Influence of Use of Open Access Resources on Research Productivity of Librarians in Public University Libraries in Benue State, Nigeria

Doris Mwuese Bem-Bura and **Susan Mbalamen Ianna**
University Library and Information Services,
Benue State University, Makurdi-Nigeria

Abstract
The study delved into the influence of use of open access resources on research productivity of librarians in public university libraries in Benue State, Nigeria. This was achieved via a descriptive survey research blueprint. Fifty-five (55) librarians and thirty-nine (39) librarians in two government-owned university libraries in Benue State, Nigeria, made up the study population and sample respectively. The sample was obtained using total enumeration sampling method. A structured questionnaire, which was designed by the researcher, was to gather data for the research. Its validity was established by two Library and Information Science lecturers at Niger Delta University, Bayelsa State, Nigeria. The researcher bypassed pilot test on the basis of the knowledge that a valid test is probably reliable. Data were collected through the help of research assistants. Data gleaned were subjected to analysis using weighted mean, standard deviation, simple percentage and linear regression. The outcome of data analysis pinpoints that the librarians heavily use open access resources for research; the level of their research productivity is very low; their use of the resources has a positive but insignificant influence on their research productivity. The research recommended that the librarians should explore more open access resource platforms that provide them access to more open access resources and undergo digital literacy skills training to hone their digital literacy to enable them enhance their research productivity.

Keywords: Influence, use, open access resources, research productivity, librarians, public university libraries, Benue State, Nigeria

Introduction

Conducting research and communicating research findings is an integral part of the work of an academic in any institution of higher learning across the world. The success of these activities mainly depends on an academic's use of relevant scholarly literature in his or her area of specialization. However, an academic's use of such literature could be frustrated by lack of access to the literature. This is why the ability of scientists and academics to access scientific literature helps them to construct fresh investigations, put together research papers as wells as push back the frontiers of their knowledge (Togia & Korobili, 2014). Most importantly, it enables them to publish research papers. In recent times, however, these activities of academics have been largely thwarted by growing cost of accessing scholarly literature, leading to concerns among the global academic community. These concerns have resulted in a number of initiatives, one of the most popular of which is called "open access movement". Scholars (Frandsen, 2009; Rossini, 2012) observe that open access movements are designed to discontinue the practice whereby scholars have to pay dearly for disseminating their research papers. These movements include the 2002 Budapest Open Access Initiative, the 2003 Bethesda Statement and the 2003 Berlin Open Access declaration (Kassahun & Nsala, 2015). The movements paved way for open access in communicating scholarly papers.

Open access could be defined as a means of disseminating scholarly papers by which individuals are allowed to use online published scholarly literature without having to pay for its use or having to take permission from the copyright holder. It is seen as the process whereby external scholarly literature is made available, visible and used without restraint (Sambe & Raphael, 2015). Open access has been achieved through gratis open access, which involves providing free online access

to scholarly papers, and libre open access, which entails granting free online access to scholarly literature whereby users will have to obtain additional usage rights that are usually granted through various Creative Commons Licenses (Suber, 2008; Suber, 2012). Open access brought into existence a category of electronic information resources, called "open access resources".

In this study, open access resources are used to refer to information resources provided on the Internet, which can be used by individuals free of charge. Open access resources have been viewed as any free literature provided on the public internet, which allows users to read, download, copy, share, print, locate or connect to their complete texts, crawl them for indexing, convert them as data to software, or use them for any other legal purpose, without monetary, legal or technical restrictions apart from restrictions barring a user from securing access to the internet (Pomfowaa & Ofori, 2020). In the opinion of Suber (2013), they are products of academic research provided on the Internet, devoid of access limitations such as payment of membership fees, and usage constraints, for instance, copyrights and licensing restrictions. Examples of these information resources are proceedings and reports of conferences and investigations; research papers, audio/video lectures; electronic forms of books, newspapers and mail list services; institutional and subject repositories, self-archiving, blogs, open journals, wiki, personal websites, forums, Reach Site Summary (RSS) feeds and networks for disseminating documents. Open access resources are created and used by means of open source institutional repository software, open journal systems and open harvester systems (Bala et al., 2018; Rao, 2012). Open access resources are known by web presence, absence of access barriers and by the exclusive use of copyright by authors (Rowlands & Nicholas, 2006). These features have drawn the attention of academics and researchers to open access resources around the globe. A study by Kumar and Bansal (2008) reveals that authors are not only using and citing open access papers in research in their diverse fields of study, but also citing these publications more than their print equivalents. Thus, academics' use of open access resources is likely to impact their publications in any field of study. In other words, it is likely to influence their research productivity.

