

# The State of ICTs in Nigerian University Libraries<sup>1</sup>

By

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## Introduction

There can be no better time to discuss the state of Information and Communication Technology (ICT) in university libraries in Nigeria. In the last few years, there has been a revolutionary growth in the use and deployment of ICT in research, learning and teaching. It has gone beyond the deployment for educational purposes to active use in business, governance, health, and general life circumstances, normalizing the *internet of things*. The advent of COVID – 19 pandemic further entrenched the use of ICT in daily living, especially in libraries. In a recent Delphi study of the impact of COVID-19 on libraries, it was discovered that “While offering a physical space to read and study will remain important, current events have already triggered a significant shift towards off-site working and study, making online access to information crucial” (Baker & Ellis, 2021, p.336). The study also suggested that “Libraries need a clear strategy and a vision for rapid technology variation” (Baker & Ellis, 2021, p. 321). In a more explicit statement, Atkinson (2021, p. 314) postulated that “E-delivery, not just of lectures, is likely to increase in all types of institutions. Libraries will need to reflect on the changing university environments they operate in”. The question, therefore, is whether university libraries in Nigeria have, in their present state demonstrated “a clear strategy and a vision for rapid technology variation”. In other words, how readily have Nigerian university libraries responded and adjusted to the emerging digital learning environment? Are we able to deliver on-site and off-site services amidst disasters? Even though a study (Akintunde, 2021) shows that only 9% of a representative sample of Nigerian undergraduate students from 38 institutions were able to access the library during the COVID-19 pandemic .

In an earlier study of the state of ICTs in libraries of tertiary education institutions in the country, key statements of conclusion in the study are: “Some modest steps have been taken

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by some institutions. More progress is required if Nigerian academic libraries will be relevant within the global academic community. The attitude of librarians and funding are major factors that can affect the deployment of ICT in the libraries” (Akintunde, 2006, p. 17). So, fifteen years after, what is the outlook? And how does this affect the prestige of the librarian in Nigerian universities. These are what this present study is all about.

## **Methodology**

The present study involved the administration of questionnaires to University Librarians using online social media WhatsApp platform and electronic mail, using the group platforms of the Association of University Librarians of Nigerian Universities (AULNU) and the Academic and Research Libraries Section (ARL) of the Nigerian Library Association. There were 53 responses received, and 48 were considered valid because of duplicate responses from five institutions. The study was supported by participant observation and role playing for over 35 years in the introduction of ICT into library services.

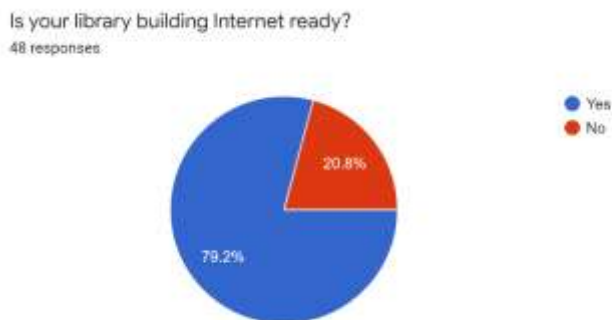
## **Information and Communication Technology**

Information and Communication Technology (ICT) is the technology used to communicate information. The technology is increasingly mobile and includes the use of gadgets such as telephone, radio, television; and applications in platforms such as social media – electronic mail, WhatsApp, Telegram, Facebook, etc. What ICT does is to convert hard copies or texts into digital content and transmit electronically for synchronous or asynchronous online access, interpretation and consumption. ICT generally enhance communication by speed, packaging and currency of information.

## ***Infrastructure***

### Internet readiness

However, for ICT to function effectively, there has to be necessary infrastructure in place. Identifiable infrastructure includes the buildings, electricity, internet connectivity, and gadgets. From the survey carried out, 79.2% of the university libraries claim that they are internet ready. See Figure 1.



**Figure 1. Internet readiness of university libraries**

### Electricity

However, only 31.3% of them have a 24/7 electricity supply to their libraries. This is interesting because it means that even if internet connectivity is available, there can be no transmission because there is no electricity to power it, although 75% claim that they have power back-up. Most of the power back-ups are switched on only during working hours of 8:00am – 4:00pm Monday – Friday, making access to their library resources difficult during evening, night hours and weekends. Except where the power backup is that of solar inverter, it is difficult for most libraries to sustain a 24/7 electric power supply and internet connectivity. From observation, many university libraries in Nigeria do not have the necessary funding and expertise to invest in the provision and maintenance of electric power backups.

