Open Access Resources and It Implication on Academic Sustainability in Africa - Nigeria as a Case Study

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ABSTRACT

The research paper presented a survey that assessed use of open access resources in higher institution and it implication on academic sustainability. A questionnaire was distributed, 460 respondents completed the questionnaire and the respondents are those who are conversant with the use of open access resources on the web. Based on the attitudes of the respondents, it was reported that open access resources varies and this variance to those resources are of high quality which determine what the users will gain. The research work show that open access journals is more used than repositories for institution to access resources. Challenges faced in accessing the open source materials had been stated and also recommendation in the use of these resources.

Keywords: Academic Staff, Open access resources, Journals, Web resources, Internet.

1. INTRODUCTION

In 2002, BOAI defined on the concept of Open Access as the free availability of the internet for legal purposes in other to access, read, download, and distribute information. These resources are freely available for viewing or use, by 2020 Nigeria could be one of the 20 largest economies in the world and able to consolidate its leadership role in Africa and establish itself as a significant player in the global economic and political arena only if the following factors could be met: Physical Infrastructure As In Power , Transport , Oil And Gas Infrastructure, Housing , Water Resources: Productive Sector, Agriculture and Food Security, Oil And Gas, Manufacturing Sector, Small And Medium Enterprises, Solid Minerals and Steel Development, Trade And commerce, Culture & Tourism: Human Capital And Social Development, Education , Health Sector, Labor, Employment And Developing A Knowledge-Based Economy as in Information Technology And Communication, Science, Technology And Innovation (STI).

The previous government had declared the intention to pursue the vision of placing Nigeria among the twenty (20) largest economies in the world by 2020 and the current administration is committed to the attainment of this vision. In other for Nigeria to achieve vision and goal of 2020, the educational sector must be taking serious especially with commitment to scholar's assignment with the responsibility to distribute the resource to the right channel. In the digital age, that responsibility includes exploring new publishing technologies and economic models to improve access to scholarly work. Wide circulation adds value to published work; it is a significant aspect of its claim to be knowledge.

This paper reveal the relevant of open access resources to enhance quality of research, accessibility to research information and global connection within academic environment towards achievement of vision 2020. Much attention has been focused on the rising costs of journals in academic libraries as academic serials subscription prices increase. Thomas (2006), studies have examined whether authors choose to publish in open access sources and what attitudes they have about those sources. These studies have led researchers to the conclusion that many authors are unaware of their open access publishing options. Many authors do not publish in open access journals and institutional repositories because they do not know about those options. Venkadesan (2009), many authors have misconceptions about the characteristics of open access sources, and those misconceptions prevent them from venturing outside the traditional model.

Other researchers move on from those findings to propose that author education will raise awareness of and eliminate many of the common misconceptions about open access sources. Swan (2005), to the extent that authors do not publish in open access journals or deposit work in institutional repositories because they do not know those options exist, education would increase the amount of work submitted to open access publishing sources. The objectives of this study seeks to address the following research question to particular strata of staff belonging to technological background: "What is the Academic Staff attitude towards use of open access resources?" The results of this survey shall also apply to other group of staff having similar interests and background. Academic researchers can be profoundly impacted by the increasing amount of information available through open access journals because an increase in the amount of open access literature increases the scholarly material that is available to all academic researchers and the scope shall limited to a particular area in Nigeria (Lagos State) having fairly good standards of education and the staff having technological backgrounds.

2. BACKGROUND TO THE STUDY

2.1 What Is Open Access

Nicholas et al. (2005), open access focuses on three main characteristics: it is available on the internet, there are no financial or legal barriers to accessing it, and authors use copyright only to maintain the integrity of their work and retain the right of attribution. Suber also states that open access contents are not restricted only to peer-reviewed research articles, they can be in any formats from texts and data to software, audio, video, and multi-media. Although the open access movement focuses on peer-reviewed research articles and their preprints, open access can also apply to non-scholarly content, like music, movies, and novels, even if these are not the focus of most open access activists (Suber, 2010). The movement has created a new body of scholarly literature that is available to users for free Johnson (2005), Park and Jian (2007), the Open Access Initiative describes two methods of achieving open access: self-archiving and open access journals.

Self-archiving includes both institutional repositories (IRs) and personal web archives. Self-archived materials may also be stored in a departmental or discipline-specific online repository. Some self-archived materials (for example, working papers) may restrict viewers to a certain group (for example, colleagues in a department), while others are freely available on the web. Open access journals are scholarly journals that are freely available online. Many are peer reviewed, but some are not. Some are online- only publications, while others are duplicates of print journals.

Wilinsky (2003), the "delayed open access" model provides complete free access after an embargo period, often six months after the initial publication for subscribers. Another variation is "partial open access, which means that only a portion of the subscription-based journal is available for free online.

