scholarly communication: 'registration', 'awareness' 'certification' and 'archiving'. Author in [5] comparing IR and the traditional scholarly model submits that traditional model limits readership, obscures institutional origin, costs much but IR model implies no monopoly, increase of output, and awareness, which is the essence of scholarly communication. However, global trends have shown that as laudable as IR is, one of the major challenges to the realization of its full potentials is content recruitment. Previous studies by authors in (6, 7, 8), have persistently reported low submission of scholarly works by faculty members who are the major authors of scholarly works.

Factors that are responsible for low submission of scholarly works by faculty members are the imperative issues to consider. The submission of the author in [9] which states the need to study faculty members in order to understand their use of IR is of great interest. This is pertinent in order to justify the huge amount of money expended by IRs. Meanwhile, the author in [10] cautions that a "one-size-fits-all" approach in IR development would not satisfy the needs of varied academic units, hence, there is need to study each discipline.

The study in [11] observed that there is a growing body of literature regarding IRs has emerged when major research universities in the U.S. such as Michigan Institute of Technology and the University of California launched their own IR systems. Over the past 4 years, an increasing number of research universities have implemented or have plans to implement an IR. Authors in [12]) found that out of 97 universities categorized as Carnegie "doctoral universities", 40% already operated IRs. Among non-implementers, 88% were found to be in the planning stage of IR implementation. This finding indicates that IRs are becoming a component of the technical infrastructure in doctoral research institutions. Whether they become a part of the intellectual infrastructure depends crucially on the extent of faculty contribution. While the rise in IR deployment looks promising, author in [13] suggests that the success of IRs will be determined eventually by "their uptake and use

by researchers". He points to the critical mass of content that led to the significant usage of disciplinary e-print repositories and further argues that the success of an IR should be determined by its use, and one of the measures for the usefulness of IRs is contribution of content.

Author in [2] observed that academic institutions often find reluctance among faculty to contribute. In a survey of directors at the Association of Research Libraries (ARL), two-thirds responded that the majority of faculty members at their institutions were not contributing to IR [14]. The authors in [15] found faculty contributions to IRs in ARL institutions to be low or non-existent in one-third. Furthermore, Authors in [16] discovered in a 2009 survey that less than 30 percent of faculty in U.S. colleges and universities were contributing to IRs. In addition, studies of IRs at several institutions such as in [17, 18, 7, 19] also revealed some reluctance on the part of faculty to contribute. In addition, there are disciplinary differences among the faculty who contribute. Those in the sciences contribute to a higher degree than do those in the social sciences and humanities. The survey of faculty found that fewer than 10 percent of faculty in departments of literature deposited materials compared to more than 20 percent of those in economics departments and more than 40 percent of physics professors (16). The author in [20] found that IRs in ARL member institutions contain five percent humanities content as opposed to 27 percent social sciences and 67 percent sciences. In addition, a 2004 analysis of 24 IRs in Great Britain revealed that only 19 percent of the content was from the arts, humanities, and social sciences combined [21].

Although potential contributors include faculty, students and staff in universities, faculty members are considered the crucial contributors of scholarly content. However, several studies note that it has been difficult to get faculty members to contribute [18, 22, and 23]. The author in [18] interviewed 25 professors at the University of Rochester in order to investigate the factors affecting contribution. They suggest that the primary impetus for faculty contribution is to enable other scholars to find, use and cite the work they submitted to the repository. Other findings [18]. identified reasons why faculty did not submit their content, such as copyright infringement worries, and disciplinary wor kpractices (e.g., co-authoring or versioning). Faculty members developed their own routines to create and organize documents. Faculty members perceived that IR contribution involved additional work, such as metadata creation for contributed objects. Hence, they cite a variety of reasons for their hesitation to contribute to IRs. These include a learning curve for new technology, copyright issues, concerns over whether contributing to an IR is equated with publishing, fear that low quality of some material in the repository would taint their research, and worries about plagiarism [17].