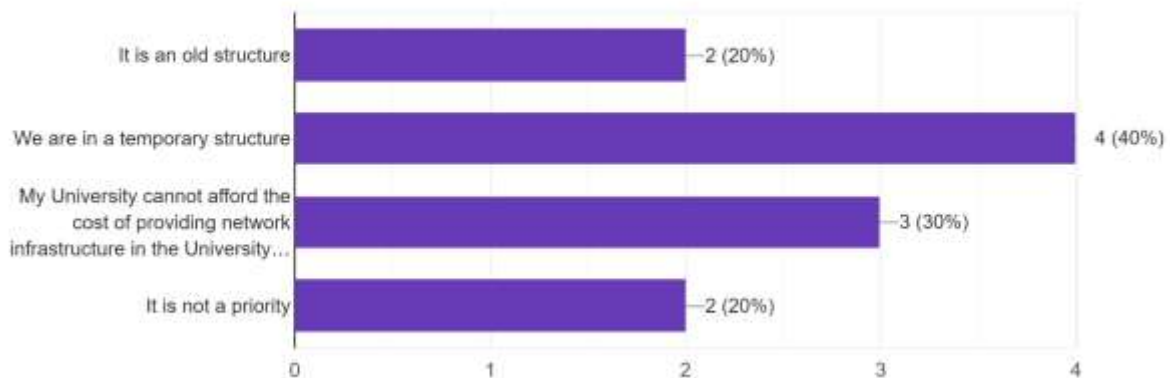
To be internet ready means more than having internet connectivity. Internet readiness means that connectivity is seamless, electricity is constant, necessary other facilities such as projection platforms such as smart board, digital projectors and screens, and switches are available. It is not certain that most of the libraries have all these facilities, which can be considered basic infrastructure for the internet readiness of a building.

### Library building

However, some lessons can be learnt from the reasons given for the buildings that are not internet ready as illustrated in Figure 2. The use of temporary structures is common among newly established institutions in the country. Whereas the preparation of administrative blocks is taken for granted in the establishment of universities, that of the library is sometimes considered as an afterthought. The reason for this line of thinking is yet to be understood, especially realizing that the structures are academic structures.

If "No", why? Check all relevant answers

10 responses



**Figure 2. Why library building not internet ready.**

It is expected that a library building would be a priority in any plan for academics because if there is a library facility, then academics can go unmitigated. Students and staff can always avail themselves of research and learning facilities even where there are insufficient lecture classrooms and offices for staff. So, it is expected that this reasoning of relegating the library to a second thought will be eliminated when the plan for permanent structures is executed. The same logic can be advanced for lifting the library out of 'old structures' as responded by 20% of the respondents. Since it is possible that both the library and other university structures remain in temporary or old structures which date back to pre-ICT age, then it is hoped that necessary adjustments would be made as soon as budget permits to make the structures technology compliant. This has to be a deliberate effort. Most libraries in Europe and America, and even in Africa are not technology ready after modifying their old structures and making them technology compliant because of the need to stay abreast of current developments in research and learning and, especially to sustain scholarly communication.

However, of interest is the response given that internet readiness is not a priority, showing that there are probably more perceptually important structures than the library. This, along with the response that the library is hosted in an old building, clearly indicate the importance placed on the library in the establishment of universities in Nigeria.

### Technology readiness

From the responses received in the study population and from observations, it is imperative that adequate and deliberate preparations be made for Nigerian university libraries to be truly internet ready. It is even safer to say that there is sufficient need to be technology ready. This involves the design of learning and access spaces, provision of access points and appropriate applications that will make research and learning attractive. This includes adequate provision of facilities for scholarly communication such as functional electronic mail

services, teleconferencing, podcasting facilities, gaming rooms, and discovery spaces such as a makerspace.

### Library spaces

The technology ready library is that which is able to attract sustained interest in library facilities, both in terms of spaces and learning materials whether physical or virtual because it meets their need for research, teaching and learning. Library spaces is defined here as the provision of learning communities which include appropriate and diversified furniture, coffee rooms, cafeteria, reading rooms (including group and self-study rooms), discussion rooms, computer access rooms, recreation rooms, innovation rooms, scholarly communication rooms, virtual rooms with resources such as databases and library applications, tutorial rooms, question and answer rooms, with consideration of other abled users. It is therefore not the size of the library or the age, rather the functional facilities that keep clients abreast of global currency.