2.1 Open Access Benefits

Open Access provides numerous benefits including different fields of research and publication by providing researchers wider visibility and usage of their research results and gives them a significantly larger and more diverse audience. Increased exposure to research also increases citation rate. Open Access provides an avenue to connect with a global society more easily and researchers can publish without paying a dine. In the area of Teaching staff and students it gives everyone the opportunity to materials and articles freely for free which enhances teaching and learning. To the author open access gives authors a worldwide audience larger than that of any subscription-based journal or publishing house, no matter how popular, and demonstrably increases the visibility and impact of their work (Willinsky, 2010, Suber, 2010).

To readers:

Readers around the world have no barrier in accessing latest literature and research findings on the internet at no cost.

To Society:

Society as a whole benefits from an expanded and accelerated research in which research can advance more effectively because researchers have immediate access to all the findings they need.

To Journals and publishers:

Open access makes their articles more visible, discoverable, retrievable, and useful. If a journal is open accessA, then it can use this superior visibility to attract submissions and advertising, not to mention readers and citations (Suber, 2010).

To funding agencies:

Open access increases the return on their investment in research, making the results of the funded research more widely available and acceptable, more discoverable, more retrievable, and more useful. Thus open access provides fairness to taxpayers by providing open access to the results of publicly-funded research (Suber, 2010).

Governments:

Government benefit from Open access as funders of research and open access also promotes democracy by sharing non-classified government information as widely as possible (Suber, 2010).

Citizens:

Open access gives them access to peer-reviewed research, which is unavailable in public libraries, and gives them access to the research for which they pay taxes. Open access accelerates not only research but the translation of research into new medicines, useful technologies, solved problems, and informed decisions that benefit everyone (Suber, 2010). Libraries: Open access solves the pricing and permission crisis for scholarly journals. This also serves library interests in other indirect ways. Librarians want to help users find the information they need, regardless of the budget-enforced limits on the library's own collection. Academic librarians want to help faculties increase their audience and impact, and help the university raise its research profile (Suber, 2010).

Universities:
Universities benefit from their researchers' increased impact and increase their visibility. Open access reduces their journal expenses and advances their mission to share knowledge.

Benefits to nations:
Open access incorporates local research into all interoperable network of global knowledge; increases impact of local research, providing new contacts and research partnerships for authors; removes professional isolation and strengthens economies through developing a strong and independent national science base ((Antelman, 2004, Nicholas & Rowlands, 2005, Giarlo, 2005, Canada, 2009, Willinsky, 2010, Suber, 2010)

2.2 Online Communication

The term "online communication" (e-communication) refers to reading, writing, and communication via networked computers Sproull, L., & Kiesler, S. (1991). It encompasses:

- Synchronous computer-mediated communication (whereby people communicate in real time via chat or discussion software, with all participants at their computers at the same time)
- Asynchronous computer-mediated communication (whereby people communicate in a delayed fashion by computer, using programs such as e-mail); and the reading and writing of online documents via the World Wide Web.

Online communication dates back to late 1960s, when U.S. researchers first developed protocols that allowed the sending and receiving of messages via computer. The ARPANET, launched in 1969 by a handful of research scientists, eventually evolved into the Internet, bringing together some 200 million people around the world at the turn of the millennium. Online communication first became possible in educational realms in the 1980s, following the development and spread of personal computers AMAI (1998).

2.2 Computer-Mediated Communication

In mid-1980s, language educators began to discover the potential of computer-mediated communication for teaching. The integration of computer-mediated communication in the classroom itself divided into two parts: on the one hand, some educators began to use e-mail to set up long-distance exchanges, and, on the other hand, other educators began to use synchronous software programs to allow computer-assisted conversation in a single classroom. Beginning in the late 1990s, there has been a gradual shift from seeing online communication as a tool to promote language learning toward seeing the mastery of online communication as a valuable end in it. This reflects the increased prominence of online communication in society, with e-mail surpassing telephone conversation and even face-to-face conversation as a frequent tool of communication among some occupational groups (American Management Association International, 1998) and the World Wide Web rapidly expanding its presence and impact in fields ranging from academia to entertainment to marketing. Thus an important new future direction in both research and practice focuses on integrating the teaching of language skills and new electronic literacy's (Warschauer, 1999). Shetzer and Warschauer (2000) have categorized electronic literacy's in three areas: communication, construction, and research. Communication involves Internet-based activities which allow people to converse with individuals and groups, and involves mastering the pragmatics of various forms of synchronous and asynchronous communication, both in one-to-one interaction and "many-to-many" electronic discussion forums.

