

Awareness and Use of Open Access Scholarly Publications by LIS Lecturers in Southern Nigeria

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Abstract The study examined the awareness and use of open access scholarly publications by Library and Information Science (LIS) lecturers in southern Nigeria. Based on this, three (3) objectives were set out for the study. The descriptive survey design was employed and the questionnaire entitled “Awareness and Use of Open Access to Scholarly Publications Questionnaire” (AUOASPQ) was administered on the entire population of 141 LIS lecturers from which 114 responses were successfully collected. The data collected were analyzed using frequency counts, percentages, mean and regression analysis. The study revealed a high level of usage of open access publications by both senior and junior LIS lecturers and that the awareness of open access concepts accounts for the tendency of LIS lecturers in southern Nigeria to use open access publications. The study recommends that efforts should be geared towards inculcating the awareness and use of open access especially through enabling infrastructure and enacting policies such as mandatory deposit of scholarly works in open access archives.

Keywords Open Access Publication, Awareness, Use, Library and Information Science, Scholarly Publication

1. Introduction

Scholarly publication is a broad term reflecting various processes through which scholars showcase and exchange information with one another in the course of knowledge creation[11]. The system of scholarly publication has evolved over time since it came into existence. Information and communication technologies (ICTs) have dramatically changed research practices in terms of scholarly publication by enhancing communication among scientists; access to information of all kinds; and by the provision of a greater variety of publication and dissemination platforms[18]. Due to the rapid increase of scholarly output and inflated journal prices, it is becoming practically difficult even for libraries in rich countries to subscribe to journals that are required by their clients. As a response to frustrating journal prices and other accompanying restrictions, the scholarly community has sought for alternative scholarly publishing systems, aimed at wider distribution of scholarly content without price or other copyright restrictions to end users[5],[29],[18]. In 1991, Tim Berners-Lee’s work resulted in the release of the standard for the World Wide Web by CERN[4].

This was the most significant technological development of all, for it set a standard protocol for the exchange of digital

information between computers and led to the explosion in electronic information that profoundly affects lives today[20]. The ability to digitize information to a common standard has allowed scholarly research to be made available, to anyone in remote locations so long as they have access to a computer linked to the World Wide Web. It is this that has catalyzed the development of the emerging scholarly publication model known as open access publication. This model of publishing is used by a wide variety of users with different backgrounds and as such they have different perceptions of its nature. Several studies have identified several factors influencing the use of open access scholarly publication channels by scholars in carrying out their research. References[8],[18],[11] in their studies, have found that researchers’ awareness of open access publication influences their choice of publishing in an open access outlet. By categorizing perceived reasons for users’ interaction with open access and by identifying common patterns, we can gain a more realistic understanding of those interactions. Indeed, published articles require much effort and because they form the basis for academic rewards such as tenure, promotion or future research grants, decisions about where to publish are not lightly taken by lecturers.

While extensive literature can be found focusing on issues relating to open access publishing from the point of view of libraries and publishers, very little have been done on issues influencing authors’ adoption and use of open access. This study will examine the awareness and use of open access scholarly publications by Library and Information Science lecturers in southern Nigeria.

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2. Research Questions

The specific objectives are to:

1. Find out the level of awareness of open access publication concepts by library and information science lecturers in Southern Nigeria.
2. Ascertain the level of usage of open access publications by senior and junior lecturers of library and information science.
3. Find out the relationship between awareness of open access publication concepts and their use by library and information science lecturers.

3. Research Method

The descriptive survey design was adopted for this study. The census sampling method was employed hence the entire population of 141 lecturers from the Departments of Library and Information Science or Archival Studies of the fourteen (14) universities in Southern Nigeria were used as sample for the study[19]. The questionnaire entitled "Awareness and Use of Open Access to Scholarly Publications Questionnaire" (AUOASPQ) was used as the research instrument to elicit responses from the respondents. The questionnaire was constructed based on a 3-point Likert scale (i.e. Agreed, Undecided and Disagreed). The Researcher employed the services of Research Assistants to administer the questionnaire to the respondents in the 14 library schools. Descriptive statistics such as frequency counts, percentages and Mean were used to analyze the data collected for the research questions 1 and 2. While Regression analysis was used to establish the relationship between awareness and use of open access publications for research question 3.

