

## Harnessing Open Access Databases to Improve Scholarship: Perception of Professionals at the Frontline

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### ABSTRACT

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The study investigated perception of librarians on their roles in using open access databases to improve scholarship. Descriptive survey design was used for the study while questionnaire was employed to collect data from 53 professional librarians at two federal universities in the eastern and western part of Nigeria. Findings from the survey reveal that librarians need to collaborate with faculties to develop institutional repositories and, raise awareness of open access databases in the university community among others. Various factors that could hinder librarians from effectively discharging these roles were identified. Some of which include administrative bottlenecks, poor internet facilities and lack of navigational skills. The study recommends acquisition of necessary knowledge and skills to enable librarians add value to their services and remain at the frontline of information provision.

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## 1. Introduction

Open access is one of the wonders of twenty first century in academic environment as it advocates unrestricted use of information resources found on the internet. The Budapest Open Access Initiative [BOAI], (2002), stipulates that anyone is allowed to read, download, duplicate, share, disseminate, print, scan, or connect to the article's full text on the public internet, index, transfer to other formats or use for other lawful purposes, without any monetary, legal, or technological hitches except the ones associated with getting internet connection. By this, any information user is free to access various online resources provided they acknowledge persons, organizations or bodies responsible for the intellectual content of the work. While internet provided impetus for development of open access, libraries continue to serve as knowledge repositories promoting access to information. Open access databases have become very essential in the knowledge environment and are creating value for academic libraries. As the name implies, Open access databases are aggregators of free online scholarly content in various disciplines. These databases often contain full texts of peer reviewed

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journals, articles and also abstracts. In other words, it is a collection of resources in all fields that are freely accessible via the internet, often comprising full text of scholarly works, abstracts and indexes. Bawack and Nkolo (2018) citing Suber (2011), describes open access databases as free digital or online scholarly literature devoid of copyright licenses and are not restricted to peer reviewed articles but include datasets, videos, software and audio. From the above definitions, it is recognized that OA databases contain limitless scholarly resources which have cushioned the effect of huge journal subscription costs in the face of dwindling library budget.

Libraries have a long standing record of promoting access to knowledge. The mandate to connect users to information is a critical role of the library. According to Harker, Leonard and Ngandu (2022), libraries and librarians have been in the forefront of this endeavor, collaborating with academics, donors, and administrators of institutions to effect meaningful change in the untenable paradigms of costly research dissemination. Hence, it can be stated that libraries are synonymous with open access. The provision of access points, search terms and location marks are carefully intended to facilitate easy retrieval of information resources. Prior to the emergence of ICT, many library resources such as thesis and dissertations were jealously guarded while access was highly restricted. Time and technological advancements changed the narrative as the web freely ushered massive online resources thus transforming the information delivery model in libraries. Collection development and stock retention melted into information access, resource dissemination and sharing. Thus, the gatekeeping role of librarians became impaired transforming them to gate openers (Boufarss & Harviainen, 2021). As storehouses of knowledge, libraries bridge the gap between researchers and information. Nowadays, traditional resources are no longer adequate to meet the needs of users whose information seeking patterns have changed. In the current electronic environment, users can access information from remote locations. This is enabled by internet which has the potential of fast, efficient and quick access. However, the abundance of online publications have changed the information seeking model and confronted users with limitless resources. As front liners in information provision, librarians work to separate the wheat from tare. That is, they sift relevant resources from a vast of available sources to meet specific demands.

The use of Open access databases to improve scholarship has become more important than ever due to dwindling budgetary allocations in many higher institutions occasioned by soaring inflation rates in Nigerian economy in particular. Funds are no longer adequate for library acquisitions. More so, cost of subscription for online databases have sky rocketed due to increasing foreign exchange rates. Consequently, academic libraries are challenged with provision of current and up to date resources to fill gaps created by funding shortfalls and, the need to be relevant to users in an era of unfathomable access to information. OA databases are known to contain millions of peer reviewed articles in reputable journals. As academic support unit, librarians need to harness these databases to improve scholarship and add value to their services.