Construction involves the ability to work individually or collaboratively to write and publish information on the Internet, and includes mastery of hypermedia authoring (i.e., making a point effectively while combining texts with graphics or other media, all packaged in a non-linear, linked "hypertextual" format). Research encompasses a range of navigation, reading, and interpretation skills, including how to effectively search the Internet, how to evaluate information that you find, and how to critically consider multimedia information.

3. METHODOLOGY

There are more than 10 higher institutions College in Lagos but we could not cover all of them in this survey. The survey was conducted in: Adeniran Ogunsanya College of Education Oto-Ijanikin, Federal college of Fisheries and Marine Technology (Victoria Island), Lagos State College of Education Primary (Noforija Epe), Lagos State Polytechnic (Ikorodu), Lagos State University (Ojo), University of Lagos (Akoka) & Yaba College of Technology (Yaba). 460 respondents completed the survey. 26% described their institution as University, 74% described their institution as a college. 63% staff was male and 37% female. 15% of the staff were Technologist, 21% were senior lecturers, 50% were assistant to lecturer 1, 2% were professors and 12% were PhD holders.

Questionnaires were used to evaluate their familiarity with attitudes toward, and use of open access resources. The Questionnaire specified that the survey is for academic staff of Nigeria higher institutions and included a brief description of the survey. The first section of the survey asked participants about their academic environment, and the second section addressed participants' attitudes toward open access publishing in general. The last section of the survey assessed participants' professional use of open access resources, including open access journals, institutional repositories, and self-archived materials on personal websites. The information gathered were presents as in the table below.

Table 1 – Do you think open Access Resources is:

| Variable	Strongly disagree (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Strongly Agree (5)	Mean	Standard Deviation
Radical	55	158	109	107	31	2.75	1.25
High quality	3	30	177	158	92	3.65	0.88
Cutting edge	3	45	108	202	102	3.78	0.91
A fad	240	141	62	27	4	1.76	0.94
Electronic only	35	80	97	150	98	3.47	1.23
Well indexed	62	142	190	68	11	2.63	0.96
Archived properly	32	141	222	67	9	2.75	0.85
Expensive for researchers	132	156	127	50	9	2.26	1.04
Expensive for authors	92	142	132	94	14	2.57	1.1
Beneficial to authors' careers	10	46	117	186	115	3.74	1

Table 2 Do you think open access will result to.

Variable	Strongly disagree (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Strongly agree (5)	Mean	Standard deviation
Authors will publish more	6	56	142	191	69	3.56	0.93
Authors will have less choice over where they publish	122	194	95	49	4	2.18	0.97
The quality of papers will improve	16	103	279	55	12	2.88	0.75
Fewer papers will be rejected	22	94	156	165	23	3.16	0.97
Publishers will improve their services to authors	19	92	134	191	34	3.29	0.98
Publishers will improve their services to subscribers	23	76	119	184	58	3.39	1.06
Papers will become less concise	54	171	178	54	7	2.55	0.9
Libraries will have more money to spend	83	123	97	125	35	2.8	1.23
Print journals will gradually disappear	64	118	82	157	4	2.99	1.23
It will be easier to access papers	9	44	52	187	170	4.01	1.02
Archiving will suffer	47	119	172	102	20	2.84	1.02

Table 3 familiarity with

Are you familiar with open access journals, institutional repositories and scholarly work posted on personal websites?

	YES	NO
Open Access Journals	431	39
Institutional Repositories	390	80
Scholarly work posted on personal websites	285	185
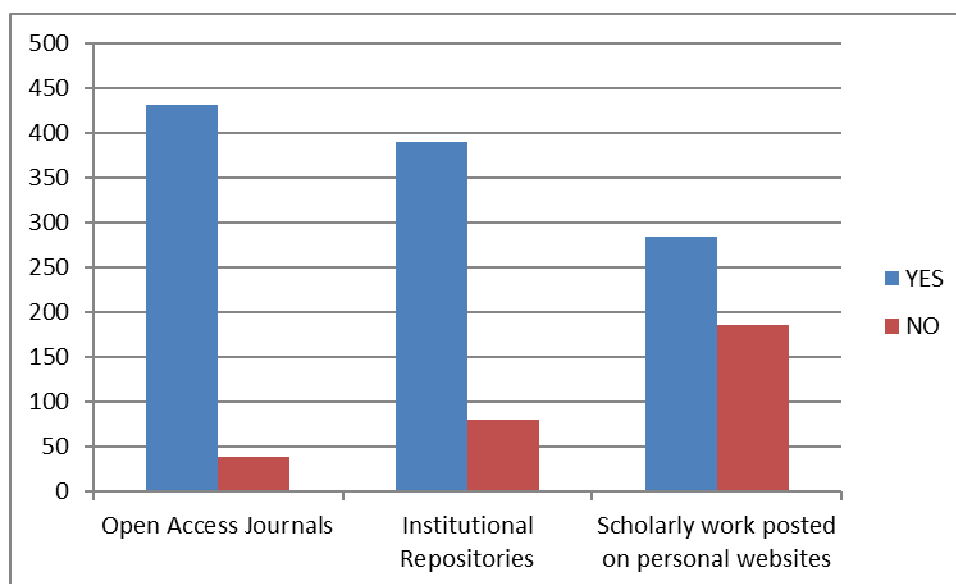
Fig. 1: Result Analysis and Discussion