4. Review of Related Literature

Awareness is a pre-requisite to subsequent usage of open access publications unless an individual uses it unknowingly. According to[10], "awareness raises consciousness and knowledge about a certain technology and its personal and social benefits". This view was supported by their study which established awareness as the central determinant of user attitude and behaviour towards technology. In the open access environment, awareness has also been acknowledged as an important factor determining usage of this mode of scholarly communication[28],[13].

Open access concept is still not widely known among researchers from different geographical localities and research disciplines. Some of the studies indicate that open access was an unknown concept to many researchers[7],[15]. A study by[7] for example, revealed that while only 3 percent of 66 respondents at the University of Lagos were aware of the open access concept, 22.7 percent others knew very little about it and a majority (74 percent) of the respondents were completely unaware of open access. It

should be noted that even where open access awareness is reported, the level of understanding was not uniform for different open access terms. For example, a study by[27], established that subject repositories or archives were the most known types to the respondents who claimed to be aware of open access repositories than open access journals. A similar study by[25] revealed different knowledge of open access related initiatives among scholars from a group of health researchers in Cuba. According to this study, while 44.8 percent of the respondents (N = 160) were reported to be aware of open access journals, only 20.7 percent knew about open access repositories. Reference[11] found in his study that the most common known terms or initiatives by researchers were open access journals (59.6 percent respondents) and open access repositories (22.8 percent respondents). Very few respondents knew about specific open access initiatives such as Budapest open access initiative (none), Open access movement, (8.6 percent) and the OA Ister.org (2.9 percent) respectively.

On the contrary,[21] in their study found that only 24 percent of their respondents were aware of open access. Reference[22] reported for the Social Sciences sector at Brescia University in Italy that 44 percent were aware of OA initiatives with 4 percent actually depositing a paper in an archive. However,[27] in the Joint Information Systems Committee/Open Society Institute (JISC/OSI) study of journal authors from mainly developed countries (U.S. and Europe), reported that about two-thirds (67 percent) of those who never published in an OA journal were aware of OA concepts.

Reference[27] carried out a survey of two groups of authors, those who had published in open access journals and those who had not. They found that the prime reason authors had not submitted to open access journals was that they were not aware of suitable titles in their fields. In the same vain [23] reported that poor level of awareness of open access publications among scholars in Nigeria is a prime obstacle to optimizing and strengthening open access in Nigeria and other parts of the developing world. Since most of the open access resources are located in the World Wide Web, it will require access to the web to be able to appreciate their immense benefit. Even those who have access to the internet may not necessarily be aware of the existence of the open access technology, while those who are aware of it may have a misconception of it[6]. This was evident from a survey[21] at the Faculty of Engineering in the University of West Indies (UWI) in Trinidad. The result showed that, of the 79 staff members who responded to the poll, only 18 (i.e. 23 percent) were aware of open access journals; just 6 (i.e. 8 percent) had knowledge of digital archives/repositories and only 2 of the staff members had actually published a paper in an open access journal while none had self-archived their papers. Although some of the researchers at the University had come across open access articles while using online search engines, they were unaware of the fact that the free access is made possible due to the open access initiative.