As a concept, research productivity has been widely used in academic literature. Several synonyms have been used in its place in the literature. Okonedo et al. (2015) observe that other terms which are often used in place of research productivity include publication output, research output, publication productivity and knowledge productivity. A critical review of literature suggests that a good number of scholars or authors see research productivity as a product, while a few others view it as a process. In the first perspective, Caminiti et al. (2015) see research productivity as the result of research undertakings. Abramo (2014) conceives it as the number of papers which has been produced by a researcher. In the context of librarians, it is the sum of studies executed by academic librarians in universities in the course of their work during a specific period of time (Okonedo et al, 2015). In the second view, Okafor (2011) sees research productivity as the process by which academics add what they have known to what is already known. Hoffman et al. (2014) define it as the process of finishing a research and communicating what has been found. When viewed as a product, a number of publications make up research productivity of academics, and this could vary from institution to institution and from country to country. In Nigeria, academic librarians are required to publish journal articles, textbooks, edited books, book chapters, conference or workshop papers, occasional papers, monographs, bibliographies, indexes and abstracts (Okonedo et al., 2015). Globally, academic librarians are not just required to publish these papers. It has much to do with whether they would grow in their career or not.

Research productivity has become a universal condition for career progression of an academic librarian, in any part of the world, including Nigeria. Scholars have not only attested to the adoption of research productivity as a major yardstick for promotion appraisal of librarians in Nigerian universities but also to its relevance in their occupational life (Oluruntoba & Ajayi, 2006; Okonedo, 2015). This condition was introduced in addition to the three extant requirements for their promotion, including 2-4 years' work experience after the last promotion, availability of vacancies and satisfactory performance (Ogbomo, 2010). Like their counterparts in other parts of the world, librarians in Nigerian university

libraries have been researching and informing the world about their findings (Oloruntoba & Ajayi, 2006). These activities of librarians in Nigerian universities and in foreign universities have been examined in Library and Information Science-based research across the universe.

Researchers have attempted to examine research undertakings of librarians so as to unravel the pattern, process, status, extent, etc. of their research and scholarly communication. Recently, a great deal of studies has been executed to identify the probable factors that influence research productivity of librarians in universities across the world. Researchers have been lately interested in understanding how the use of electronic information resources affects research productivity of librarians in universities across the globe. Most of these studies currently dwell on how the use of open access resources impacts research output of these librarians.

Statement of the Problem

In the 21st century, academics have been increasingly utilizing open access resources for their research. This practice helps them only not to enjoy economy and convenience in accessing scholarly literature for conducting research but also enables them to enhance their chances of publishing an impressive number of academic papers. In addition, it helps them to meet the publication requirement for promotion and enjoy steady growth in their job. However, preliminary investigation by the researcher shows that research productivity of librarians in public university libraries in Benue State, Nigeria seems not to live up to expectations. This could be as a result of the librarians' lack of sufficient use of open access resources in their research. It is observed that there has been a consistent drop in the research output of librarians in Nigerian federal universities, even when there are a lot of open access resources (Okoye & Ejikeme, 2011). This could have led to career stagnation of some of these librarians. If this ugly trend is not checked and corrected, these librarians may face frustrations in their job and they could become unhappy with their work. A close look at literature reveals to the researcher that no study has investigated the effect of use of open access resources on research output of librarians in government-owned universities in North-Central Nigeria. Related available research has only been conducted in North-West Nigeria (Musa, 2016) and in Ghana (Amponsah et al., 2021). The study, therefore, examined the influence of use of open access resources on research productivity of librarians in public university libraries in Benue State, Nigeria**.**

Objectives of the Study

The research primarily set out to figure out the influence of use of open access resources on research productivity of librarians in public university libraries in Benue State, Nigeria**.** The study was particularly meant to:
1. Unravel the extent of use of open access resources for research by librarians in public university libraries in Benue State, Nigeria.
2. Assess the level of research productivity of librarians in public university libraries in Benue State, Nigeria.
3. Evaluate the influence of use of open access resources on research productivity of librarians in public university libraries in Benue State, Nigeria.

