
OPEN ACCESS RESOURCES ON RESEARCH PRODUCTIVITY OF LIBRARIANS IN STATE UNIVERSITY LIBRARIES IN BAYELSA STATE, NIGERIA



Godwin Oberhiri-Orumah

Federal Polytechnic Ekowe, Bayelsa State, Nigeria
orumahwin@federalpolyekowe.edu.ng

Jerry Eyerinmene Friday

Federal University Otuoke, Bayelsa State, Nigeria
fridayjerry65@gmail.com

ABSTRACT

The study examined the influence of the use of open-access resources on the research productivity of librarians in state university libraries in Bayelsa State, Nigeria. It adopted a descriptive survey research design. The study population consisted of twenty-four (24) librarians in two state university libraries in Bayelsa State, Nigeria. The study sample comprised twenty-one (21) librarians, which was drawn using the total enumeration sampling technique. An online questionnaire was employed for data collection. The instrument was validated by senior lecturers in Library and Information Science and Measurement/Evaluation at Niger Delta University, Bayelsa State, Nigeria. A reliability test was not conducted on the instrument based on the knowledge that a valid test tends to be reliable. Mean, standard deviation, straightforward percentages, and linear regression were used for data analysis. The data analysis

showed that librarians in state university libraries in Bayelsa State, Nigeria, used open-access resources to a great extent; the level of their research productivity was shallow; their use of the resources had a positive but insignificant influence on their research productivity. The research suggested that librarians should explore more outlets that grant them access to more open-access resources and undergo digital literacy skills training to sharpen their digital literacy and enable them to take full advantage of the resources for their research activities.

Keywords: *Influence, open access resources, research productivity, close-access, libraries*

INTRODUCTION

The rise of the Internet has led to the widespread availability of online information resources globally. These resources can be broadly categorized into closed-access and open-access resources. Closed-access resources entail online information that requires payment or the acquisition of copyright or licensing before use. In contrast, open-access resources encompass information available on the Internet that can be utilized free of charge without legal or copyright constraints.

Open access resources have been defined as any literature without restrictions which are freely available on the Internet which can be read, downloaded, copied,

shared, printed, searched for or linked to articles' full texts, crawled for indexing, converted to data through software, or adapted for any other lawful purpose, without financial, legal or technical limitations (Pomfowaa & Ofori, 2020). Suber (2013) sees open access resources as online research outputs published in an academic format without access barriers, including membership fees and usage restrictions such as copyright and licensing restrictions.

Inclusive of research reports, conference papers, research articles, audio/video lectures, e-newspapers, institutional repository, subject repository, self-archiving, blogs, open journals, wiki, personal websites, e-books, e-mail list

services, forums, Reach Site Summary (RSS) feeds, document sharing networks, open access resources are produced and used using open source institutional repository software as well as open journal and harvester systems (Bala et al., 2018; Rao, 2012).

The attributes of open-access resources have enabled scholars or academics to enjoy economy, ease, and convenience in using them for research compared with their closed-access counterparts. As a result, these information resources have become popular with academics in all disciplines and institutions of higher learning worldwide.

Kumar and Bansal (2008) observed that authors in different fields of specialization use and cite open-access articles in their research and cite them more than their print equivalents in scholarly literature. This suggests that academics use open-access resources in their research activities to increase their research productivity.

Research productivity has gained popularity in terms of its use in scholarly literature. Several

synonyms have been associated with the concept.

Okonedo et al. (2015) observed that publication output, publication productivity, research output, and knowledge productivity are words used in place of research productivity in academic literature. A cursory examination of literature suggests that many scholars or authors see research productivity as a product, while others conceive it as a process. In one view, Okafor (2011) characterized research productivity as the process through which academics contribute their knowledge to the existing body of knowledge.

Hoffman et al. (2014) suggested that it involves completing research activities and sharing the findings. Caminiti et al. (2015) defined research productivity as the result of research engagement and also as the quantity of publications generated by a researcher (Abramo, 2014). In the context of librarians, research productivity is seen as all the studies conducted by academic librarians in universities during their careers within a specific timeframe (Okonedo et al., 2015). Okonedo et al. noted that the research productivity of librarians

in Nigeria principally consists of textbooks, chapters in books, journal articles, conference/workshop proceedings, occasional papers, monographs, edited books, bibliographies, abstracts, and indexes published. In a university, research productivity is very crucial to the career progression of librarians.