## 2. Review of Literature

Libraries are leading advocates for open access as their roles have evolved; they are involved

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in storage, curation, publishing, and distribution of digital scientific resources, such as journals, data, and other scholarly content, they maintain repositories through which scientists reuse, and share results of their study (Organization for Economic Co-operation and Development [OECD], 2015). It is also recognized that libraries play a critical role in open access developments because of their experience in developing infrastructures, organizing resources and providing high-quality user-friendly services, as well as ensuring long-term access (International Federation of Libraries and Associations [IFLA], (2015). Libraries provide various tools and enabling environment for learning and research (Emezie, 2018). One of the significant OA tools that libraries are using to improve scholarship is institutional repositories. IRs are platforms that collect, process, preserve and freely disseminate indigenous intellectual outputs and rare collections emanating from institutions.

Several studies have discussed various roles of librarians in the open access movement. These studies provide evidences of librarians' positive perception towards open access (Sultan & Rafiq, 2021). While investigating librarians as gate-openers in OA publishing, Boufars and Harviainen (2021) identify that librarians in United Arab Emirate are conversant with OA pathways. The study also discovers that librarians are using various methods to educate their patrons on publishing with OA sites, they are also teaching their users how to access OA resources and traditional materials. Sultan and Rafiq (2021) citing Palmer et al. (2009) assert that in the United States of America, academic librarians' view towards OA principles was positive hence they are playing advocacy roles to promote OA. Lending to the above, Rose-Wiles (2018) includes that librarians go extra miles in consulting and investigating vital information resources, online scientific database search, reference sources etc.

Many African university libraries have joined their counterparts in developed nations to promote OA resources. The approach cannot be downplayed as OA have provided many benefits to libraries especially in the era of unending financial downturn. Be that as it may, Beyene, Tekle and Alemneh (2022) explored OA initiatives in Ethiopian higher institutions of learning. The study reveals positive attitude of librarians towards OA and conscious effort by all stakeholders to adopt OA systems in Ethiopian universities. To this end, information professionals are concerned with awareness creation about OA among researchers. Trainings and promotional campaigns facilitated by CEARL, Electronic Information for Libraries [EIFL] and Addis Ababa University were provided to increase awareness of OA in the institutions.

Borteye, Atiso, Lampey and Kammer (2021) studied awareness and use of OA journals by Ghanaian librarians. Though findings reveal their low commitment to publish in OA journals due to lack of proper peer review process, many of the librarians showed positive attitude towards OA journals because of its' various advantages such as increase in the advancement of scientific knowledge, greater access to scholarly literature in developing countries, increased citation and impact factor, etc. Sultan and Rafiq (2021) assessed perceived awareness, challenges and opportunities of OA information resources in Pakistan, the findings show that librarians were fully aware of OA initiative but had low awareness on the publishing models. However, the study manifests librarians' positive perception towards OA resources. Findings indicate that university libraries have harnessed opportunities of OA to provide free access to information resources, increase value of their libraries and fulfill user needs in the face of dwindling budget. Islam, Parvez, Islam and Islam (2021) explored OA movement in libraries

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of Bangladesh to understand librarians' perceptions. The study identified various factors which motivated librarians towards OA, these include developmental support, high subscription cost for journals, insufficient funds for libraries among others. Furthermore, the study identified roles librarians can play to promote OA in Bangladesh such as inclusion of OA journals in library database, digitization and preservation of resources, familiarizing researchers and institutions with OA journals, assisting researchers deposit their publications in OA institutional repository among others.

Manghai and Ganesan (2021) assessed researchers' perception and attitude towards OA resources as an alternative for academic libraries in India. Results show that researchers were positive towards OA resources and, researchers mainly accessed OA resources from the libraries. The study notes that library professionals created awareness of the OA resources through user awareness programme. Whereas the study focused on researchers, it provides practical demonstration of roles librarians play in promoting OA databases. A similar study by Kanojia and Verma (2021) explored perception and adoption technique of researchers towards OA journals in North Indian central university libraries. The result indicates researchers' positive tendencies towards OA publications. A greater number of researchers affirmed they used OA resources for learning, teaching and research. A significant aspect of the study is that most of the researchers made use of OA journals in the central library. This revelation validates university library's central role in promoting OA resources.