Research Questions

The following research questions were answered in this study:
1. What is the extent of use of open access resources for research by librarians in public university libraries in Benue State, Nigeria?
2. What is the level of research productivity of librarians in public university libraries in Benue State, Nigeria?
3. What is the influence of use of open access resources on research productivity of librarians in public university libraries in Benue State, Nigeria?

Hypothesis
The research tested the following hypothesis at 0.05 probability level:

HO₁: Use of open access resources does not have a significant influence on research productivity of librarians in public university libraries in Benue State, Nigeria.

Review of Related Literature

Level of Usage of Open Access Resources by Librarians in Public University Libraries

Several studies have shown that academics, including librarians in universities, use open access resources to different degrees for the purpose of conducting research. Utulu and Bolarinwa (2009) reported that academics who work in two pioneer Nigerian universities make insignificant use of open access resources, with science-inclined academics being more likely to use the resources than their peers in the humanities. This is contrary to a subsequent finding from Kerala universities where lecturers in the social sciences use open access resources more than those who teach in science disciplines (Jose, 2014). In a study focused on a particular group of lecturers, Obuh and Bozimo (2012) found that both senior and junior Library and Information Science lecturers in Southern Nigeria highly use the resources. Four years later, another Nigerian study demonstrated that 65 librarians out of 174 librarians in public universities in North-West Nigeria employ the resources for their studies (Musa, 2016). The following year, Oyedipe et al. (2017) found that lecturers in educational and art faculties at Olabisi Onabanjo University, Nigeria, use open access resources to an extent which is less than their level of awareness of the resources, which was found to be high. Bala et al. (2018) discovered that 49.40% of a sample of research scholars at Punjab Agricultural University use open access resources for their research. A subsequent Nigerian research by Odiachi and Obinyan (2020) shows a very high extent of use of electronic versions of journals, books, newspapers and databases as well as subject gateways among lecturers in medically-related fields of study at Ambrose Alli University, Ekpoma, Edo State, Nigeria, while a low extent of use was found to have been associated with audio/video lectures. In a fairly-recent Ghanian study, it was reported that lecturers at Dartum University in the country use open access resources to a remarkable extent (Amponsah et al., 2021).

Level of Research Productivity of Librarians in Public University Libraries

A number of studies have established the level of research productivity of librarians in universities across the world. Ogbomo (2010) found that most of the librarians and Library and Information Science Lecturers at Delta State University, Abraka, Nigeria, do not research and publish sufficiently. In a broader study, Oni and Eziam (2014) credited 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, to possessing 21 and more publications. The following year, it was revealed that the research output of librarians in federal and state university libraries in South-West Nigeria between 2009 and 2014 is relatively high, with more of these papers dominant in international journals (Okonedo, 2015). In a collaborative research, Okonedo et al. (2015) ascribed a high level of research productivity to a sample of 142 librarians drawn from public universities in South-West Nigeria. Six years later, Amponsah et al. (2021) reported that the research productivity of lecturers at Dartum University, Ghana, drawn from a sample of 62 full-time lecturers and 134 part-time lecturers, is low. The next year, a Nigerian investigation placed the level of research productivity of librarians in public universities in North-East Nigeria as very low (Babalola & Bakum, 2022). The same year is associated with the result that research output of librarians at Delta State University, Abraka, Nigeria, and Niger Delta University, Bayelsa State, Nigeria, is low (Igere, 2022). In a most recent study, Olanusi, et al. (2023) found a moderate level of research productivity among 203 academic librarians in public universities in South-West Nigeria.

Influence of Use of Open Access Resources on Research Productivity of Librarians in Public University Libraries

Research pointing out the influence of use of open access resources on publication productivity of librarians and other academics in universities across the world is very few and emerging. However, a negligible number of studies suggest that librarians and other academics' use of open access resources could affect their publication output. Umar et al. (2017) note that these information resources have globally helped scholars to spend less on subscription, make their research papers better known and to increase the extent to which they are cited by other academics. This shows that librarians' use of open access resources is capable of enhancing their publication productivity. This has been established by a few very emerging studies. Dulle et al. (2010) found that fewer Tanzanian researchers adopted open access channels to communicate their research results than those who accessed open access resources. In exploring 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, Umar et al. (2017) found a significant positive effect of use of open access resources on research productivity of the librarians. Four years later, Amponsah et al. (2021) came up with the result that there is a very weak but significant effect of use of the resources on research output of lecturers at Dartum University, Ghana.