They however, eulogized search engines for the ease of access to such research information[22]. Reference[11] investigated open access usage to find the extent to which researchers accessed and disseminated scholarly content through open access in Tanzania. It was found that a majority of the respondents (71.7 percent) claimed to access scholarly content through open access and 21.2 percent disseminated their research findings through open access avenues such as open access journals and open access repositories. These same trends have been reported in other studies such as those of [22],[26]. Reference[1] observed that a majority of academics, who disseminate their research, do so in web-based outlets; and through the use of open access initiatives. Based on the foregoing, it should be noted that, many researchers accessed open access content than they published in open access outlets. Reference[12] reported in their study that fewer Tanzanian researchers disseminated their findings through open access channels than those who accessed free online content. Specifically, less than 20 percent of the respondents published in open access outlets as compared to 62 percent of those who accessed free scholarly content from the Internet. The situation whereby researchers publish less than they access content in open access outlets is not peculiar to public universities in Tanzania. In the study done by [14] they found that 57.8 percent of the respondents reported to have submitted papers to open access journals in comparison to 88 percent who acknowledged to have accessed free online content made available by other scholars. Similarly, a survey [9] also revealed that out of 125 respondents, 80 percent of them accessed open access literature and 20 percent used OA for publishing their research output. Similar findings indicated that despite the fact that 66 percent of the respondents claimed to have used open access publication media to access scholarly content at least once in their academic career, only 28 percent of them had actually published using the same media [17].

5. Discussion of Findings

This section presents the findings of the study in line with the research questions using the inputs from the analyzed data gathered from the research questionnaire administered to the respondents. The data collected were subjected to both descriptive and inferential statistics involving frequency counts, percentages, Mean and regression analysis.

The response distribution is as presented in Table 1.

From Table 1, a total of 141 questionnaires were distributed to the respondents and 114 copies were successfully retrieved indicating a response rate of 80.9 percent. According to [3], a 50 percent response rate is considered adequate for analysis and reporting. Based on this, the 80.9 percent response rate for the current study was deemed adequate and as such was used for analysis.

Figure 1 shows the pie-chart distribution of the respondents according to their rank.

Table 1. Response Distribution

S/N	Universities with LIS Department	Questionnaire Administered	Questionnaire Retrieved
1	Abia State University (ABSU)	13	7
2	Ambrose Alli University (AAU)	7	6
3	Babcock University (BU)	9	8
4	Delta State University (DELSU)	17	16
5	Enugu State University of Science & Technology (ESUT)	9	7
6	Imo State University (IMSU)	11	10
7	Madonna University (MU)	7	7
8	Nnamdi Azikiwe University (NAU)	6	6
9	Osun State University (OSU)	8	7
10	Tai-Solarin University of Education (TSUE)	7	7
11	University of Calabar (UNICAL)	13	9
12	University of Ibadan (UI)	13	9
13	University of Nigeria Nsukka (UNN)	11	9
14	University of Uyo (UNIUYO)	10	6
Total		141	114
Response Rate		80.9%	

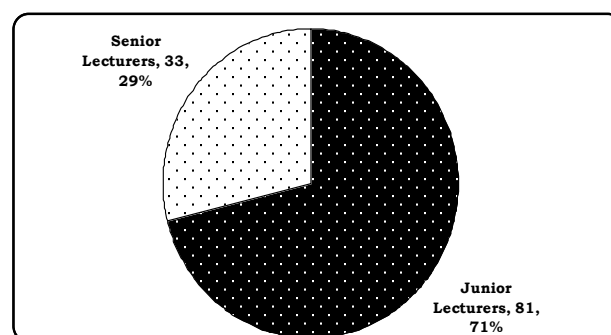


Figure 1. Distribution of Respondents by Rank

As could be observed, there are more junior lecturers (i.e. Lecturer I and II, Assistant Lecturer and Graduate Assistants) 83 (73 percent) than Senior Lecturers (i.e. Professors, Associate Professors and Senior Lecturers) 31 (27 percent) in universities offering library and information science in Southern Nigeria.

Discussion of Findings for Research Questions

The findings from the analysis of data collected for the research questions are discussed in this section.

Note that in the analysis of data retrieved from the respondents the values of 3, 2 and 1 were assigned to the

options; Agreed (**A**), Undecided (**U**) and Disagreed (**D**) respectively using a 3-point Likert scale.

In analyzing responses for the research questions, a benchmark of mean ≥ 2.0 which implies "Agreed" else "Disagreed" was set for this study.