3.1 Familiarity with Open Access Resources

Respondents were asked about the extent to which they agreed with a number of statements about open access. Some statements related to characteristics of open access resources, while other statements related to what open access publishing will lead to in the future. 67% of respondents either agreed a little or strongly agreed with the statement that open access are cutting edge. 80% of respondents disagreed with the statement that open access is a fad; only 7% reported believing that open access is a fad. There was little agreement regarding whether open access would lead to the disappearance of print journals 14% strongly disagreed, 25% disagreed a little, 18% neither agreed nor disagreed, 34% agreed a little, and 9% strongly agreed that print journals would eventually disappear. The mean response was 2.99 (Neither agrees nor disagrees) and the standard deviation was 1.23. These responses indicate that, in general, academic reference librarians believe that open access resources will not lead to a decrease in the quality of scholarly publishing.

These results are depicted in Table 1.   64% respondents indicated that they believe open access is beneficial to authors' careers. The responses were fairly evenly distributed regarding whether open access would lead to libraries' having more money to spend: 18% strongly disagreed, 26% disagreed a little, 21% neither agreed nor disagreed, 27% agreed a little, and 8% strongly agreed. The mean response was 2.8 (between slightly disagree and neither agree nor disagree), and the standard deviation was 31% of respondents disagreed, 15% neither   agreed nor disagreed, and 53% of authors agreed with the statement that open access publishing would lead to the end of print journals. While only 35% of respondents surveyed either agreed a little or strongly agreed with the statement that open access would lead to libraries' having more money to spend. A little more than a third of respondents 37% disagreed with the statement that open access is properly archived, and almost half (43%) disagreed with the statement that open access is well indexed.

Despite these concerns, 40% agreed a little and 37% strongly agreed that open access will lead to easier accessibility of research papers. The mean response was 4.01 (Agree a little), and the standard deviation was 1.02. These results are depicted in Table 2.

3.2 Use of open access resources

Almost two-third of the respondents noted that they know about opportunities and limitations of using open access resources as has been depicted in Figure 1. Many respondents noted that they considered open access resources alongside paid resources, while others highlighted research needs that are uniquely met by open access resources. Others mentioned that because some professors require that staff cite only traditional paid resources, they do not use open access resources. Use of those resources seems to vary across institutions: One respondent noted that his or her "institution keeps staff theses in our institutional repository. Lots of other staff use these," while another reported that his or her "institution's dissertations are in a repository and rarely requested." In general, respondents reported using institutional repositories for specific research needs, such as finding a dissertation or work by a specific author or institution.

Figure 2 depicts the familiarity of the staff with Open Access Journals and the comparative analysis with Institutional Repositories and Scholarly work posted on the personal websites. 92% of staff agreed that they are familiar with open access journals and read them regularly, only 8% replied in negative. 85% of the staff was familiar with Institutional repositories and only 15% replied in negative. Also 82% of the staff had read the scholarly work posted on the personal website and only 18% replied in negative. Open access materials on the Web also meet special research needs. Several respondents reported using the Web in addition to paid resources to find information about specialized topics. Others reported that open access materials on the Web are useful when researchers need immediate access to research.

4. CONCLUSION

Open access journals are available on the open web, and institutional repositories allow authors to self archive their work in a stable online environment. While the future of this model and the exact ways it will awareness of what is going on at their own institution. Institutional repositories are also useful as an alternative affect the existing publishing model are uncertain, it is clear that new resources are now available to authors who want to publish their work. The results of this study indicate the needs for increased awareness that open access are valuable and qualitative source of information. 34% of respondents reported knowing nothing about open access resources, and half of the respondents who knew about open access described themselves as knowing only a little.

However, most survey respondents' familiarity with open access journals, institutional repositories, and self-archived materials on the web indicate that engineering staff may be well suited to take on the instructional role. Respondents' generally positive attitudes toward open access indicate that many staff support open access materials and might therefore be more likely to encourage others to publish in them. 78% of respondents surveyed also indicated that open access would lead to easier accessibility of papers.

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