Methods

The research was carried out in Benue State, Nigeria. The researcher drafted a descriptive survey research plan for conducting the study. The study population was composed of fifty-five (55) librarians in two government-owned university libraries in Benue State, Nigeria. However, thirty-nine (39) librarians constituted the sample of the study. This was selected using total enumeration sampling technique. A self-designed questionnaire titled "Influence of Open Access Resources' Use on Research Productivity of Librarians Questionnaire (IOARURPLQ)" was used to glean data for the study. The instrument was made up of two sections: Section A and B. Section A collected personal details about the respondents, while Section B consisted of five clusters, with Cluster A dealing with "Librarians' Use of Open Access Resources for Research", Cluster B with "Librarians' Extent of Use of Open Access Resources for Research", Cluster C with "Research Productivity of Librarians", Cluster D with "Level of Research Productivity of Librarians" and Cluster E with "Influence of Open Access Resources' Use on Research Productivity of Librarians". Cluster A was weighted on a two-point rating scale of Used (1) and Not Used (0). Cluster B was weighted on a four-point rating scale of Very Great Extent (4), Great Extent (3), Low Extent (2) and Very Low Extent (1). For Cluster C, respondents were asked to state the number of publications they had using scores from 0 to 10 and "Others" for publications beyond 10. Section D was weighted on a four-point scale of Very High (81 and above), High (61-80), Low (41-60) and Very Low (Below 40). This classification system was adopted from Madu and Akinboro (2012). Lastly, Section E was weighted on a four-point rating scale of Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). The validity of the instrument was certified by two Library and Information Science lecturers at Niger Delta University, Bayelsa State, Nigeria. The instrument was not subjected to pilot test on the strength of the assertion by Nworgu (2015) that a valid test is likely to be reliable.

The researcher distributed fifty-five copies of the draft of the instrument to the librarians with the help of two research assistants. Data collection took one month. Out of the fifty-five copies of the questionnaire administered, thirty-nine copies were properly filled in, retrieved and considered suitable for the purpose of analysis. The rate of response to the questionnaire stood at 70.91%. The data gathered were then analysed using weighted mean, standard deviation and simple percentage to provide answers to the research questions. On the other hand, data were analysed by means of linear regression to confirm or reject the hypothesis of the study.

In interpreting the results of data analysis, the researcher followed a decision rule whereby, for Cluster A, items with weighted means which were less than 1.50 were considered as "Not Used", whereas those with means equal to or greater than 1.50 were regarded as "Used". For Cluster B, questionnaire items whose weighted means were less than 2.50 were regarded as "Low Extent" while those with weighted means equal to or greater than 2.50 were regarded as "Great Extent". Its cluster

mean was also interpreted in the same way. With regards to Cluster E, items whose weighted means were smaller than 2.50 were regarded as "Disagreed" or "Negative", while items whose means were equivalent to or less than 2.50 were considered as "Agreed" or "Positive". The same rule was applied in reading meaning into the aggregate mean of this cluster. To test the hypothesis of the study, the researcher decided to adopt the criterion whereby R^2 values of 0.75, 0.50 and 0.25 are respectively regarded as substantial, moderate and weak in marketing-oriented research (Sarstedt & Mooi, 2014).

Results

This part of the research showcased the findings of the study in tables on the basis of the research questions earlier posed to provide direction for the study.

Research Question 1: What is the extent of use of open access resources for research by librarians in public university libraries in Benue State, Nigeria?

Table 1: Mean ratings and standard deviation on extent of use of open access resources for research by librarians in public university libraries in Benue State, Nigeria

S/N	Items	$\overline{X}$	SD	Remark
1.	Online research projects (theses/dissertations)	3.30	0.33	GE
2.	Online conference proceedings	4..11	0.41	GE
3.	Online audio/video lectures	2.48	0.25	LE
4.	Online books	2.17	0.22	LE
5.	Online journals	4.05	0.41	GE
6.	Online serials (e-newspapers/magazines)	1.18	0.12	LE
Grand Mean and Standard Deviation		**2.88**	**0.29**	**GE**

Key: $\overline{X}$; 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 2.88. This falls into the limit of 2.50-3.49, which was previously defined as "Great Extent". Thus, librarians in public university libraries in Benue State, Nigeria use open access resources for research to a great extent.

