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An Assessment of Academic Database Subscription Management in Nigerian Tertiary Institutions: Challenges and **Prospects**

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An Assessment of Academic Database Subscription Management in

Nigerian Tertiary Institutions: Challenges and Prospects

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Abstract

Research has remained a key expectation of universities all over the globe, and supporting the research effort of academics is a key goal of libraries. Most of the support services is shown by the availability of current information provided by journals and current research output. The paper is an overview of the concept, types of databases and vendors of popular databases, current practices and some identified bias in the subscription process in most universities in Nigeria. The methodology adopted for the study is a descriptive survey research with questionnaires used to solicit responses from participants using Google form. The paper also recommends effort in building local-based content but globally available databases to increase intellectual contribution to the body of knowledge. Government support in the area of curriculum and general standards to reduce bias towards local content. Consortium-managed subscription to international databases to reduce the cost burden on individual institutions and improve access to rich sources of information.

Keywords: Database, Database Subscription, Subscription Management, Institutional Bias.

Introduction

Research output is a key measurement of productivity of tertiary institutions. Members of faculty, research fellows, graduate and undergraduate students are expected to produce evidence of studies. Tertiary institutions particularly those with a research focus are expected to support the information needs of their researchers, scholars, faculty members, and students. To achieve this mission, institutions support their libraries with the acquisition of information resources of varying types. With a preference to physical information resources (books, journals, and so on), many libraries have stocked so much, but users over the years became disgruntled due to the datedness of these resources (Rafi et al., 2018). Recently, there has been a marked change in the information-seeking behaviour of library patrons. This to a large extent is associated with the impact of the internet. The internet has liberated access to information resources, and libraries have had to quickly adapt or become irrelevant (Irenoa et al., 2018). In order to meet the yearnings of the changing user/patron dynamics as regards the currency of information resources, many academic libraries are turning their attention to electronic-based information resources. A role which academic libraries as key conduits to accessing up-to-date and timely information now have to provide its clientele.

Academic libraries due to the diverse nature of their clientele (different fields of academic training) within tertiary institutions and the diverse information needs and information seeking behaviour are required to be able to provide services to support their institution's vision and mission and also to meet that of their patrons. Libraries provide information resources – books, journals, encyclopedias, dictionaries, and many other kinds of information resources housed within the library. However, the internet revolution brought a new dimension to information services delivery with extended opportunities created by information and communication technologies. The intellectual space has benefitted with the possibilities for self-publishing, electronic production of hitherto print-based information

resources (Darko-Ampem, 2003; Kalantzis-Cope & Gherab-Martín, 2010). Today, there is an electronic version of virtually every new print-based resource (e-books, e-journals, Wikipedia, Wiktionary, and so on). With the continued information explosion, libraries can no longer acquire all the information resources needed by its clientele, regardless of the size of library (Kadiri & Adetoro, 2012). Academic libraries typically serve a wide variety of clientele. To suit these diverse information needs, a general academic database covering a broad array of topics is essential (Blessinger & Olle, 2004). The study explores academic database subscription patterns and practices in Nigerian tertiary institutions.

Objectives of the study

The study has the following research objectives:

- 1. Assess the subscription pattern to academic databases by Nigerian tertiary institutions.
- 2. Evaluate the management practices of Nigerian tertiary institutions on academic databases subscription.
- 3. Identify the challenges encountered by Nigerian tertiary institutions in managing academic databases.

Review of Literature

Academic Databases

As higher education continues to attain academic maturity and research stability despite the obvious absence of facilities and management experiences (Bray & Major, 2011) particularly on the African continent digital technology has continued to gain prominence. Lack of current literature and database resources contributed to the slow growth of scientific research in the past (Rafi et al., 2018). Academic databases are construed as a collection of information that is commonly used for research and writing, including access to academic journals

(www.yourdictionary.com). A similar definition of academic databases is given as an organized collection of computerized information or data such as periodical articles, books, graphics and multimedia that can be searched to retrieve information (Prince George's Community College, 2022). In most tertiary institutions that are have active subscriptions, databases provide links to the articles (mostly peer-reviewed, well defined empirical research) sought for reading or printing purposes or enough detail on how the article can be found through pre-arrangements. They are generally used for research and writing and are mostly provided by vendors, large organisations, and so on.