In research universities, IRs are predicated on contributions by their stakeholders which include both academic and non-academic staff; those involved in teaching and research; and both postgraduate and undergraduate students. Each of these groups contains potential authors and readers of the materials in IR, and the contributions of authors, are critical to the success of an IR. As such whether or not IRs become a part of the intellectual infrastructure depends on the extent of the university's community contribution. Author in [13] argues that the success of an IR should be determined by its use, and one of the measures of usefulness is contribution of content. Faculties are typically best at making a major contribution to an IR, by creating, not preserving, new knowledge, because they are becoming so involved in producing scholarly works and participating in the evolving scholarly communication process. As IRs are flourishing to preserve scholarly

output and to make it openly accessible, more and more faculty members are in favour to provide open access to the universities' research output, maintained either institutionally or on a subject basis. Faculty contribution is considered one of the success factors for an IR even though several studies have found low rates of faculty submission [18, 22, and 23]. These studies found that the challenges for an IR are not in the technical implementation but in affecting the culture changes necessary for it to become an integral part of activities of the research institution. Cultural rather than technological factors limit the use and development of IRs. Literature suggests that ingrained behaviours, inertia, indifference and resistance to change hamper the adoption of the working practices needed to support the IR [6]. Though, there are studies on awareness, attitude and use of IRs by faculty/lecturers of various disciplines [7and 24], it is quiet unfortunate that studies on institutional repositories in Nigeria is yet to investigate factors that influence the sustenance of institutional repositories. Therefore, this study will assess factors that influence institutional repositories in Universities in Nigeria.

2. Research Questions

1. Does institutional factors influence the sustenance of institutional repositories in university libraries in Nigeria?

2. What are those external factors that influence the sustenance of institutional repositories in university libraries in Nigeria?

3. Does technological challenges affecting the sustenance of IR in University libraries Nigeria?

3. Methodology

The study adopted a survey research design. It involves quantitative and qualitative methods of data collection. A survey design is used in studies that seek individuals' opinion and as units of analysis (Babbie, 2001). In other word, it is a type of design that involves the collection and analysis of data from a group of individual or items to be considered as representative of the entire group. Population for the study was all Nigeria universities staff and the libraries. The study adopted a multistage sampling procedure. The purposive sampling technique was used in the selection of eight institutions that participated in the study. These institutions were Ahmadu Bello University, Covenant University Ota, Ogun State, Federal University of Technology, Ondo State, ObafemiAwolowo University, Osun State, University of Ibadan, Ibadan, Oyo State, University of Jos, Plateau State, University of Nigeria, Nsukka, Enugu State and the Federal University, OyeEkiti, Ekiti State. These institutions were purposively selected because they were the only universities adopting institutional repository in Nigeria. The study also adopted the purposive sampling technique to sample three (3) faculties of the institutions. These faculties were the faculties of sciences, social sciences and humanities respectively. The study also employed the simple random sampling techniques of the balloting type to identify three departments each that represents each of the selected faculties in the study. The study used the simple random sampling techniques to identify 751 lecturers who participated in the study. This includes 436 males and 315 females which represents 58.1% and 41.9% respectively. A self-developed questionnaire tagged "Institutional Repository Questionnaire (IRQ)" was used for data collection. Data collected was analysed using descriptive statistics which involves frequency counts and simple percentages.