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

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

Levels of Research Productivity	Number of Respondents	Percentage of Respondents
Very High (81 and above)	6	15.38%
High (61-80)	8	20.51
Low (41-60)	10	25.64
Very Low (Below 40)	15	38.46
Grand Total	39	100%

Table 2 reveals that the research productivity of the majority of the respondents (38.46%) falls within the range of Very Low (below 40 publications). Thus, the level of research productivity of librarians in public university libraries in Benue State, Nigeria is very low.

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

Table 3: Mean ratings and standard deviation on influence of use of open access resources on research productivity of librarians in public university libraries in Benue State, Nigeria

S/N	Items	$\overline{X}$	SD	Remark
1.	Online textbooks	2.11	0.21	Negative
2.	Online chapters in books	3.12	0.31	Positive
3.	Online journal articles	3.23	0.32	Positive
4.	Online conference/ workshop proceedings	3.11	0.31	Positive
5.	Online occasional papers	2.20	0.22	Negative
6.	Online monographs	2.25	0.22	Negative
7.	Online published bibliographies	2.23	0.23	Negative
8.	Online published abstracts	2.44	0.24	Negative
9.	Online published indexes	2.47	0.25	Negative
	Grand Mean and Standard Deviation	2.57	0.26	Positive

Key: OAR=Open Access Resources

Table 3 indicates that the cluster mean is 2.57. Since the aggregate mean is greater than the cut-off point of 2.50, it is remarked as "Positive". Hence, the use of open access resources by librarians in public university libraries in Benue State, Nigeria positively influences their research productivity.

Hypothesis One (HO₁): Use of open access resources does not have a significant influence on research productivity of librarians in public university libraries in Benue State, Nigeria.

Table 4: Summary of linear regression analysis of influence of use of open access resources on research productivity of librarians in public university libraries in Benue State, Nigeria

			ANOVA			
Model	Sum of squares	DF	Mean Squares	F-Cal	F-Crit	Sig.
Regression	26.447	1	26.447	0.762	4.098	0.05
Residual	1318.528	70	34.698			
Total	1344.975	71	61.145			

R =0.140, **R Square** =0.020, **Adjusted R Square** ==-0.006, β =0.140, **St. Err. Est**. =5.891

Table 4 indicates that the R^2 value of 0.020 is less than the criterion point of 0.25, which was earlier defined as "weak R^2 value". The librarians' use of open access resources for research accounts for an insignificant 20% of the total variance in their research productivity. The null hypothesis is, therefore, upheld. Thus, use of open access resources does not have a significant influence on research productivity of librarians in public university libraries in Benue State, Nigeria.

Discussion

The study demonstrates that librarians in public university libraries in Benue State, Nigeria extensively use open access resources for research. The result bears semblance to that of the research by Obuh and Bozimo (2012) which ascribes a high level of use of open access resources to all categories of Library and Information Science lecturers in Southern Nigeria. It also bears similarity with the fallout of the research by Musa (2016) which reveals that 65 librarians out of 174 academic librarians in North-West Nigeria use the resources for research. In addition, it agrees with that of the investigation by Amponsah et al. (2021) which associates a remarkable level of use of open access resources with lecturers at Dartum University, Ghana. Furthermore, it tallies with the outcome of the study by Odiachi and Obinyan (2020) which attributes a very high extent of use of a generality of open access resources to medical sciences' lecturers at Ambrose Alli University, Ekpoma, Edo State, Nigeria. However, it differs from that of Oyedipe et al. (2017) which suggest that lecturers in educational and art faculties at Olabisi Onabanjo University, Nigeria, use open access resources to an extent which is less than their level of knowledge of these resources, which was identified to be high. It is also inconsistent with the outcome of the study by Utulu and Bolarinwa (2009) which attributes an insignificant use of open access publications to Nigerian academics. It also varies from the result of the study by Bala et al. (2018) which reveals that about half of research scholars at Punjab Agricultural University, use open access resources for research. The extensive use of open access resources for research by the librarians in this study could be as a result of the free cost and ease associated with accessing and utilizing the resources.