Bhaskoran and Koovakkai (2019) studied the perception of library professionals in Kerala towards OA publications. Findings of the study show that librarians in Kerala had positive perception of open access publications. This is as a result of cost effectiveness of the OA resources, faster dissemination, accessibility and increased impact factor. The study by Mwinyimbegu (2019) on promoting access to open educational resources in Tanzanian public university libraries suggests that the librarians were positive towards OA. This is demonstrated in various roles they have intentionally played such as integration of open educational resources in university websites to increase visibility and facilitate access to research. Bawack and Nkolo (2018) in their study on reception and acceptance of OA movement in developing countries report that librarians in Cameroon have become strong supporters of the Open Access movement, working tirelessly to raise awareness among scholars, publishers, and authorities. In ascertaining librarians role in open access initiatives in Kenya, Musinga (2017) provides that majority of librarians had embraced the OA initiatives as they were offering OA through institutional repositories and, creating awareness of the OA concept.

Kasahun and Nsala (2015) studied awareness of academic librarians towards Open Access resources to support reference services. The study shows positive perception of Botswana librarians towards OA as revealed in their roles. According to the findings, academic librarians teach and refer library patrons to different resources that are in open access repositories while responding to patron's requests. Furthermore, about 25% of the librarians who were using OA resources to supplement reference materials evaluated quality of the OA resources before recommending to patrons.

Earlier studies in 2014 have also identified positive tendencies of librarians towards OA. Zhoa (2014) explored ways that libraries are providing research support for scholarly publishing literacy. He includes that librarians are handling various projects related to the digital library such as digital archiving, institutional repositories, provision of metadata and harvesting services, scholarly publishing in OA journals, creating web portals etc. with a view to promote free access to relevant information.

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Also, the study by Alam (2014) on librarians changing role in the open access environment reveal that librarians provide university community with information on open access databases, collaborate with faculty in setting up open access repositories for submission of their research publications. They provide assistance in research data preservation and dissemination. Additionally, librarians partner in the development of open educational resources, they provide descriptive terms and keywords through cataloguing and classification, they, also effectively manage and preserve resources for dissemination. In a similar study to determine new roles of libraries in the era of OA and digital publishing, Engeszer and Sali (2014) mention that librarians provide metadata, indexing, abstracting, information literacy and retrieval systems and management of institutional repositories as part of their support activities.

In Nigeria, evidences of librarians' roles in promoting OA have been severally reported (Ugwuanyi & Ugwuanyi, 2013; Bolarinwa & Utulu, 2011). A recent study by Anyaoku and Anike (2021) discover that in promoting usage of OA resources medical librarians in Nigerian universities linked OA databases on library websites, and users are directed to OA publications. Anunobi and Ape (2018) report various promotional strategies by Nigerian university libraries to enhance access to OA resources. The authors submit that Nigerian universities have advanced in their OAR support particularly the green model. They also state that through advocacy, survey initiative and infrastructural support, OA resources get promoted. In assessing the views of librarians towards use of OA online scholarly resources in Nigerian university libraries, Chigbu, Njoku, and Uzoagba (2016) found that librarians would download relevant resources from OA databases, provide hard copies of the downloaded resources, and direct users to university websites where they can gain access; librarians were also involved in training programs to acquaint readers on how to use OA databases.

While provision of access to information is an exclusive role of librarians, many are challenged in their use of open access databases for successful service delivery. Sultan and Rafiq (2021) found in their study that some challenges of OA information resources include inadequate human resources, lack of updated resources, tools and infrastructure to incorporate OA databases in library OPAC and low internet speed. Also, several authors agree that librarians are aware of open access materials but use them infrequently for information services (Anyaoku & Anike, 2021; Kasahun & Nsala, 2015; Lwoga & Quetier, 2015; Ugwuanyi & Ugwuanyi, 2013). This studies suggest that librarians understand the concept of open access but in practical terms, they do not effectively use OA resources to assist patrons in the reference process. Search engines such as Google and other browsers are frequently the first point of access for many information users due to poor knowledge of available OA resources for research. As observed by Bhaskaran and Koovakkai (2019), many academics including librarians were always consulting google to download resources for their research because they lacked the ability to use OA databases. Also, Anunobi and Ape (2018) identify that lack of awareness, skills and uncertainties about quality of OA resources pose challenges to their use. Administrative bottlenecks pose significant challenges for librarians in OA. Many administrators appear to give lip service to library projects, they do not provide the necessary infrastructure and enabling environment for electronic information services to thrive. Kasahun and Nsala (2015) found that low participation by faculty and poor quality issues in Open Access were challenges faced by librarians. While further addressing OA challenges, Uzuegbu and McAlbert (2012) view that