The continued expansion in the intellectual space created a new middleman in the publishing world, in the bid to bridge the gap that was becoming difficult for the single individuals, small organizations and others. An organized group of business concerns and institutions started creating consortiums and business partnerships to provide value-added database services. They became loosely referred to as academic database vendors – publishing houses now into the business of providing databases covering different subject areas based online, with subscription premiums charged for access to information content they provide. Academic databases more often than not focused on a particular subject area. Although due to the involvement of companies (ProQuest, Elsevier, Widernet, EBSCOHost, and so on) that host these databases, they extend their coverage to include other disciplines to become a more general database.

Types of materials hosted by databases vendors

It is important to note that databases come in different typologies, common among them remain: bibliographic databases, full-text databases, directories, numeric databases, multimedia and transactional databases. But in tertiary institutions, the most commonly subscribed are full-text databases and bibliographic on rare occasions. Most academic journals

primarily index scholarly journals articles but are not entirely limited to just journal articles.

They also include other types of information content, most times in addition to scholarly journal articles.

- Scholarly journal articles periodical, peer-reviewed, full-length empirical and original research publications in different disciplines. Academic Search Premier, PsycARTICLES, Project MUSE, ProQuest Research Library, JSTOR, OmniFile Full Text Mega, HINARI, Science Direct, eGranary, TEEAL (EBSCOHost, ProQuest, Elsevier, Widernet, are companies that host databases but are not databases)
- 2. Magazine/Newspaper articles
- 3. Books
- 4. Book chapters
- 5. Datasets (statistical data)
- 6. Images, audio, video
- 7. Theses and Dissertations

However, the contents of academic databases are not always freely accessible since value has been added to these databases. Value addition to academic databases greatly improved the acceptability and reputation of these databases. The entrance of these data providers (for profit and their other counterparts) made accessing information with high value, and relevance a reality and much more readily accessible, yet sustenance and increased capacity made it a necessity to charging premiums (subscription). Data providers and publishers such as ProQuest, EBSCO, Thomson Reuters, and Elsevier entered the online realm to offer their information services, and have since that time dominated the space and expanded access to a large array of information content. Nevertheless, only in the early 2000s did innovations in data access transform access to scientific information (Gusenbauer, 2018). Today, these academic databases have played significant roles in scholarship all over the globe. The academic

databases come in different licenses – Subscription-based (paid), Open Access (Free – no subscription required), freemiums (free but requires registration). Many data providers and publishers also offer free content alongside the subscribed content.

Database Subscription

Since the 1990s, technology has rapidly changed the world especially in the aspect of information delivery, now many databases abound to support scientific, historical, social science and research in various fields. The emergence of digital technology accelerated the ability of libraries to subscribe to journal databases, e-books, online cataloging and reference management (Rafi et al., 2018). These online database resources deepen the availability of electronic resources and extend the boundaries of academic research (Rafi et al., 2018). Making resources available beyond the limitation of time, and place, due to ease of internet access has further expanded availability of electronic resources. Provision of access to these databases remains a continuing challenge for many Nigerian tertiary institutions.

Database subscription is defined as a premium paid by institutions, groups, and/or individuals, to have access to electronic content curated by a vendor/company for a defined period of time. The database packages are usually tailored to meet required needs of researchers and provided via easy-to-use platforms. Platforms such as web portals, mobile applications, hard drives (eGranary by Widernet Solutions, The Essential Economic and Agricultural Library – TEEAL, and so on), provided over the Internet or other storage media. Some of the databases provided on storage devices can be acquired via one-payments with possibilities for updates (for instance, eGranary by Widernet). Content and pricing for their packages are usually based on the type, size and scope of the institution. Some of these information contents are provided online, and require internet connectivity to enjoy the benefits of the well curated

electronic content provided by the vendor/company that host these databases. Some vendors provide access to their resources using a number of methods. Some of the methods include:

- 1. **Username and Password model** a very simple model, where after payments have been made for subscription, the institution/user is provided with a username and password so that they can access their paid content from any location using an internet-ready device.
- 2. **Shibboleth Single Sign-on architecture** a single sign-on log-in system for computer networks and the internet. Allowing people to sign in using just one identity to various systems run by federations of different organizations or institutions (universities or public service organizations).
- 3. **OpenAthens** an identity and access management service provided by JISC (a UK based not-for-profit information technology services company). These identity provider organizations keep usernames in the cloud, locally or both.
- 4. **IP Address Authentication** is a traditional method of identifying users requesting access to vendor databases. Users gain access based on their computer or site IP address, eliminating the need for User IDs and passwords.