The research also reveals that the level of research productivity of librarians in public university libraries in Benue State, Nigeria is very low. This is in line with that of Babalola and Bakum (2022) which indicates that the level of research output of librarians in public universities in North-East Nigeria is very low. On the contrary, it differs from that of the study by Okonedo (2015) which shows that the publication output of librarians in government-owned university libraries in South-West Nigeria between 2009 and 2014 is relatively high. The very low level of publication output of the librarians in the present study may be due to the tendency of the librarians to see publication or research paper as something which a librarian should produce just for the sake of promotion. They tend not to see research and publishing as something that should be pursued when they are not in need of promotion. This could be the reason why they have very few publications.

It was also found that use of open access resources for research by librarians in public university libraries in Benue State, Nigeria, has a positive but insignificant influence on their research productivity. This is at variance with the finding of the study by Umar et al. (2017) which indicates that the use of open access resources by librarians in federal universities in North-West Nigeria significantly affects their publication productivity. It is also contrary to that of the research by Amponsah et al. (2021) which points out that that there is a very weak but significant impact of use of open access resources on research productivity of lecturers in Dartum University in Ghana.   The tendency of a good number of librarians in the study area to see research as a necessity for just the sake of promotion, and not as a daily necessity which contributes to the existing body of literature or knowledge in their field could be responsible for this result. The abundance of open access resources seems not to make much meaning to the level of their research output.

Conclusion

The study attempted to know how use of open access resources impacts research productivity of librarians in government-owned university libraries in Benue State, Nigeria. The study provides evidence which suggests that, while the librarians make extensive use of open access resources for research, they have very few papers. In spite of this, the librarians' use of the resources enables them to publish more papers, although it has failed to help them publish massively.

Recommendations

Based on the findings of the study, it was recommended that:

1. Librarians in public universities libraries in Benue State, Nigeria should explore more open access resource platforms which provide them access to more open access resources so as to enhance their research productivity;
2. The librarians should undergo digital literacy skills training to sharpen the digital literacy to enable them optimize open access resources.

References

Abramo, G. (2014). How do we define and measure research productivity? *Scientometrics, 101*(2), 1129-1144. spring.com/...?10.1007/2fs11192

Amponsah, E., Madukoma, E. & Unegbu, V. E. (2021). Open access electronic resources use and research productivity of faculty members: A case study of a selected university in Ghana. *World Journal of Education, 12(*6), 18. doi:10.5430/wje.v11n6p18

Babalola, Y. T. & Bakum, D. A. (2022). Influence of information literacy skills on research productivity of academic librarians in public universities in North-East Nigeria. *Jewel Journal of Librarianship, 17(*1), 78. https://www.jeweljournals.com

Bala, S., Bansal, S. & Sharma, Y. (2018). Awareness of open access resources among the researchers of Punjab Agricultural University, Ludhiana. *International Journal of Library Information Network and Knowledge, 3*(1), 139–145. http://slp.org.in/IJLINK/volumes/IJLINK-V3I1-12.pdf. Accessed April 5, 2019

Caminiti, C., Tezzi, E., Ghetti, C., Angelis, G. & Ferrati, C. (2015*). A method for measuring individual research productivity in hospitals: Development and feasibility. *Biomed Central Health Services Research,* 4 (2), 3-5.

Dulle, F. W. (2010). *An analysis of open access scholarly communication in Tanzanian public universities.* (Unpubilshed Ph.D Thesis). University of South Africa. https://uir.unisa.ac.za/handle/10500/3684

Frandsen, T. F. (2009). *Scholarly communication changing: The implications of open access Ph. D thesis from the research programme of knowledge culture and knowledge media*. Royal School of Library and Information Science.

Hoffmann, K., Berg, S. & Koufogiannakis, D. (2014). *Examining success: Identifying factors that contribute to research productivity across librarianship and other disciplines. Library and Information Research*, *38*(119), 15.

Igere. M. A. (2022). *Information literacy as correlate of publication output of librarians in two state university libraries in South-South zone of Nigeria.* https://www.researchgate.net/publication/364356582,

Jose, J. (2014). Use and awareness of open access e-resources among academicians in Kerala: An Overview'. *International Journal of Engineering Sciences and Research Technology 3*(7), 412.