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the slow pace of internet connection in many higher institutions in Nigeria frustrates access to online resources. The authors include that a lack of internet bandwidth in sub Saharan Africa hinders quick access to free online journals. Poor access to online resources is related to high cost of internet bandwidth. That is why Christian (2008) recognize that internet bandwidth is relatively expensive in Nigeria and several other developing nations, which is why academic institutions have difficulty obtaining appropriate bandwidth for hosting digital content.

Arising from the above, it can be adduced that inadequate network capacity inhibits fast and efficient access to information in many Nigerian academic institutions. This invariably has an impact on access to online resources. While OA databases save libraries from the quagmire of obsolescence, sustenance of IT infrastructures that underpin electronic resource provision remains critical. Several studies abound on Open Access with particular focus on librarians. While many of these studies have extensively dealt on librarians awareness, roles and challenges in the open access environment, little is known to the researchers on studies which seeks librarians perception towards roles and strategies that could be adopted to improve scholarship with OA databases in order to create value for Nigerian academic libraries. This is the direction of the current research.

### 3. Objectives of the Study

- (1) To identify Open Access databases known to librarians.
- (2) To identify Open Access databases used by librarians.
- (3) To find out perception of librarians on roles that could improve scholarship using Open Access databases.
- (4) To determine factors that could hinder librarian's use of Open Access databases in information service delivery.

### 4. Methodology

The study used a descriptive survey design while questionnaire was used to collect data from librarians at two Nigerian university libraries, the Federal University of Agriculture Abeokuta (FUNAAB) and the Federal University of Technology, Owerri (FUTO). Both are non conventional federal government institutions established for specific purposes. FUNAAB was the first university of agriculture established as a center of excellence for agricultural learning, research and professional development while FUTO was the first university of technology established to train and produce promising manpower in Science, Technology and enterprise for the globalized world. The university libraries in these federal institutions provide strong evidence of ICT facilities and use of electronic resources and databases in provision of library services. Due to size of the population, a total enumeration sampling technique was adopted. 68 professional librarians in the two federal university libraries were used because anecdotal evidence and various researches show that academic librarians are more aware of open access resources. Self administered questionnaire was physically distributed

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to the researchers due to proximity. However, 53 copies of questionnaires were retrieved and used for analysis. Efforts to retrieve all questionnaires were disrupted by the nationwide strike action in Nigerian university system. The response rate was 78% and considered adequate for the study. The questionnaire was designed to meet the study’s objectives. The first two sections were dichotomous in nature. This was to help respondents acquire clarity, make brief responses, and remove extraneous complications in data collection (Allen, 2017). The third and fourth sections used a four-point Likert scale: Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1. Data was analyzed using the Statistical Package for Social Sciences while findings were presented with tables and charts.

## 5. Analysis of Data and Interpretation

### 5.1 Distribution Rate of the Questionnaire

A self-administered questionnaire was distributed to all the academic librarians in the two federal universities. The number of respondents was derived from staff nominal role from the two university libraries.

Table 1. Return rate of questionnaire

S/N	Item	No. of Librarians	No. of Responses	%
1.	FUNAAB	25	22	42%
2.	FUTO	43	31	58%
	<b>TOTAL</b>	<b>68</b>	<b>53</b>	<b>100%</b>

A total number of 68 questionnaires were distributed while 53 were retrieved and used for the study. Out of this number 22 (42%) responses were from the Federal University of Agriculture Abeokuta while 31 (58%) responses were from the Federal University of Technology Owerri Nigeria.

### 5.2 Open Access Databases known to Librarians

Fig. 1 reveals several Open Access databases familiar to librarians at the two federal universities. Librarians were requested to tick YES or NO next to the listed databases. Their responses show they are mostly familiar with DOAJ - Directory of Open Access Journals (83%), followed by Institutional Repositories (81%), DOAB - Directory of Open Access Books and Science Direct (79%), Library subscribed databases (74%), JSTOR (70%). Other databases include IEE Open and Springer (Open Books) (66%), Springer (Open Journals) (64%), Taylor & Francis (62%), Pdf Drive (60%).