Research productivity has become a global criterion for determining the growth of librarians in universities in any part of the world. In the context of Nigeria, it has been observed that research productivity is adopted as a core parameter for the promotion assessment of librarians in the nation's universities (Okonedo, 2015).

This condition was introduced in addition to the previous conditions for their progression, including 2-4 years' post-promotion work experience, availability of vacancies, and satisfactory performance (Ogbomo, 2010). To meet this criterion, librarians in Nigerian university libraries have been conducting research and publishing their results. Globally, librarians' research in universities and other tertiary institutions of learning has

captivated the attention of researchers in Library and Information Science. These researchers have focused their studies on the patterns, processes, status, extent, etc., of librarians' research in institutions of higher learning.

In current research, there is a focus on analyzing the factors that impact the research output of university librarians. Various studies delve into the correlation between the utilization of electronic information resources and the research productivity of librarians in global academic institutions. A key objective of these studies is to evaluate the effect of open-access resources on the research productivity of these librarians.

Statement of the Problem

Academics around the world have recently been using open-access resources for research. This has helped them enjoy economic convenience in gathering scholarly literature for research. It has also improved their publication output and enhanced their chances of promotion. However, preliminary investigation by the researchers reveals that the research productivity of librarians in public university libraries in Bayelsa State, Nigeria,

seems discouraging. This could result from the librarians' need to use open-access resources adequately in their research activities. It is observed that there has been a steady drop in the publication output of librarians in Nigerian federal universities despite the abundance of open-access resources (Okoye & Ejikeme, 2011). This brought about career stagnation for some of these librarians. Without research to probe and reverse this ugly trend, these librarians may suffer career frustration and job dissatisfaction.

Moreover, they could become less committed to their professional duties. A careful overview of the literature reveals to the researcher that research has yet to examine the influence of open-access resources on the research productivity of librarians in public universities in Bayelsa State, Nigeria. The existing related previous studies have only been conducted in North-West Nigeria (Musa, 2016) and Ghana (Amponsah et al., 2021). Hence, this study investigated the influence of the use of open-access resources on the research productivity of librarians in state university libraries in Bayelsa State, Nigeria.

Objectives of the Study

The cardinal purpose of this study was to explore the influence of the use of open-access resources on the research productivity of librarians in state university libraries in Bayelsa State, Nigeria.

Specifically, the study was designed to: Identify the extent of use of open access resources by librarians in state university libraries in Bayelsa State, Nigeria; Assess the level of research productivity of librarians in state university libraries in Bayelsa State, Nigeria; Evaluate the influence of open access resources on research productivity of librarians in state university libraries in Bayelsa State, Nigeria.

Research Questions

The following research questions were posed to guide the study:

How much do librarians use open-access resources in state university libraries in Bayelsa State, Nigeria?

What is the level of research productivity of librarians in state university libraries in Bayelsa State, Nigeria? How do open-access resources influence librarians' research productivity in

Bayelsa State, Nigeria state university libraries?

Hypothesis

The following hypothesis tested at a 0.05 level of significance was formulated to guide the research: HO1: The use of open-access resources does not significantly influence the research productivity of librarians in state university libraries in Bayelsa State, Nigeria.

Review of Related Literature Extent of Usage of Open Access Resources by Librarians in Public University Libraries

Several studies have demonstrated that academics, including university librarians, use open-access resources to different degrees. Utulu and Bolarinwa (2009) found that two first-generation Nigerian university academics made insignificant use of open-access resources, with academics in the science disciplines being more likely to use the resources than their counterparts in the humanities.

This is opposed to a subsequent research result from Kerala universities where lecturers in the social sciences used the resources more than their counterparts in the

sciences (Jose, 2014)—in a study focused on a particular group of lecturers, Obuh and Bozimo (2012) discovered that both senior and junior Library and Information Science lecturers in Southern Nigeria highly adopted open access publications.

Four years later, another study from Nigeria showed that 65 out of 174 librarians in government-owned universities in North-West Nigeria used open-access publications for their research (Musa, 2016).

In the succeeding year, Oyedipe et al. (2017) came up with the finding that the level of use of open-access resources by lecturers in arts and education faculties at Olabisi Onabanjo University, Nigeria, exceeded the level of their knowledge of the resources which the study found to be high. Bala et al. (2018) reported that 49.40% of a sample of research scholars at Punjab Agricultural University exploited open-access resources for their research.