Kassahun, K. & Nsala, C. (2015). The awareness of academic librarians towards open access resources to support reference services: A case of private institutions of higher learning in Gaborone, Botswana, Satellite Meeting. Paper presented at *IFLA WLIC 2015* between 11-13th August, 2015 in University of Botswana, Gaborone, Botswana, Cape Town

Madu, E. C. & Akinboro, E. (2012). The levels of information literacy competencies and academic productivity of possessed by academic staff in North-Central geopolitical zones of Nigeria. *Unizik Journal of Research in Library and Information Science, 3(*2), 13

Musa, A. U. (2016). An appraisal of open access utilization among academic librarians in federal universities in Northwestern States of Nigeria. *Library Philosophy and Practice (e-journal).* P. 10. http://digitalcommons.unl.edu/libphilprac/1374

Nworgu, B. G. (2015). *Educational research: Basic issues and methodology*. (3rd Ed.). University Trust Publishers

Obuh, A. O., & Bozimo, D. O. (2012). Awareness and use of open access scholarly publications by LIS lecturers in Southern Nigeria. *International Journal of Library Science, 1*(4), 56. Doi: 10.5923/j.library.20120104.02.

Odiachi, A. R. & Obinyan, O. O. (2020). Awareness and use of open access resources by basic medical sciences lecturers. *Journal of Applied Information Science and Technology, 13* (1), 115

Ogbomo, E. F. (2010). *Publication output of librarians in tertiary   institutions: A Case Study of Delta State University, Abraka, Nigeria.   Library Philosophy   and   Practice (e-journal).* Pp.5-7.http://digitalcommons.unl.edu/libphilprac/322

Okafor, V. N. (2011). Comparative analysis of research output of federal universities in Southern Nigeria. *Library Philosophy and Practice*, 1-5. http://www.webpages.edu/~mbolin/okafor.htm

Okonedo, S. (2015). *Research and publication productivity of librarians in   public   universities   in South-West, Nigeria. Library Philosophy and   Practice   (e-journal).* Paper   1297.   P. 1. http://digitalcommons.unl.edu/libphilprac/1297

Okonedo, S., Popoola, S. O., Emmanuel, S. O. & Bamigboye, O. B. (2015).   Correlational analysis of demographic factors, self-concept and research productivity of librarians in public universities in South-West Nigeria.   *International Journal of Library Science, 4* (3), 43-52. Doi: 10.5923/j.library.20150403.01

Okoye, M. O. & Ejikeme, A. N. (2011). Open access, institutional repositories, and scholarly publishing: The role of librarians in South Eastern Nigeria. *Library Philosophy and Practice*

Olanusi, A. E., Madukoma, E. & Babalola, Y. T. (2023). Assessment of research output of academic librarians in public universities in South-West Nigeria. *Communicate: Journal of Library and Information Science, 25*(1), 46. https://www.cjolis.org/

Oloruntoba, A. & Ajayi, M. T. (2006). Gender and research attainment in Nigerian agricultural universities. *Council for the Development of Social Science Research in Africa,* 4(2), 83-98

Oni, O. & Eziam, A. (2014). *Publication output of librarians in university libraries in Edo and Delta States of Nigeria.* 2 (5), 128-139. http://www.palgojournals.org/PJER/Index.htm

Oyedipe, W. J., Adekunmisi, S. R., & Akinbode, R. O. (2017). Awareness and usage of open access among university lectures in Nigeria. *New Media and Mass Communication, 63*, 6-7. https: //www .iiste.org /Journals /index.php /NMMC/ article/ download/ 38570/39665

Pomfowaa, G. & Ofori, Y. (2020). Awareness and usage of open access journals among academic staff of University of Mines and Technology, Tarkwa. *Ghana Journal of Technology, 4*(2), 90

Rao, P. V. (2012). Organizing and accessing open success resources. In: Swain, D. K. (Rd.). *Electronic age librarianship.* Ane Books Pvt. Ltd

Rossini, C. (2012). *Budapest open access initiative launches new recommendations for the next 10 years of open access.* wwweff.org/deeplinks/2012/09/BOAI-...

Rowlands, I., & Nicholas, D. (2006). The changing scholarly communication landscape: An international survey of senior researchers. *Learned Publishing, 19*(1), 31-55

Sambe, M. T. & Raphael, G. O. (2015). Acceptance and adoption of open access publication (OAP) in university libraries in South East Nigeria. *Journal of Education and Practice*, *6*(31), 7. www.iiste.org

Suber, P. (2013). *Open access overview'.* earlham.edu/n

Suber, P. (2012). *Open access news.* http:// www. earlham. edu/~ peters/fos/fosblog.html.