Research Question 1: *What is the level of awareness of open access publication concepts by library and information science lecturers in Southern Nigeria?*

The result of the analysis is presented in Table 2.

Table 2. Level of awareness of open access publications concepts by library and information science lecturers in Southern Nigeria

SN	Types	N	A	U	D	Mean
1	I am aware of author personal websites	105	35	26	44	1.9
2	I am aware of disciplinary archives	109	41	40	29	2.1
3	I am aware of departmental archives	112	39	49	24	2.2
4	I am aware of institutional repositories	114	75	22	17	2.5
5	I am aware of Open Access journals	114	101	13	-	2.8
SN	Nature of open access	N	A	U	D	Mean
6	I am aware that OAPs implies full text availability	110	66	34	10	2.5
7	I am aware that OAPs implies free access	111	62	38	11	2.4
8	I am aware that OAPs are in Online/electronic format	99	57	34	8	2.4
9	I am aware that OA are copyright free at the point of use	110	48	13	49	2.0
10	I am aware that OA requires that authors pay to publish	103	53	15	35	2.2
11	I am aware that OA publications are peer reviewed	100	21	34	45	1.8
SN	Open access initiatives	N	A	U	D	Mean
12	I am aware of the Directory of Open Access Journal (DOAJ)	106	86	20	-	2.8
13	I am aware of the Directory of Open Access Repositories (DOAR)	105	54	32	19	2.3
14	I am aware of Budapest Open Archive Initiative (BOAI)	109	41	46	22	2.2
15	I am aware of the Bethesda Statement on Open Access Publications (BSOAP).	107	28	46	33	1.9
16	I am aware of Berlin Declaration on Open Access to Knowledge (BDOAK)	101	24	43	34	1.9
17	I am aware of BioMed Central Open Access Charter	98	19	39	40	1.8
18	I am aware of Open Archive Initiative Protocol for Metadata Harvesting (OAI-PMH)	108	14	31	64	1.5
19	I am aware of OA search tools e.g. OAIster.	106	5	49	52	1.5

Table 2 presents the responses depicting the level of awareness of open access publications concepts by LIS lecturers in southern Nigeria.

From the result presented in Table 2 it could be observed that from all the 19 items listed against the awareness of open access publications, result from the analysis to responses from the respondents showed that most of the items (12 items) had a mean of 2.0 and above (i.e. mean ≥ 2.0) and this indicates a fairly high degree of awareness of open access publication concepts amongst LIS lecturers in universities in southern Nigeria. This position corroborates [27], [15] where it was found a high level of awareness of open access publication.

On the contrary, several similar studies like those of [7], [15] reported very low awareness of open access publications. Even though the result shows a high level of awareness on open access publications by lecturers of LIS in southern Nigeria, it is clear from Table 3 that their awareness is hinged mainly on the nature and types of open access and not on open access initiatives. Most of the items on awareness of open access initiatives in the current study such as awareness on Bethesda Statement on Open Access, Berlin Declaration on Open Access to Knowledge, BioMed Central Charter on Open access and other key initiatives like Open Access Initiative Protocol for Metadata Harvesting (OAI-PMH), and OA search tools such as OAIster and CiteSeer recorded negative responses in terms of awareness from the respondents. This situation was explained in the findings from similar studies such as that of [25] where they found variances in the knowledge of open access related initiatives among scholars from a group of health researchers in Cuba. In a similar situation [11], it was found that the most commonly known terms or initiatives by researchers were open access journals and open access repositories. Very few respondents knew about specific open access initiatives such as Budapest open access initiative, Open access movement and the OAIster. Reference [21] also reported a low level of awareness of OA initiatives by the Social Sciences sector at Brescia University in Italy.