Academic databases are provided by different agencies and companies depending on the kind of sponsorships or purpose they were made to serve. Bodies, associations, institutes, government agencies, and commercial enterprises have become the major sources of databases over the years. There are different types of databases available to academic institutions over the globe.

1. **Free Databases** – in the real sense of the word, these databases are not entirely without any form of financial commitment. These are usually supported by grants, foundations, donor agencies, and even individual donations. The Open Access movement has been the motivation for many of the free databases. Access to these databases are without

charge to the user. They provide unlimited access to curated content. For instance, IMF eLibrary, Family Search, Film Literature Index, ERIC (Public), Directory of Open Access Journals (DOAJ), Digital Commons Network (Bepress), BioMed Central Databases, Bielefeld Academic Search Engine (BASE), Internet Archive, Knowledge Unlatched, Research Connections in Child Care & Early Education, ScholarWorks,

2. Fee-based (Subscription-based) – these are well curated content and hosted by vendors/companies and access is provided after a predetermined premium has been paid by the subscribing party. They are usually expensive but rich in content. Examples include ProQuest Central (popular), ScienceDirect (popular) Sage Knowledge, Project MUSE, IEEE Xplore Digital Library, Social Science Research Network (SSRN), HeinOnline (Law), LinkedIn Learning, World Bank eLibrary, WorldCat (First Search)

Database Subscription Management

Maintaining subscription to reputable databases remains an on-going concern. With many of these databases being very expensive, devaluation of currencies, reduction in budgetary allocation, and other managerial constraints. These have immensely impacted negatively on the ability of many tertiary institutions to sustain access to the internationally accepted and reputable academic databases. Keeping database subscription up and running for academic use requires planned thinking and careful consideration to ensure sustenance. Subscription to databases is usually periodical (annual, monthly, and so on), depending on the agreement (terms of provision) in place between the vendor/provider and subscribing institution. In some cases, the

Many institutions in Nigeria today are hamstrung by their inability to subscribe to databases or where they have, find it problematic sustaining their subscriptions. From the

prohibitive costs of these databases, weak currency in terms of purchasing power, lack of interest from institutions managements, inability to secure funds from funding agencies, poor awareness of the value of subscribing to these databases by academics/management of the institutions, are just a few from the myriad of challenges that have bedeviled database subscription management among a high proportion of tertiary institutions in Nigeria.

Selecting Databases

- 1. **Coverage** different databases have different focus in terms of disciplines and areas they consider in their scope of coverage. There are general and discipline specific databases. General databases are usually more of a "jack of all trades" outlook with reach into many fields of disciplines and research areas covering both journals and electronic books (eBooks). Their prices are usually very high and more suitable for large universities, polytechnics, colleges of education.
- 2. **Specialization** there are so many data providers today, with many trying to provide as much as possible presented as an all-in-one- solution. However, there are numerous specialist databases which provide streamlined rich content in particular fields, subject areas, and disciplines. HeinOnline for instance provides more depth than ProQuest does in terms of Law and the legal profession.
- 3. **General Acceptance and Use** feedback is an important criterion used in assessing database provider services. After years of service provision, some of these providers have distinguished themselves, becoming household names in the academic community and hence are naturally considered ahead of their peers regardless of current coverage or strengths. They already have an advantage during the selection consideration process.

- 4. **Reputation of Vendor/Provider** that has always been a recurring criterion used during selection in the library and information profession. The popularity and renown of vendors always sway decisions in their favour, plus the pricing advantage it affords the vendors.
- 5. **Accreditation Body Requirements** accrediting bodies have in many cases identified preferred online databases and usually tend to muzzle institutions to kotow by subscribing to those. In Nigeria, there are some poster databases that always recurrent among the team of accreditors when they come for accreditation exercises.
- 6. **Cost Implication and Budgetary Allocation** many academic databases worth their salt come with high price tags. They are usually expensive (coupled with the free fall of the Nigerian Naira making it worse). Budgetary allocations for most institutions are usually thin, while creating space to accommodate databases usually wipes out a larger chunk of the budget, meaning other aspects that need developing suffer. This to a large extent has stifled sustenance of subscription to online databases particularly in Nigeria.
- 7. **Size of institution** size is also another consideration when making plans to subscribe to online databases. Smaller institutions struggle to subscribe to popular databases due to the prohibitive cost implication and considering their user population and budgetary allocation. Bigger institutions with graduate programs tend to be able to keep with the subscription costs.