4. Results

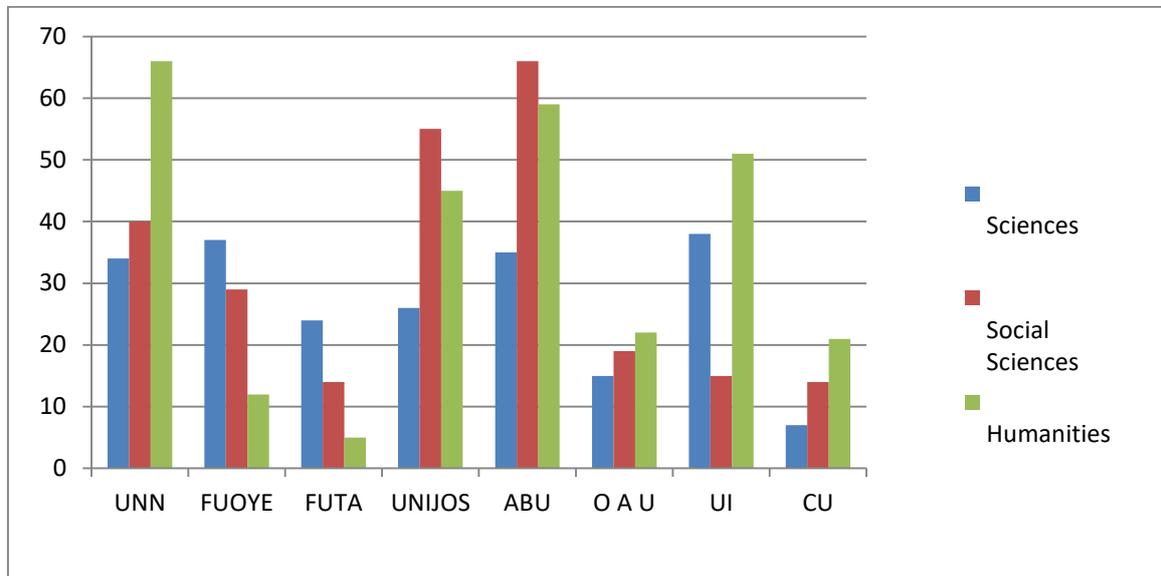### Demographic representation of the respondents

Figure 1: Distribution of respondents by Faculty

Figure 1 reveals that among the faculties used in the study, lecturers from the faculties of the Humanities were more 281(37.4%) followed by those in the Social Science 253(33.7%), and then Sciences 217(28.9%). Humanities 281(37.4%) has more participant, with 66 from University of Nigerian (UNN), 59 from Amadu-Bello University (ABU), 45 from University of Jos (UNIJOS), 45 from University of Ibadan (UI), 12 from Federal University, Oye-Ekiti (FUOYE) , 22 from Obafemi Awolowo University (OAU), 5 respondents from Federal University of Technology, Akure (FUTA), and 21 respondents from Covenant University (CU). For social science, ABU has 66 sampled respondents; UNIJOS has 55 respondents and UNN has 40 respondents. While for the science, UI has 37 respondents, FUOYE 37, ABU has 35 respondents; UNN 34 respondents and 26 respondents were from FUOYE. Therefore, more of the respondents that participated in the study were from humanities, followed by those from social science and then those from science department.

Research Question 1: Does institutional factors influence the sustenance of institutional repositories in university libraries in Nigeria?

Table 1 shows the descriptive analysis of institutional factors influencing institutional repository among the universties in Nigeria. The result reveals that, 80% of the respondents agreed that lecturers are yet to come to full consensus regarding to the establishment of institutional repository. 79.7% of the responses were of the opinion that academics are reluctant to submit their work in IR while 82% agreed that there is lack of awareness of institutional repositories among researchers and academics. Furthermore 77.6% of the respondents said there is lack of advocacy on institutional repositories respectively. While 80% agreed there is infrastructural problem, and 78.7% of them agreed on technical support as a challenge, whereas 76.2% established that Technophobia is

a limitation. Also 80.8% of the sampled ascertained that there is limited bandwidth, while 76.7% said there is difficulty in digitizing some of the materials. 75.3% agreed there is inadequate users' education, 73% noted that inadequate funding is affecting IR sustenance, and 65% said the cost for the repository program cannot be reliably estimated. Again 73.8% of the respondents agreed that cataloging (Metadata Creation) is sometimes uncertain among the staff, 83.9% opined that submission process is not certain. 70.1% agreed on withdrawal services to have issues, 75.7% said that access control and rights management: to restrict access to the information when open access is premature or not desirable is not certain. Finally 72.7% agreed that, administrative services e.g. Workflow are among the challenges of IR while only 64.6% of the respondent agreed that there is security issue.