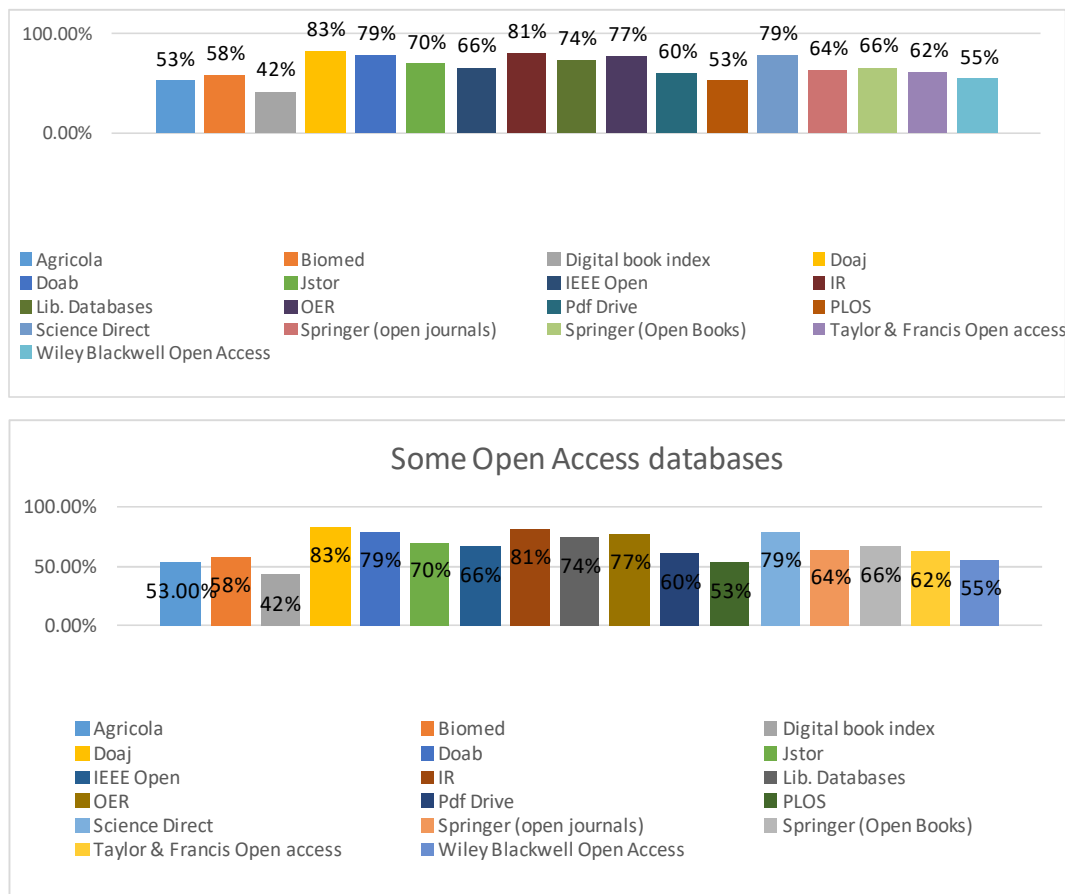


Fig. 1. Open access journals/databases known to librarians in the two Nigerian University Libraries

### 5.3 Open Access Databases Used by the Librarians

Librarians were asked to check the boxes next to the OA databases that they utilize to provide information.

The findings show that DOAJ -Directory of Open Access Journals (83%) is the most common database used by librarians in the selected universities. This is followed by DOAB- Directory of Open Access Books (75%), library databases (70%), IR - Institutional Repositories (64%), OER - Open Educational Resources (62%), Springer Open Journals (58%), others with OA components include ScienceDirect (55%), JSTOR (53%) and PLOS - Public Library of Science (51%). This finding shows that librarians are very much aware of several OA databases, but do not actually utilize these resources during the reference process.