Managing Subscription

A core principle of libraries globally has been entrenched in the desire to provide access to information to her clientele, and to help connect patrons to the information they need as fast as possible, but budgets do not typically allow unlimited subscription purchases. It has so far been an easier prospect to source for funds to acquire books and other one-time purchases due

to inabilities to sustain recurring costs. Subscriptions require an annual commitment of money, and are more difficult to manage, especially considering rising costs and varied pricing (Holderman, 2015). Albeit, efforts at managing made subscription are mostly geared towards marketing to their user communities, and enabling points for simplified access.

- 1. Website an easy way of making access available to a library's teeming user population is making sure that the 'Google Generation' can reach the subscribed databases as quickly as possible. A website helps to create an online presence for the library. The services provided can be integrated into the website, expanding access to the various bedrooms, offices, and playground of the library's clientele.
- 2. Traffic Monitoring Tools measuring use remains as important to the library as to availability of the databases. A database that is not utilized is an economic waste to the subscribing institution. Softwares that help to monitor and take statistics of usage and unique visits can help defend the need for subscription.
- 3. Social Media the reach and extent to which social media has pierced the fabrics of society can best be left to the imagination. Facebook, Instagram and WhatsApp for instance has the largest online users all over the globe. Twitter, TikTok and other social channels are closely keeping up. This means, majority of the library's clientele are already online, reaching out to them via this channel will help maximize the use of the subscribed databases.

Institutional Bias in Choice Database Subscription in Tertiary Institutions

While coverage has been a key factor in the choice of database subscription in many tertiary institutions today, it necessarily has not been the reason for selection. Tertiary institutions and other research-based specialists organizations consider specialization with other factors remaining at play. Making selections choices especially in Nigeria remains a complex interplay of political, funds available, sponsoring body preference, personalities of

the heads of the institutions and their libraries, lobbying ability of the library management, and other hidden hands affecting the decisions.

Some Biases

- Popularity of the Database Vendor/Publisher a myth that popular or known database hosts are the best. In Nigeria today for instance, three popular database providers easily come to mind Elsevier (Science Direct), EBSCOHost (Academic Search Premier), and ProQuest. If you are not subscribed to these databases, then you are not considered as serious. Others include, HINARI Gateway provided, AGORA, OARE Sciences, ARDI, and so on. Other disciplinary and more relevant databases are not considered.
- Accreditation Experiences Accreditation team preference. During accreditation
 exercises, most members of the team of accreditors, come with a preferred choice of
 database that they are already familiar with and are usually stuck on such choices. A
 common request has always been tilted towards subscription to the popular databases.
- 3. **Presence of Impact Factor Journals** high impact factor has always been a source of debate among academics. Metrics used to measure impact are well coded, however, this does not seem to have successfully settled the debate. With claims by providers as regarding hosting high impact factor journals within their database options, criticism has come the way measurement is done.
- 4. **Specialty** disciplinary/subject focus is another bias that affects the choice of online databases. There are many special databases that can be considered and would give better value for money due to the depth and discipline-specific information that would emanate from a specialized database rather than a general but shallow database.
- 5. **Local Content Development** there has been very insignificant effort shown to the development of local databases for our academic institutions. It is heartbreaking to note

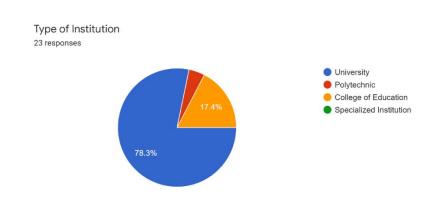
that despite the intellectual output of academics in Nigeria. A study of preferred choices of academic databases shows an overwhelming focus on international databases. The demise of the National Virtual Library project is a sore point in the pursuit of reliance on local content in Nigeria.

Methodology

The method adopted by the study is a descriptive survey research method. Using electronic questionnaire developed for the study was used to solicit responses from e-librarians, and some heads of libraries in some tertiary institutions in Nigeria. Data was collected from 23 institutions across Nigeria using Google Form. Results were presented using simple charts for the discussions.