Suber P. (2008). *Gratis and libre open access.* arl.org

Sarstedt, M. & Mooi, E. (2014). A concise guide to market research. In *Springer Texts in Business and Economics.* Springer. link.springer.com › book

Togia, A. & Korobili, S. (2014). Attitudes towards open access: A synthesis of the empirical literature'. *Information Services and Use, 34,* 221

Umar, M. A., Kabir, S. M., Dahiru, L., & Amishe, D. (2017). Academic librarians research productivity amidst open access resources: Issues and challenges. *Library and Information Management Forum, 19*(1 & 2), 58-66

Utulu, S. & Bolarinwa, O. (2009). Open access publications initiatives adoption by Nigeria academics. *Library Review, 59*(9), 660. https://doi.org/10.1108/00242530910997946

Questionnaire on Influence of Use of Open Access Resources On Research Productivity of Librarians in Public University Libraries in Benue State, Nigeria

Section A: Librarians' Use of Open Access Resources for Research

The following table contains open access resources which you have possibly used for your research. Kindly use a tick √ to indicate your use of the resources on a two-point rating scale of Used (1) and Not Used (0).

S/N	Items	Used (1)	Not Used (0)
1.	Online research projects (theses/dissertations)		
2.	Online conference proceedings		
3.	Online audio/video lectures		
4.	Online journals		
5.	Online serials (e-newspapers/magazines)		

Section B: Librarians' Extent of Use of Open Access Resources for Research

The rating scale in the following table reflects the degree to which you could have used the listed open access resources for your research. Please use a tick √ to indicate the extent of your use of the resources on a scale of Very Great Extent (4), Great Extent (3), Low Extent (2) and Very Low Extent (1).

S/N	Items	VGE (4)	GE (3)	LE (2)	VLE (1)
1.	Online research projects (theses/dissertations)				
2.	Online conference proceedings				
3.	Online audio/video lectures				
4.	Online journals				
5.	Online serials (e-newspapers/magazines)				

Section C: Research Productivity of Librarians

Below are questions designed to determine your research productivity or the totality of your publications as a librarian. Please use a tick √ to point out the number of publications you have in the columns provided below. Kindly specify any number beyond score "10" under "Others".

S/N	Items	0	1	2	3	4	5	6	7	8	9	10	Others
1	How many published local journal articles do you have?												
2	How many published articles do you have in international journals?												
3	How many monographs have you published?												
4	How many textbooks have you published alone?												
5	How many co-authored textbooks have you published?												
6	What number of published workshop proceedings do you have?												
7	How many published textbooks have you edited?												
8	How many published local journals have you edited?												
9	How many published international journals have you edited?												
10	How many occasional papers have you published?												
11	What number of published local conference proceedings do you have?												
12	What number of published international conference proceedings do you have?												
13	How many book chapters have you published alone?												
14	How many co-authored book chapters have you published?												
15	How many published book reviews do you have?												
16	How many bibliographies have you published?												
17	How many published indexes do you have?												
18	How many published abstracts do you have?												

Section D: Librarians' Level of Research Productivity

The four-point scale in the following table describes the possible level of your research productivity. Kindly use a tick √ to point out the level of your research output on the scale of Very High (81 and above), High (61-80), Low (41-60) and Very Low (Below 40).

S/N	Items	VH (81 and above)	H (61-80)	L (41-60)	VL (Below 40)
1.	Research productivity				

Section E: Influence of Use of Open Access Resources on Librarians' Research Productivity

The rating scale in the table below shows the level of your agreement as to the probable influence of your use of the enumerated open access resources on your research productivity. Please use a tick √ to indicate the influence on the four-point rating scale of Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1).

S/N	Items	SA	A	D	SD
1.	Online research projects (theses/dissertations)				
2.	Online conference proceedings				
3.	Online audio/video lectures				
4.	Online journals				
5.	Online serials (e-newspapers/magazines)				

Appendix B: Sample Distribution of the Study

S/N	Names of Universities	Number of Respondents	Percentage of Respondents
1.	Benue State University	15	38.46%
2.	Joseph Sarwuan Tarka University, Makurdi	24	61.54%
	Total	**39**	**100%**