During the COVID-19, the fallout of Nigerian research associated with a very high extent of use of electronic journals, electronic books, electronic newspapers, electronic

databases and subject gateways with lecturers in the Faculty of Basic Medical Sciences at Ambrose Alli University, Ekpoma, Edo State, Nigeria, while a low extent of utilization was connected with audio/video lectures (Odiachi & Obinyan, 2020).

The outcome of a reasonably current Ghanaian study demonstrated that lecturers at Dartum University in the nation utilized open-access resources remarkably (Amponsah et al., 2021).

Level of Research Productivity of Librarians in Public University Libraries Research has pointed out the level of publication output of librarians in universities around the globe. Earlier research by Ogbomo (2010) showed that the generality of librarians and Library and Information Science Lecturers at Delta State University, Abraka, Nigeria, needed to research and publish adequately. In a study with a broader scope, Oni and Eziam (2014) ascribed 21 or more publications to a few librarians from a study sample of fifty-five (55) librarians in five university libraries (1 federal, 1 state, and 3 private) in Edo and Delta States, Nigeria. Subsequent results from Nigeria indicated that the publication

productivity of librarians in federal and state university libraries in South-West Nigeria between 2009 and 2014 was relatively high, with more papers concentrated in international journals (Okonedo, 2015). In joint research, Okonedo et al. (2015) associated high research productivity with a sample of 142 librarians drawn from government-owned universities in South-West Nigeria.

After a couple of years, Ghana found that the research output of 62 full-time and 134 part-time lecturers at Dartum University was low (Amponsah et al., 2021). The following year, a Nigerian study established that the publication output level could have been higher concerning librarians in public universities in northeast Nigeria (Babalola & Bakum, 2022).

The same year was connected with the outcome that the publication productivity of librarians at Delta State University, Abraka, Nigeria, and Niger Delta University, Bayelsa State, Nigeria, was low (Igere, 2022). However, a very current result by Olanusi et al. (2023) showed that the level was moderate in connection with 203 academic

librarians in public universities in South-West Nigeria.

Influence of the Use of Open Access Resources on Research Productivity of Librarians in Public University Libraries. Very few recent studies provide an understanding of the influence of the use of open-access resources on the research productivity of librarians in universities worldwide. However, a smattering of studies suggests that librarians' use of open-access resources could positively or negatively influence their research productivity. Umar et al. (2017) observed that scholars' adoption of open-access resources has provided them with benefits such as saving subscription costs, enhancing their research visibility, and increasing their citation rate.

This indicates that academics, including librarians, could use open-access resources to boost their research productivity. Research findings have given a clue to this. For instance, fewer Tanzanian researchers were found to have communicated their research results via open-access channels than those who accessed open-access resources (Dulle et al., 2010). Umar et al. (2017) investigated

the factors influencing the use of open-access resources for research productivity by librarians in federal universities in North-West Nigeria, using a sample of 174 librarians.

The researcher discovered that the librarians' use of the resources significantly positively affected their research output. However, a Ghanaian study found the influence very weak but significant on lecturers at Dartum University (Amponsah et al., 2021).

METHODS

The study employed a descriptive research design. The study population comprised twenty-four (24) librarians in two state university libraries in Bayelsa State, Nigeria. The study sample consisted of twenty-one (21) librarians, who were drawn using the total enumeration sampling technique. An online questionnaire titled "Influence of Open Access Resources' Use on Research Productivity of Librarians Questionnaire (IOARURPLQ)" was used for data collection. The questionnaire consisted of two sections: Section A and B. Section A gleaned information on the background of the respondents while Section B was composed of five clusters, with Section A

dealing with "Librarians' Use of Open Access Resources"; Section B with "Librarians' Extent of Use of Open Access Resources"; Section C with "Research Productivity of Librarians"; Section D with Librarians' Level of Research Productivity"; and Section E with "Influence of Open Access Resources' Use on Research Productivity of Librarians."

Cluster A items were weighted on a scale of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1), while Cluster B items on a scale of Very Great Extent (4), Great Extent (3), Low Extent (3) and Very Low Extent (4).

For Cluster C, respondents were asked to state the number of their publications to enable the researchers to measure their research productivity. As for Cluster D, the classification scheme of Very High (81 and above), High (61-80), Low (41-60), and Very Low (Below 40), adopted from Madu and Akinboro (2012), was used to measure the librarians' level of research productivity.