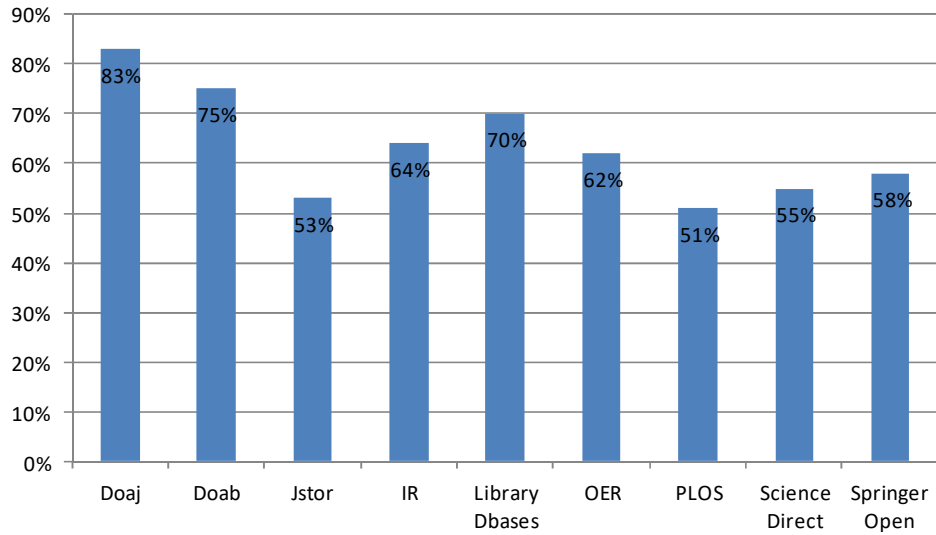


Fig. 2. Open access databases used by librarians

#### 5.4 Roles librarians could play to improve scholarship using OA databases

The study sought to identify librarians' perception towards various roles that could be adopted to improve scholarship using OA databases.

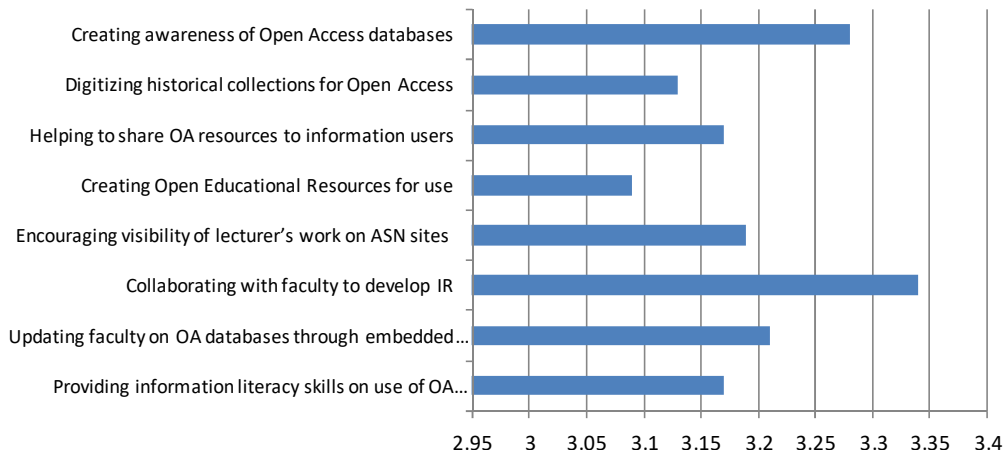


Fig. 3. Librarians role in using OA databases to improve scholarship

The information presented above reveals that librarians' perception towards various roles that can improve scholarship using open access databases was very positive.

### 5.5 Factors that could Hinder Librarians from Using OA Databases in Information Service Delivery

Librarians were requested to identify various challenges they may face in using OA databases in the course of their information service delivery. The table below shows a number of factors that have been identified as stumbling blocks to the use of OA databases.