Results and Discussions

Subscription Patterns

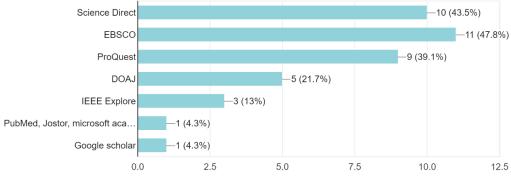


Source: Research Data (2022)

Universities compared to polytechnics, monotechnics, colleges of education and other specialized tertiary institutions in Nigeria, have shown more capacity to pay for subscription to academic databases and some have been able to sustain access to these databases. This is not

unrelated to the fact that universities are engaged more in research activities both from the members of faculty and graduate students. There are many other factors which could be mooted for the disparity in terms of capacity of tertiary institutions to support their students, researchers, and faculty in their research and general academic pursuits.

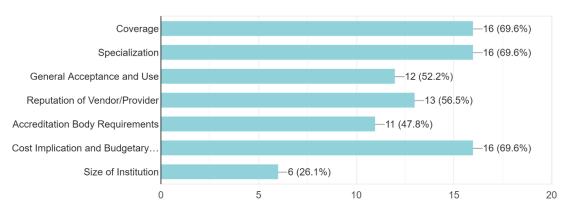




Source: research data

Popularity has always played crucial role in the selection process for academic databases among librarians, library management and general decision makers in tertiary institutions especially in Nigeria. Some of these database providers have become household names among librarians, and academics across the globe, a recognition of their excellence in the provision of databases with discovery services that aid retrieval of content with convenience. Science Direct (Elsevier), Academic Search Premier (EBSCOHost), and ProQuest have the highest acceptance and use amongst tertiary institutions in Nigeria.

In Selecting a Database to subscribe to, what things do you put into consideration? ²³ responses

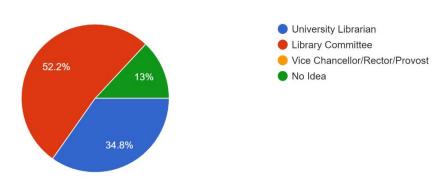


Source: research data

Coverage, specialization and cost are key factors that determine the subscription to academic databases in Nigerian tertiary institution. This is not unconnected to the difficulty posed with subscribing to just one academic database, let alone subscribing to multiple. So, consideration is always given to academic databases that have large coverage, yet with enough depth to cover specializations/disciplines within the institution. Reputation and general acceptability also notable influences the managerial thinking.

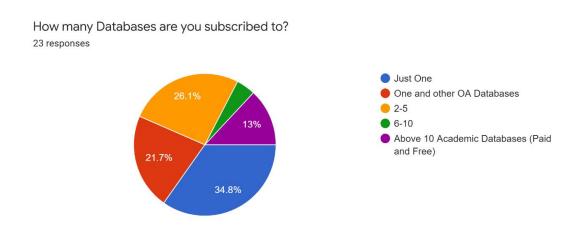
Database Subscription Management

Who makes the decision as to which Databases is subscribed to? ²³ responses



Source: research data

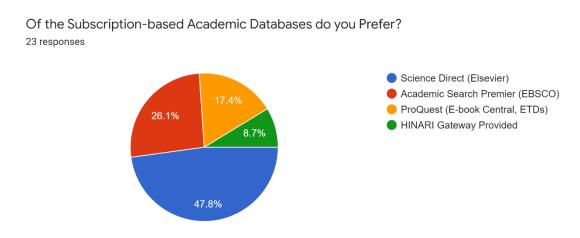
Making selection choices on databases requires careful thought on a number of factors ranging from the academic programmes offered in the institution, preference from faculty members, coverage, specialization, budgetary considerations, and other factors that may arise during the planning period. Some institutions have library committees that serve as an think tank on decisions that affect the library. From the study's data, a clear majority of responses indicate that the library committee (52.2%) were the sources of recommendation as to the choice of academic databases to be subscribed, while the university librarian (34.8%) made decisions. This clearly shows an involvement of the library administration in making selection choices, since the librarian is also a part of the library committee.