On the other hand, Cluster E items were weighted on a scale of Strongly Agree (4), Agree (3), Disagree (2), and Strongly

Disagree (1). The instrument was validated by senior lecturers in Library and Information Science and Measurement/Evaluation at Niger Delta University, Bayelsa State, Nigeria. A reliability test was not conducted on the instrument based on the assertion by Nworgu (2015) that a valid test tends to be reliable. Data were collected using Google Forms.

Twenty-four copies of the questionnaire were administered to the librarians via personal WhatsApp accounts of the librarians, Bayelsa State chapter Whatsapp group of the Nigerian Library Association, and the Chartered Librarians of Nigeria WhatsApp group.

Respondents were directed to click on a link that provided them access to the questionnaire, which they completed anonymously. Data collection spanned between 12th October 2023 and 15th December 2023. Of the twenty-four copies of the questionnaire distributed, twenty-one were adequately completed, returned, and found fit for data analysis. This generated a response rate of 87.50%.

The data collected were entered into Google Sheets for analysis.

Mean, standard deviation, straightforward percentages, and linear regression were adopted for data analysis. The decision rule adopted for interpreting results obtained from data analysis was that Cluster A items with weighted means less than 2.50 would be regarded as Disagreed, while those whose weighted means were equal to or greater than 2.50 would be regarded as Agreed. For Cluster B, items with weighted means that fell into the ranges of "3.50-4.49", "2.50-3.49", "1.50-2.49", and "0.50-1.49" would be considered as "Very Great Extent (4)", "Great Extent (3)", "Low Extent (2)" and "Very Low Extent (1)" respectively.

The grand mean for this cluster was also interpreted in the same way. As for Cluster E, items with weighted means less than 2.50 would be viewed as Disagreed or "Negative Influence," while items with means equal to or greater than 2.50 would be considered as Agreed or "Positive Influence." The aggregate mean in this section was also interpreted in the same way.

Table 1: Mean ratings of responses on extent of use of open access resources by librarians in state university libraries in Bayelsa State, Nigeria

In determining the appropriateness of the value of R², the study adopted the criterion in marketing scholarly research whereby R² values of 0.75, 0.50, and 0.25 are regarded as substantial, moderate, and weak, respectively (Sarstedt & Mooi, 2019).

RESULTS

This section presented the findings of the research in line with the research questions and hypothesis earlier formulated to guide the study.

Research Question 1: What is the extent of use of open access resources by librarians in state university libraries in Bayelsa State, Nigeria?

S/N	Items	X	SD	Remark
1.	Open online research projects			
2.	(electronic theses/dissertations)	4.32	0.43	VGE
3.	Open online conference proceedings	4.47	0.45	VGE
4.	Open online audio/video lectures	2.49	0.25	LE
5.	Open online books	3.35	0.34	GE
6.	Open online journals	4.49	0.45	VGE
7.	Open online serials (electronic newspapers/magazines)	2.39	0.24	LE
Grand Mean and Standard Deviation		3.59	0.36	VGE

Key: X; SD=Standard Deviation; VGE=Very Great Extent; GE: Great Extent; LE=Low Extent; VLE=Very Low Extent

Table 1 shows that the grand mean is 3.59. This falls into the range of “3.50-4.49”, which was earlier defined as “Very Great Extent”. Thus, librarians in state university libraries in Bayelsa State, Nigeria use open access resources to a very great extent.

Research Question 2: What is the level of research productivity of librarians in state university libraries in Bayelsa State, Nigeria?

Table 3: Percentage responses on level of research productivity of librarians in state university libraries in Bayelsa State, Nigeria

Levels of Research Productivity Percentage of Respondents	Number	of	Respondents
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Very High (81 and above)	0		0%
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High (61-80)	2	9.524%
Low (41-60)	7	33.333%
Very Low (Below 40)	12	57.143%
Grand Total	21	100%

Table 2 indicates that the research productivity of most of the respondents 12 (57.143%) falls within the range of Very Low (below 40 publications). Hence, the level of research productivity of librarians in state university libraries in Bayelsa State, Nigeria is very low.

Research Question 3: What is the influence of use of open access resources on research productivity of librarians in state university libraries in Bayelsa State, Nigeria?