Table 2. Factors that could hinder librarians use of OA databases in information service delivery

S/N	ITEM	Mean $\bar{x}$	Decision
1	Users are not aware of the OA databases provided by the library	2.77	Accepted
2	Users dependence on phones could limit library visits and use of OA databases	2.94	Accepted
3.	Poor knowledge of OA databases by librarians	3.11	Accepted
4	Poor library internet connection could hinder effective use of OA databases	2.94	Accepted
5	Some OA databases have insufficient current publications	2.66	Accepted
6	Irregular/erratic power supply in the library challenges access to OA databases	3.00	Accepted
7	Inadequate functional computers hinders use of the OA databases	2.91	Accepted
8	Inadequate funding to sustain internet/electricity for use of OA databases	2.81	Accepted
9	OA databases are believed to contain poor quality research	2.38	Rejected

The table shows various responses of librarians on perceived challenges they could encounter while using Open access databases in information service delivery.

## 6. Discussion

The study revealed that a good number of librarians in the selected federal university libraries had knowledge of several open access databases. However, librarians acknowledged they used few of the OA databases in providing information services. This may be due to their poor navigational skills in use of OA databases as observed in previous findings (Anyaku & Anike, 2021; Kasahun & Nsala, 2015; Lwoga & Quetier, 2015; Ugwuanyi & Ugwuanyi, 2013). This unhealthy state of affairs could contribute to library decline as users continue to seek alternative information sources. There is need for librarians to possess adequate understanding of OA databases and how to access the resources to effectively provide academic support in the electronic environment.

Librarians perception of roles that can improve scholarship using OA databases are discussed as follows:

### *6.1 Collaborating with faculty to develop institutional repositories*

Institutional repositories are established to enhance access to intellectual outputs and other indigenous resources emanating from an institution. They also serve to increase visibility and provide metrics for university web ranking. Librarians believe that working with faculty to develop IR will improve scholarship. Collaboration between the library and faculties is essential for repositories to function effectively. Librarians, as repository managers in many institutions, should encourage lecturers to submit copies of their publications to the IR. Librarians should also guide and support lecturers by providing information on the benefits of IR, copyright concerns as relates to what and what not to submit.

### *6.2 Creating awareness of Open Access databases*

Lack of awareness is one of the issues causing poor utilization of OA databases. As information gateways, aiding users with their information needs while directing them to OA sites to support research activities is the first step in raising awareness of OA databases. Additionally, librarians should create awareness within the university and online communities. Librarians can bring OA databases to the attention of information users through social media channels such as Facebook, blogs, Twitter, and Whatsapp, among others. Librarians can promote OA databases on their bulletin boards, and they can collaborate with student organizations during their week activities to inform and distribute flyers about library information services. Exhibitions, library talks, OA campaign week, and campus road shows are further ways to promote and build awareness.

### *6.3 Updating faculty and students on OA databases through embedded librarianship*

Embedded librarians are regarded as liaison officers bringing library services closer to departments. This naturally places them at a vantage position to promote open access databases since they work closely with faculty and students. They offer academic support to research students by providing access to online resources, information literacy on use of library resources, and assist in development of research content. Embedded librarians can support academic activities by providing information about OA resources on Facebook, blogs, Twitter, as well as Whatsapp and Telegram groups. Embedded librarians can use social media channels to update faculty with trending publications in their fields. They can also alert lecturers to reputable and relevant OA databases. In doing so, they encourage lecturers to become active publishers in OA journals.

### *6.4 Providing information literacy skills on use of Open Access databases*

Librarians believed that teaching information literacy skills would facilitate the use of open access resources. The ability to detect an information need, find relevant information, evaluate the resource, and use the knowledge responsibly is referred to as information literacy. Users are frequently unable to utilize library resources and OA databases due to an inability to comprehend the supposedly

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sophisticated search procedures. As a result, librarians must instill information literacy skills while supporting users. Classroom education should not be the only source of information literacy skills. Librarians can initiate guidance on how to search and retrieve resources as they provide assistance using OA databases during the reference process. Librarians might conduct literature searches as part of their efforts to advance scholarship.

#### *6.5 Encouraging visibility of lecturers work on academic social networking sites*

Result of findings show that librarians assist lecturers in registering with researcher profile sites (Google Scholar, ORCID) and academic social networking sites (Researchgate, Academia.edu, LinkedIn, etc.) to promote visibility. Many of the published works of lecturers can be found on the internet. Lecturers can have all of their research papers aggregated on a single platform by building an online profile with academic networking services. This has the potential to boost visibility, make publications more accessible, increase the impact factor, and broaden the pool of resources available to information seekers. Furthermore, academic networking platforms facilitate the identification of authors' areas of specialization and may be valuable for collaborative research. They promote interaction and the development of professional connections among scholars. In Researchgate, for example, an information user can privately request from an author a publication that is not publicly available. Librarians can help break geographical barriers and promote access to knowledge when they support online visibility of lecturers' publications.