This low level of awareness of OA could be tied to the fact that the Internet is quite new and still in its infancy in terms of development in many developing countries. This position was implicated in the study done by [6] where it was asserted that since open access resources are located in the World Wide Web, it will require access to the web to be able to appreciate their immense benefit. Low level of awareness of open access either in its concepts, types or initiatives will, in one way or the other, affect its use. This position was supported by [23] where it was reported that the obstacles to optimizing and strengthening open access in Nigeria include the poor level of awareness of open access publications among scholars in Nigeria and other parts of the developing world.

Research Question 2: *What is the level of usage of open access publications by senior and junior lecturers of library and information science?*

The result of the analysis is presented in Table 3.

Table 3 presents the responses depicting the level of usage of open access publications by LIS lecturers in southern Nigeria.

Table 3. Level of usage of open access publications by senior and junior lecturers

SN	Usage of open access publications	Rank	N	A	U	D	Mean
1	I often use OA publications in my research	Senior	31	9	7	15	1.8
		Junior	83	41	11	31	2.1
2	I have some publications in open access outlets	Senior	31	24	7	-	2.8
		Junior	81	44	21	16	2.3
3	I usually retrieve scholarly content from OA	Senior	30	19	11	-	2.6
		Junior	82	67	12	3	2.8
4	I have submitted many papers to open access journals	Senior	31	10	7	14	1.8
		Junior	83	43	24	16	2.3
5	I usually self-archive my works on the internet	Senior	30	-	4	26	1.1
		Junior	81	1	6	74	1.1
6	I only cite and not publish in OA publications	Senior	31	15	4	12	2.1
		Junior	82	18	20	44	1.6
7	OA is usually my first priority when sourcing for materials for my work	Senior	31	21	9	1	2.6
		Junior	82	52	24	6	2.5
8	OA is usually my first priority when deciding on where to publish my work	Senior	31	-	9	22	1.3
		Junior	83	52	5	26	2.3
9	I usually peruse contents from OA journals, repositories, electronic theses and dissertations	Senior	31	13	12	6	2.2
		Junior	83	66	13	4	2.7

The results show that in most of the 9 items listed against the level of usage of OA publications junior lecturers ranked high in more of the items (7 items) than senior lecturers (5 items) thus, it could be deduced that junior lecturers in LIS use open access publications more than senior lecturers. This finding is supported by [24] a study on academic rank of authors publishing in open access journals where they reported that senior faculties were found to author a fewer 46 percent of OA journal articles than 63 percent for junior

faculties. Renwick concluded that there was a significant tendency for junior faculty members who are un-tenured to publish in OA journals more than for senior faculty members.

The current study reported that both senior and junior lecturers exhibit a similar level in terms of high priority in sourcing OA materials for their work and also in their rate of retrieving OA contents. This finding conforms to [2], where they asserted that academics in Nigeria are embracing open access resources since libraries cannot satisfy their information needs. Reference [24] in a study on the knowledge and use of open access resources by academics in the medical sciences of the University of the West Indies found that there is a high level of usage of open access resources by faculty in their research and professional growth.

From the Table 3 it could be observed that the high level of usage of open access publications by both senior and junior lecturers can only be accounted for in terms of sourcing and retrieving its content for their research work as the result show that both categories of lecturers (mean=1.1) rarely self archive their work on the Internet. This finding agrees with [17] where they found that despite the fact that 66 percent of the respondents claimed to have used open access publication media to access scholarly works, only 28 percent of them had actually published using the same media. In a similar study [12], it was reported that fewer Tanzanian researchers disseminated their findings through open access channels than those who accessed free online content. Even at that, junior lecturers have more papers (mean=2.3) in OA journals than senior lecturers (mean=1.8). This result buttressed [16] where it was reported that, one advantage of OA journals is that they are faster to publish and speed of publication can be a significant concern for pre-tenured faculty (junior lecturer) with a ticking tenure clock. They further pointed out that there is the possibility for professors not to fancy OA journals which are relatively newer and less known than non-OA journals and that, professors are inclined to publish in a familiar journal with which they have established a working relationships.

Research Question 3: What is the relationship between awareness of open access publication concepts and their use by library and information science lecturers in Southern Nigeria?