Table 3: Mean ratings of responses on influence of use of open access resources on research productivity of librarians in state university libraries in Bayelsa State, Nigeria

S/N	Items	X	SD	Remark
	My use of OAR helps me to publish more textbooks.	3.17	0.37	Agree (Positive)
1.	My use of OAR helps me to publish more book chapters.	3.22	0.32	Agree (Positive)
2.	My usage of OAR enables me to publish more journal articles.	4.43	0.44	Agree (Positive)
3.	My use of OAR helps me to publish more conference/workshop proceedings.	4.11	0.41	Agree (Positive)
4.	My use of OAR helps me to publish more occasional papers.	2.40	0.24	Disagree (Negative)
5.	My use of OAR enables me to publish more monographs.	2.20	0.22	Disagree (Negative)

Residual	3412.651	14	243.761			
Total	3417.938	15	202.905			
R =0.039 R Square =0.002 Adjusted R Square=-0.070, $\beta =0.039$, St. Err. Est. = 15.613						

Table 4 indicates that the R2 is 0.002, which is much less than the criterion point of 0.25, earlier defined as "weak." Therefore, a very insignificant 0.20% of the total variance in the librarians' research productivity is explained by their use of open-access resources. Thus, the hypothesis is upheld. Hence, librarians' use of open-access resources in state university libraries in Bayelsa State, Nigeria, does not significantly influence their research productivity.

DISCUSSION

The study demonstrated that librarians in state university libraries in Bayelsa State, Nigeria, used open-access resources to a great extent. The finding is contrary to the fallout of the research by Musa (2016), which revealed that less than half of a sample of 174 academic librarians in public universities in North-West Nigeria

used open-access resources for research.

The library's heavy use of open-access resources in the current research likely resulted from these librarians gaining more awareness of open-access resources than librarians working when Musa conducted his study. They could have also known more and better sources of resources and acquired more competence in accessing them. The massive use of the resources could also be a product of the free cost and convenience associated with accessing and using the resources.

The research also showed that librarians' level of research productivity in state university libraries in Bayelsa State, Nigeria, could have been higher. This is in line with the outcome of the study by Ogbomo (2010), which indicated

that most of the librarians and Library and Information Science Lecturers at Delta State University, Abraka, Nigeria, needed sufficient research and publishing activities.

It also aligns with Oni and Eziam (2014), who credited 21 publications to a few librarians from public and private universities in Edo and Delta, Nigeria. The result further concurs with that of Babalola and Bakum (2022), who revealed that the level of publication productivity of librarians in public universities in northeast Nigeria was shallow. However, the finding varies from that of the study by Okonedo (2015), which indicated that the research output of librarians in federal and state university libraries in South-West Nigeria between 2009 and 2014 was relatively high. The tendency of some of the librarians in the current study to see research and publishing as something that should be done only when they need promotion could be accountable for the shallow level of their research output.

The study also indicates that librarians' use of open-access resources in state university libraries in Bayelsa State, Nigeria,

has a positive but insignificant influence on their research productivity. This varies from the outcome of the research by Umar et al. (2017), which reveals that the use of open-access resources by librarians in federal universities in North-West Nigeria significantly affects their research productivity.

The result also disagrees with that of the study by Amponsah et al. (2021), which demonstrated a feeble but significant influence of open-access resources' use on the research productivity of lecturers at Dartum University in Ghana. The tendency of a growing number of librarians in the study area to see research as a necessity for only the sake of promotion and not as a daily necessity contributing to the existing body of knowledge in their field could have contributed to this finding. The abundance of open-access resources is not a powerful force that can drive librarians to engage extensively in research and scholarly communication.

CONCLUSION

The study examined the influence of using open-access resources on the research productivity of librarians in state university libraries in Bayelsa State, Nigeria.

Although the librarians heavily used open-access resources, their level of research productivity could have been higher. Results further indicated that the librarians' use of open-access resources had a positive but insignificant influence on their research productivity.

RECOMMENDATIONS

In the light of the findings of the research, it was recommended that: Librarians in state universities libraries in Bayelsa State, Nigeria, should explore platforms which provide access to more open access resources to enhance their research productivity; Librarians should undergo digital literacy skills training to hone their digital literacy and make the best use of open-access resources for research.

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Appendix

Distribution of Respondents of the Study

S/N	Names of Universities	Number	of
Respondents	Percentage of Respondents		
1.	Niger Delta University	14	66.67%
2.	University of Africa, Toru-Orua	7	33.33%
	Total	21	100%