### **Leadership in ICT**

For any Nigerian university library to attain this status of a technology ready library as described and which would be at the front end of university central goal of learning, then it must provide leadership on campus. The University Management, and, indeed the entire university look up to the University Librarian as the vanguard of change because of his/her expected unhindered access to new developments in technology and learning paradigms. The question then is “Are University Librarians in Nigeria vanguards of change and learning?” What is the current situation?

### ***Budgetary provision***

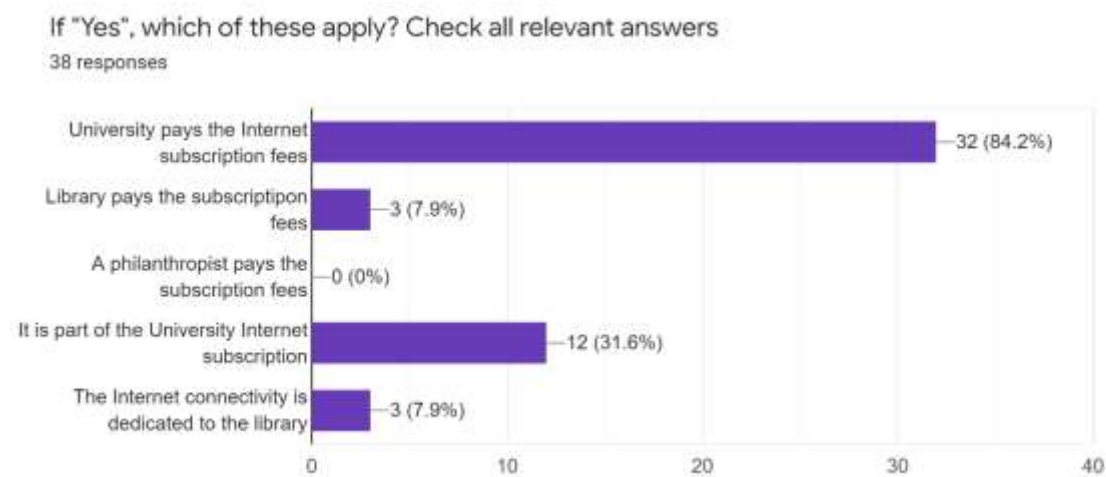
From the study conducted in preparation for this presentation, it is obvious that libraries in Nigerian universities are yet to reach that level of leadership for various reasons. One recurrent challenge for libraries is budgetary provision for technology development in libraries. The other is human capital development in terms of ICT competencies. Yet another is the management of hardware and digital library resources. So also, the variety of services provided by the library.

The reality about university library budget in Nigeria presently is that there is little to offer. For public universities – Federal and State-owned universities, regular budgetary provision for libraries is not realizable. In most cases, the development of the library is dependent on periodical interventions by philanthropists and benefactors. In situations like this, it takes an innovative, creative and passionate University Librarian to attract necessary funding for the library and particularly for technology projects of the library. Non-public universities may attract different funding levels depending on the vision of their proprietors and University Management, and indeed the University Librarian. Therefore, the leadership role of the University Librarian is a necessary key factor in the development of technology of the library.

Leadership is defined here as the ability to influence decisions, inspire and motivate staff, and lobby to keep the library running and improving daily.

### Interacting with ICT staff

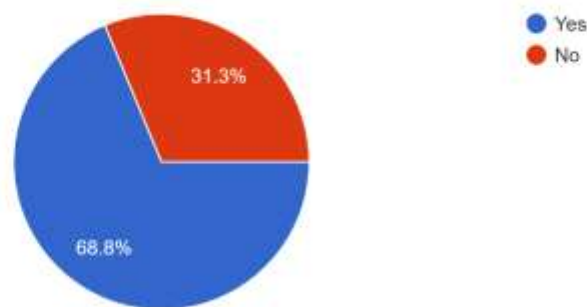
The subscription for internet access of university libraries in Nigeria is presently funded by the parent university as discovered in the study where only 3% of libraries pay for their subscriptions. Also, only 3% claim that the bandwidth is dedicated to the library. See Figure 3.



**Figure 3. Who pays internet subscription fees?**

This means that majority of university libraries in Nigeria are dependent on the magnanimity of the Directorates of ICT or the negotiating prowess of their university librarians to achieve adequate bandwidth for the library. In terms of leadership, this implies that the University Librarian as a principal officer of the university will have to constantly negotiate with an officer who is less superior. In order to avoid 'disrespect', some university librarians abandon this leadership role to their deputies or Systems Librarians and the result usually has been that of mutual suspicion and frequent downtimes of internet connectivity. This again, suggests that the university librarian has a critical leadership role to play in making internet connectivity to the library to be sustained and for the availability of adequate bandwidth for the university library because of the increasing need to access teaching and learning resources online. So, having internet connectivity is not sufficient, it must meet the need of the library. In the survey, 69% of the libraries claim to have 24/7 internet connectivity. See Figure 4.