Source: research data

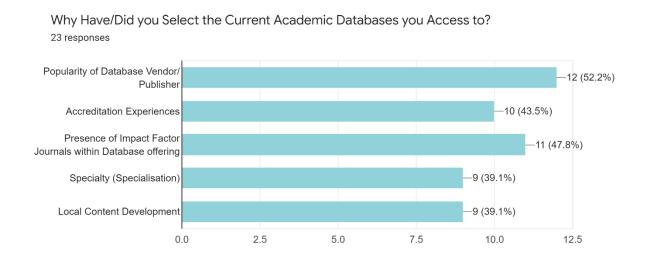
Subscription to academic databases are usually full, partial, or provided on request. This is because, many academic databases vendors provide scalable subscription packages from full to partial with variations to the information contents available to the subscribing institution. Journals (in different disciplines), e-Books, Theses and Dissertations, and other specialized content. And has been noted, popularity and coverage have been established as key considerations to selection choices of academic databases in this part of the world. According to the data, a majority of the respondents were subscribed to a single database (34.8%) this can be attributed to prohibitive costs associated with database subscriptions. However, with many vendors now providing open access databases, while some other databases are made available

for free to selected regions due to support and grants from funding bodies. HINARI for instance is mostly supported for institutions based in developing countries.



Source: research data

Of the paid databases, Science Direct by Elsevier (47.8%) has over the years been the database of choice. This is not a surprise due to the overwhelming popularity it has among library and information professionals. Plus, its massive coverage especially in the sciences, acceptability of journals within their database which are considered of high impact (SCOPUS advantage), they are known for hosting training programmes, participating at LIS conferences, and having a sustained engagement with the library community.

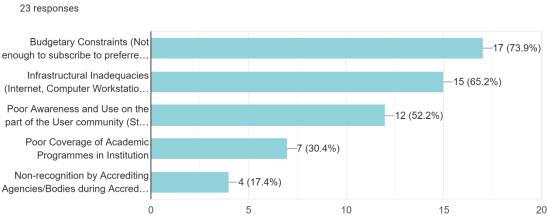


Source: research data 17

Justifying the preferred choice of databases, a look at the above chart gives a snap look at some of the reasons advanced for the selection choices of subscribed databases. Easy dependence on what everyone is already familiar with leads the chart – popularity (52.2%) with the other factors stated accounting for the popularity of the database. Except for specialty and presence of local content journals which are not considered too important as knowledge is general.

Challenges encountered by institutions in Database Subscription

Maintaining subscription to academic databases across tertiary institutions remain an important aspect of the teaching, learning and research endeavour of faculty members, research fellows and students. And this so far has not been without its challenges.



What Specific Challenges have you encountered in your Use or Subscription to Academic Databases?

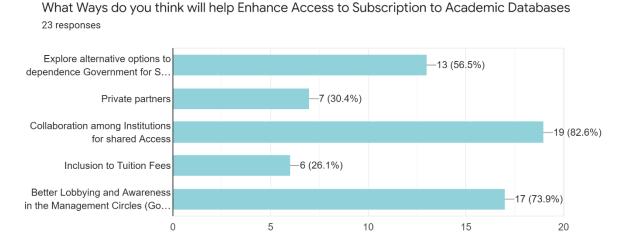
Source: research data

Many tertiary institutions particularly in Nigeria, have had to struggle continually to meet up with very important support for research. Budgetary constraints (73.9%) from the study has played the most part in their inability to maintain subscription to highly reputable academic databases such as ProQuest, Science Direct, EBSCOHost, and so on. Linked directly

with budgetary allocations is infrastructural inadequacies (65.2%) such as unstable power supply, poor Internet connectivity (where they are provided), lack of functioning workstations. These infrastructures are at the centre of the operation and use of these databases. Absence, indicates users get disconnected from the subscribed databases, and resources wastage occurs.

Underutilization of academic databases (where they are provided by the institution) as indicated by 52.2% who consider poor awareness among the user community as another challenge. Poor awareness and use of these databases could be linked with inconsistencies in the academic calendar due to frequent closures and interruptions through strike actions embarked upon by unions across tertiary institutions in Nigeria, not giving the librarians and library management enough time to properly market these databases. Due to the nature of subscriptions for which payments made provide access for specific periods (annual, for instance), due to long periods of closure of the institutions, most subscriptions usually expire either before resumption or within a short period after resumption. Many institutions hardly have the opportunity to pause their subscription due to uncertainties about when the institutions will reopen.