Table 1: Institutional factors influencing the sustenance of institutional repositories in university libraries in Nigeria

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Lecturers are yet to come to full consensus regarding to the sustenance of institutional repository.	215 (29.1%)	376 (50.9%)	117 (15.8%)	31 (4.2%)
Lecturers are reluctant to submit their work in IR	214 (29.0%)	374 (50.7%)	111 (15.1%)	38 (5.2%)
There is lack of awareness of institutional repositories among researchers and lecturers.	254 (34.5%)	350 (47.5%)	104 (14.1%)	29 (3.9%)
There is Lack of advocacy on institutional repositories.	205 (27.9%)	366 (49.7%)	122 (16.2%)	43 (5.8%)
There is infrastructural problem.	244 (33.4%)	340 (46.6%)	118 (16.2%)	28 (3.8%)
Technical support is a challenge	212 (29.0%)	363 49.7%)	111 (15.2%)	45 (6.2%)
There is security issue	201 (27.5%)	57 (7.8%)	304 (41.6%)	168 (23.0%)
Technophobia is a limitation.	278 (37.8%)	282 (38.4%)	140 (19.0%)	35 (4.8%)
There is limited bandwidth.	247 (33.7%)	345 (47.1%)	104 (14.2%)	37 (5.9%)
There is difficulty in digitising some of the materials.	264 (36.1%)	297 (40.6%)	134 (18.3%)	37 (5.1%)
There is inadequate users' education.	247 (33.7%)	305 (41.6%)	135 (18.4%)	47 (6.4%)
Inadequate funding is affecting IR sustenance.	217 (29.6%)	318 (43.4%)	153 (20.9%)	5 (6.1%)
The cost for the repository program cannot be reliably estimated.	175 (24.0%)	299 (41.0%)	199 (27.3%)	56 (7.7%)
Cataloging (Metadata Creation) is sometimes uncertain.	253 (34.9%)	282 (38.9%)	149 (20.6%)	40 (5.5%)
Submission process is not certain	294 (40.7%)	312 (43.2%)	95 (13.1%)	22 (3.0%)
Withdrawal services are issues.	205 (28.4%)	301 (41.7%)	152 (21.1%)	64 (8.9%)
Access Control and Rights Management: to restrict access to the information when open access is premature or not desirable, is not certain.	240 (33.1%)	309 (42.6%)	127 (17.5%)	50 (6.9%)
Administrative services e.g. workflow is challenging,	236 (32.8%)	287 (39.9%)	140 (19.5%)	56 (7.8%)

Research Question 2: What are those external factors that influence the sustenance of institutional repositories in university libraries in Nigeria?

Table 2: External factors that influencing the sustenance of institutional repositories in university libraries in Nigeria

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Stan.Devi.
Copyright and intellectual property is concern for researchers.	360 (49.2%)	281 (38.4%)	63 (8.6%)	27 (3.7%)	1.67	.785
Technological changes is a problem	229 (31.4%)	338 (46.4%)	120 (16.5%)	42 (5.6%)	1.97	.842
Software adoption is an issue	250 (34.2%)	289 (39.6%)	143 (19.6%)	48 (6.6%)	1.98	.896
There is infrastructural problem.	241 (33.0%)	326 (44.7%)	121 (16.6%)	42 (5.8%)	1.95	.851
There is a great deal of uncertainty about preserving e-prints in IRs.	210 (28.8%)	323 (44.3%)	137 (18.8%)	58 (8.0%)	2.06	.896
Technical support is a challenge	243 (33.5%)	339 (46.8%)	108 (14.9%)	35 (4.8%)	1.91	.819
There is security issue	206 (28.4%)	346(47.7%)	122 (16.8%)	52 (7.2%)	2.03	.859
Content management is a problem.	188 (25.9%)	338 (46.6%)	152 (21.0%)	47 (6.5%)	2.08	.850
Deposit and Withdrawal Services are issues.	187 (25.9%)	328 (45.4%)	160 (22.2%)	47 (6.5%)	2.09	.856
Access Control and Rights Management: to restrict access to the information when open access is premature or not desirable is not certain.	187 (26.0%)	325 (45.3%)	165 (23.0%)	41 (5.7%)	2.08	.844
Policy development specific to IRs is yet to be established.	163 (22.9%)	315 (44.2%)	172 (24.1%)	63 (8.8%)	2.19	.888
Who should lead (Libraries or faculties) in the establishment of IR is an issue	189 (26.7%)	281 (39.7%)	154 (21.8%)	84 (11.9%)	2.19	.962