Does your Library enjoy regular Internet connectivity (24/7)?  
48 responses

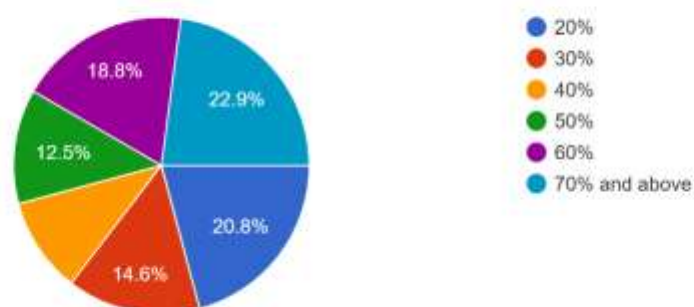


**Figure 4. Regularity of internet connectivity.**

### Developing leaders

Part of the leadership role of the University Librarian is to create and nurture atmosphere for staff of the library to take responsibility for their personal professional development and the development of the library. In this case, it was discovered that only 42% of the libraries have their staff with more than 50% ICT competencies that are relevant in the library. Such competencies include ability to communicate via electronic mail, booting and shutting down computers, access and use databases, carry out search on the world wide web, etc. But the important finding here is that all university libraries in Nigeria have increasing number of staff with competencies in relevant areas for service as illustrated in Figure 5.

What per centage of your general library staff have any relevant ICT competencies?  
48 responses



**Figure 5. ICT competencies of library staff.**

What the University Librarian needs to do is to harness these by perfecting and increasing the competencies of each staff since the digital platform is apparently the next generation of

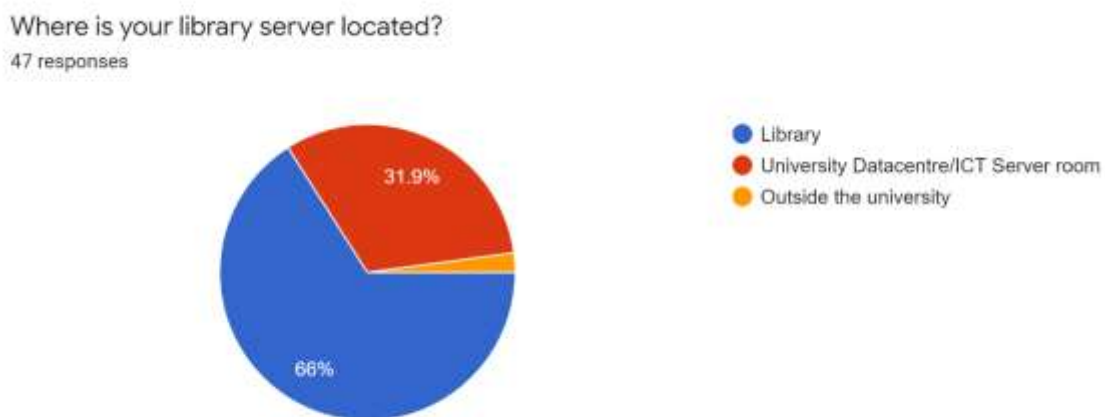
service for librarians. Some avenue of human capital development in ICT for the library is in-house staff training where those with a higher level of competence train those of lower level. Another avenue is to invite trainers from outside the library, and the trainers could be from within the university, other libraries, vendors, professional trainers. Library staff could also be sent for training at workshops or a formal academic training. In all these, the librarian must take the leadership role by ascertaining the appropriateness of the trainings to the present and future need of service provision and professional development of the staff.

### Competency of the University Librarian

Most critical in all these is the competency of the University Librarian. The first leadership requirement which commands respect and followership from both staff and the university community is the demonstrable competence of the University Librarian in ICT. The Librarian should demonstrate to library staff the ability to search and manipulate computer systems, work with databases, relate physical spaces with virtual spaces, and instruct staff appropriately. The Librarian can also initiate the demonstration of similar competencies to the wider university community and making progressive suggestions at opportune times, such as at university management meetings, senate meetings, and Governing Council meetings. Playing such roles will only strengthen the bargaining power of the Librarian and earn a lot of respect for not only the librarian but the entire library staff.

### Managing hardware

On the management of hardware such as library servers, this study discovered that whereas 66% of the libraries have their servers located in the library (Figure 6), only 45% of libraries have the servers managed by library staff. Fifty-five percent of the servers are managed either by staff of the ICT Directorate or outside vendors as illustrated in Figure 7.