The result of the analysis is presented in Table 4.

Table 4 presents the result from the regression analysis of responses depicting the relationship between awareness of open access publication concepts and their use.

Table 4. Regression Analysis of Awareness of Open Access Publication Concepts on the Use of Open Access Publications by LIS Lecturers

N	Mean for Level of Awareness of open access	Mean for Level of Use of Open Access	r	Coefficient of Determination r^2	Adjusted r^2
114	2.14	2.11	0.226	0.051	0.042

The results as shown in Table 4 depict a mean score of 2.14 and 2.11 for the respondents' level of awareness and use of open access respectively. Since the mean is greater than the benchmark of 2.0 (i.e. mean > 2.0), it implies that there is a high degree of awareness and usage of open access publications amongst LIS lecturers in universities in southern Nigeria. The result in Table 4 also show that the coefficient of determination $r^2 = 0.051$, this implies that 5.1% tendency for LIS lecturers to use open access publications can be predicted or accounted for by their level of awareness of open access concepts. Thus, usage of open access publications by LIS lecturers is a function of their awareness of open access concepts.

This position corroborates those of [28], [11] where they reported that awareness is an important factor determining usage in the open access environment. Although, studies such as [27], [15] found a high level of awareness and use of open access publications, several similar studies like that of [7] reported very low awareness and use of open access publications. These results suggest the need for more awareness creation on behalf of researchers so that they benefit from opportunities availed by access and dissemination of open access scholarly content.

Reference [27] a survey of two groups of authors, i.e. those who had published in open access journals and those who had not. Found that the prime reason authors had not submitted to open access journals was that they were not aware of suitable titles in their fields. And according to [23], poor level of awareness of open access publications among scholars is a major obstacle to optimizing and strengthening open access in Nigeria and other parts of the developing world.

However [27], in the Joint Information Systems Committee/Open Society Institute (JISC/OSI) study of journal authors from mainly developed countries (U.S. and Europe), reported that about two-thirds (67 percent) of those who never published in an open access journal were aware of open access concepts. Similarly [21], study on Social Sciences sector at Brescia University in Italy reported that 44 percent of authors were aware of open access initiatives with only 4 percent actually depositing a paper in an open access archives. Both reports are in agreement with the finding of the current study that only a fraction i.e. 5.1% of the tendency for authors to publish in open access is accounted for by their level of awareness of open access concepts.

Another angle to these mixed reports on the awareness and use of open access publications by authors could be ascribed to [6] where it was asserted that since open access resources are located in the World Wide Web, it will require access to the web to be able to appreciate their immense benefit and that authors who have access to the internet may not necessarily be aware of the existence of open access technology and vice versa, while those who are aware of it may have a misconception of it. They also inferred that, that the low level of awareness of open access in developing countries could be tied to the fact that the Internet is quite new and is still in its infancy in terms of development in

many of these countries and by implication, a low level of awareness of open access either in its concepts, types or initiatives will in one way or the other, affect its use.

6. Conclusions

The overwhelming availability and benefits of open access publications cannot be overemphasized. Even at that, studies have revealed a mixed report on its use or adoption by scholarly community. From the current study, it is obvious that the awareness of open access concepts accounts for the tendency of Library and Information Science lecturers in southern Nigeria to use open access publications. That notwithstanding, the level of usage of open access publications was quite high for both senior and junior lecturers. This is true since those who unaware of open access concept unknowingly consummate its content over the internet or rather those who do not publish in open access channels (online), at least, resort to it for even more current literature.

7. Recommendations

Based on the findings of the study the following recommendations were made by the researcher;

1. Efforts should be geared towards inculcating the awareness of the concepts, techniques, technologies and benefits of open access in scholarly communities.
2. Universities should develop and encourage open access strategies such as institutional repositories, open access archives etc.
3. University management should develop enabling infrastructure and formulate policies that would encourage mandatory deposit of scholarly works in open access archives.

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