Table 2 revealed the external factors affecting the sustanance of institutional repositories in university libraries in Nigeria. The descriptive analysis of frequency and percentages of external factors of institutional repository among the federal universties in Nigeria are hereby highligted. 87.6% of the respondents agreed that, copyright and intellectual property is concern for researchers, while 78% agreed that technological changes is a problem. 74% ascertained that software adoption is an issue, 78% agreed there is infrastructural problem, 73.1% agreed that, technical support is a challenge, and 73.1% supported that there is a great deal of uncertainty about preserving e-prints in IRs. The result further reveals that, 76% agreed on security issues, 72.5% said content management is a problem, 71.3% agreed that deposit and withdrawal services are issues, as well as Access Control and Rights Management: to restrict access to the information when open access is premature or not desirable is not certain. Whereas 67.1% and 66.4% agreed that policy development specific to IRs is yet to be established in IR sustenance, and who should lead (Libraries or faculties) in the establishment of IR is an issue

respectively.

The result in Table 2 is further determined using the mean and standard deviation ranging from 1.67 to 2.19, while the cut off mark is determined at 1.00. The result shows that only seven items out of 12 items had a mean value above 2.00. Those factors above 2.0 that affect the sustenance of institutional repository in university libraries are: lack of establishment of specific Policy to IRs, who should lead (Libraries or faculties) in the establishment of IR (mean= 2.19, SD=.962), deposit and withdrawal services (mean=2.09, SD=.859), contempt management and access control and rights management: that is, to restriction of access to information when open access is premature or when desirable is not certain (mean=2.08, SD=.850), There is a great deal of uncertainty about preserving e-prints in IRs, (mean=2.06, SD=.896) and security issues (mean-2.03, SD=.859). Furthermore, table 4.17 also shows that, there are 5 items that hard below the cut-off point of 2.00, which also affect the sustenance of institutional repositories in the Universities libraries. Such include, copyright and intellectual property that are concern for researchers, technological changes for Software adoption, infrastructural problem and technical support. Hence, the implication of the result shows that external factors affect institutional repository sustenance in the university libraries in Nigeria.

5. Discussion

The study revealed that lecturers in the academic institutions are yet to come to full consensus regarding to the establishment of institutional repository. Hence, they were reluctant to submit their work in IR due to lack of awareness and advocacy, infrastructural problem and technical challenges, inadequate funding of the repository program. This finding is in consonance with studies in [6 and 7] which noted that the global trends of institutional repositories have shown that as laudable but the major challenges to the realization of its full potentials is content recruitment. The study in [7] specifically frowns at the persistently reported low submission of scholarly works by faculty members for the institutional repositories programme and such attitude greatly influence the sustenance of IR. On the contrary, studies by authors in [17, 18, 22 and 23] noted that the challenges of an IR are not in the technical implementation but in affecting the cultural changes necessary for it to become an integral part of activities of the research institution. Meanwhile, the study in [10] cautions that a "one-size-fits-all" approach will not help the sustenance of institutional repositories. In other words, adequate funding is germane to the sustenance of IR.

6. Conclusion and recommendations

The pace of the development and sustenance of institutional repositories in university libraries in Nigeria have been very slow and quite uneven, due to the numerous institutional and external factors affecting the sustenance of institutional repositories. There is a low level of awareness and knowledge of IR by lecturers in the universities in Nigeria, which has resulted partly to the skeptic attitude of academics towards submitting their works to the IRs as well as technological challenges grossly influence the growth and sustenance of IR. Based on the findings therefore, it is recommended that:

1. Enlightenment programmes and advocacy by the library management system, emphasising benefits of

IR through different media is inevitable. Mass publicity and awareness campaign by the library and university management should be embarked upon through seminars, fliers and publicity on universities' websitesto ensure the sustenance of institutional repositories in Nigeria**.**

2. More financial intervention by the government and through the Private-public partnership initiatives is highly needed to augment the fund available for the sustenance of institutional repositories in universities' libraries in Nigeria.

3. There should be provision for appropriate and adequate training for each of the institutional repository's system personnel to enhance their competence and expertise by the university management.

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