Ensuring Access to Academic Databases in Tertiary Institutions



Source: research aata

Improving the ability of institutions to keep sustaining active subscription will continue to remain a challenge if concerted efforts are not put in place by institutions and other stakeholders. With a high percentage suggesting shared access via collaboration among institutions (82.6%) indicating a helplessness due to the massive financial commitments required to get access to these databases. This seems to motivate the request towards collaboration for shared access across institutions so as to ease the pressure on smaller institutions who do might struggle financially to cope with the costs. Librarianship in Nigeria has not done too well in terms of lobbying for resources for the library within government and university management circles. The continuous cut in terms of funding and resource allocation to libraries and education in Nigeria, responses (73%) show that better lobbying by librarians and library management will enhance the financial abilities to sustain subscription to academic databases. There has always been a heavy dependence on government agencies (Tetfund most recently in Nigeria), and where the institutions' managements are not able to afford Exploring

Conclusion

Academic databases remain a crucial component of the research and scholarship life of every institution. Because the creation of novel knowledge is embedded at the heart of research endeavour. Disseminating research and scholarly communication help sharpen the practices of scholars, researchers, innovators, and so on. Regardless of the prohibitive costs of subscribing to these databases, academic institutions must remain committed to providing access to current and timely research to its community. Expanding the frontiers of knowledge on the African continent must be concerted and intentional, with goals set for research endeavour. Funding agencies must come to the assistance of tertiary institutions with particular reference to Nigerian higher education sector, especially with regards to providing access to high quality

databases. This is to remedy the perennial struggle faced by tertiary institutions in the country to retain subscription to qualitative database hosted content.

Recommendations

With the identified prejudices stacked against consistency in the management of database subscription, the paper suggests the following recommendations:

- 1. Building of local content but global availability of scholarly content dependence on foreign curated database content must be reduced, to kickstart the growth of locally produced and curated collection of the intellectual output of our own scholars. This can be achieved through the deployment of content on institutional repositories that are indexed and globally visible. This will increase the relevance of Nigerian scholars in the international community, because intellectual content from within will get seen, used, and generally add to the body of knowledge in their varying disciplines.
- 2. Government agencies charged with curriculum and general standards of the educational system must lead the trail by supporting tertiary institutions in development of internationally accepted knowledge to reduce the bias towards certain foreign vendors/providers of databases.
- 3. Consortium-managed subscription to international databases leaving individual institutions to managing database subscription seems to be very problematic as its currently practice. Agencies of government like the Nigerian Universities Commission (NUC), funding agencies like Tertiary Education Fund (TETFund) and other interested bodies should work towards a single entity to help manage access to Academic Databases in Nigeria.

References

- Blessinger, K., & Olle, M. (2004). Content analysis of the leading general academic databases. *Library Collections, Acquisition and Technical Services*, 28(3), 335–346. https://doi.org/10.1016/j.lcats.2004.05.001
- Darko-Ampem, K. O. (2003). Scholarly Publishing in Africa: A Case Study of The Policies and Practices of African University Presses. University of Stirling.
- Gusenbauer, M. (2018). Google Scholar to overshadow them all? Comparing the sizes of 12 academic search engines and bibliographic databases. *Scientometrics*, 1–38. https://doi.org/10.1007/s11192-018-2958-5
- Irenoa, K. O., Tijani, R. I., & Bakare, O. (2018). Enhancing Library Services Delivery in the 21 St Century in Africa: the Role of Cloud Technologies. *International Journal of Library and Information Science Studies*, 4(4), 1–9. http://www.eajournals.org/journals/international-journal-library-information-science-studies-ijliss/vol-4-issue-4-august-2018/
- Kadiri, J. a., & Adetoro, N. a. (2012). Information Explosion and the Challenges of
 Information and Communication Technology Utilization in Nigerian Libraries and
 Information Centres. *Ozean Journal of Social Sciences*, 5(1), 21–30.
- Kalantzis-Cope, P., & Gherab-Martín, K. (2010). Emerging digital spaces in contemporary society: Properties of technology. In *Emerging Digital Spaces in Contemporary Society:*Properties of Technology (Issue November). https://doi.org/10.1057/9780230299047
- Rafi, M., Jianming, Z., & Ahmad, K. (2018). Evaluating the impact of digital library database resources on the productivity of academic research. *Information Discovery and Delivery*, 1–11. https://doi.org/10.1108/IDD-07-2018-0025

Bray, N.J. & Major, C.H. (2011), "Status of journals in the field of higher education", *The Journal of Higher Education*, Vol. 82 (4), pp. 479-503.

Holderman, S. (2015). Formalizing the academic library subscription request process: An opportunity to cultivate relationships. *College & Research Libraries News*, 76(10), 547-549. doi:https://doi.org/10.5860/crln.76.10.9399