#### *6.6 Helping to share Open Access resources to information users*

Librarians have long been in the business of disseminating knowledge, so they were confident that making open access resources available to faculty and other users would boost scholarship. While OA resources are freely available online, some users may have difficulty accessing and downloading them due to data and internet connection limitations. Librarians can assist remote users with literature searches by downloading and sharing relevant resources on demand using the library's internet connection.

#### *6.7 Digitizing historical collections for Open Access*

Digitization is the process of converting analogue information materials to electronic formats that may be accessed readily via computer or other electronic media. Libraries digitize to expand their reach and encourage simultaneous use of information resources. Another motivation for digitization is to suit the changing information needs of users as their preference for electronic resources evolve. Rare collections are converted to digital formats through digitization in order to increase awareness, availability and accessibility. Some library resources which can be digitized include items with limited copies, manuscripts, theses and dissertations, journal articles, and so on. Librarians digitize resources and preserve them in electronic medium for easy access. As a result, digitizing historical collections for availability and wider access was considered way to improve scholarship.

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### *6.8 Creating Open Educational Resources for use*

Librarians are strategically positioned to assist faculty integrate their courses into OER. This is because of their age long role of gathering high quality materials for both teaching and research (Davis, Cochran, Fagerheim, & Thoms, 2016). Librarians interact well with students and faculty and so can create awareness of OER. They thrive well in information gathering and dissemination through various channels. Librarians can build collections in line with course content, create database of OERs for user information, upload soft copies of lecture notes, manuals and other course materials to the OER platform, link the OER to library website or IR. According to Kleymeer, Kleinman and Hanss (2010), librarians are great collaborators and have useful skills that can assist OER programs because of their relationship with faculty and students.

Factors that hinder librarians from using OA databases to improve scholarship were also identified in the study. These include librarians' lack of knowledge and skills on use of OA databases. As a result, librarians should possess adequate knowledge of the OA databases to effectively use them during the reference process. In addition, they should be grounded with ICT skills to effectively navigate the databases for best results. It takes man to move technology, hence librarians need to possess the technology know how to fish out relevant information materials from the pool of available online resources. Further findings reveal that insufficient bandwidth and poor internet access have hampered effective electronic service delivery in many academic libraries, particularly in Nigeria. OA databases are frequently linked to electronic resources. Unfortunately, many electronic library services at Nigerian higher education institutions face power outages, poor internet connectivity occasioned by low bandwidth, poor maintenance culture and unskilled manpower. Effective delivery of electronic information is dependent on a robust technological infrastructure and competent personnel.

The study also found that users' lack of awareness was a hindrance to use of OA databases. This could be as a result of librarians' poor use of open access databases during the reference process. Also, it was discovered that dependence on mobile phones has resulted in a significant reduction and underutilization of library services and resources. Keeping this in mind, librarians should explore novel ways to reach out to users through the mobile phones. Librarians can continue to engage their users through mobile library apps, SMS, or emails. Finally, inadequate funding was identified as a hindrance to the use of OA databases. Funds are required to sustain power, internet connectivity, maintenance of infrastructure and other contingencies. Be that as it may, many Nigerian university libraries continue to struggle with insufficient funds and inadequate facilities as they attempt to facilitate teaching, learning, and research in the digital environment.

## 7. Conclusion

Open access databases are alternative routes for libraries to provide electronic information resources in the face of budgetary cuts. As intellectual warehouse of their institutions, OA databases have helped libraries stay afloat in the electronic information tide. Librarians have demonstrated positive

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perception towards OA databases. Nonetheless, many of them had knowledge of OA databases but could not use them during the reference process due to certain limitations. The current study finds several ways librarians might use OA databases to realize their roles, encourage scholarship, and provide value in the academic setting. It however, recommends that librarians should gain necessary knowledge of OA databases as well as abilities for navigating the electronic environment. This will enable them offer services more effectively and remain on the front lines of information provision.

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