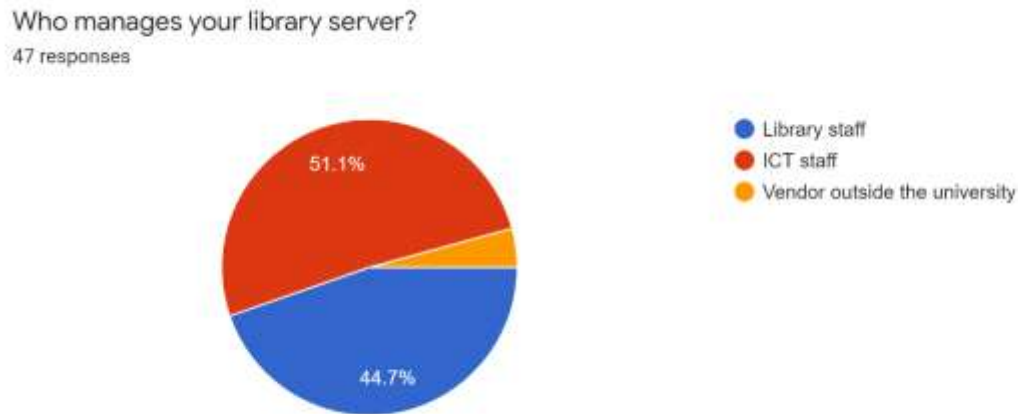


**Figure 6. Location of library server.**

In some institutions, the location of library servers could be politicised, and this should be avoided because it results in obstructed human relationships within the university system, particularly between ICT staff and library staff. There are also institutional policies that



determine the location of servers within the university which affects those of the library. It is important to note this, especially location that is guided by institutional policy. At the University of Jos for instance, the servers are now located at the Datacentre but managed by library staff. They were initially located in the library and managed by library staff. The Datacentre is a customized space for all servers of the university.



**Figure 7. Who manages library server?**

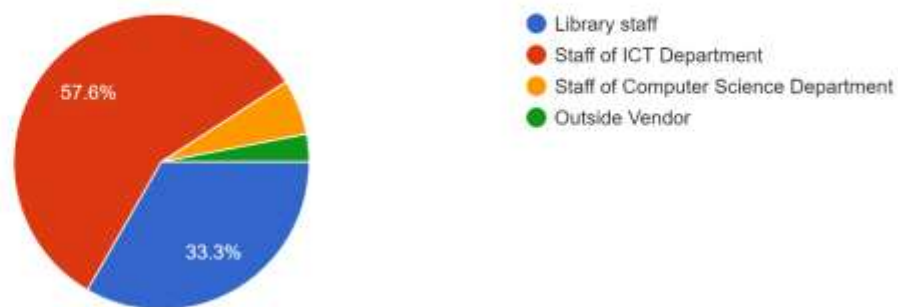
The only plausible reason for this trend is the competency of library staff. This is surprising because 88% of the libraries have Systems Units, with 69% having Systems Librarians and with 71% of libraries having between 1 and 5 staff. This implies that the competencies of library staff in ICT needs urgent upgrading so that they can effectively manage library technology hardware. One way of achieving adequate management is to employ staff with ICT training or certificates such as technical or Computer Science and resident in the library. This is necessary if the library will robustly cope with the demands of an efficient and effective digital library service. Library staff would then manage library servers whether they are located within the library or at ICT centre.

#### Managing applications

Apart from management of library hardware, it was also discovered that management of library applications and services such library websites which 63% of the libraries have is largely done outside of the library. See Figure 8. Library staff should be able to manage their website by designing and populating it with relevant content. They would more likely be able to keep the site current. It increases the self-esteem of library staff and provides opportunities for the exploration and exploitation of their creative instincts. They should therefore acquire relevant skills set for this.

### Who manages your Library website?

33 responses

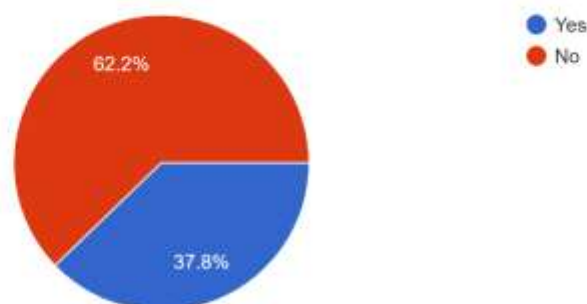


**Figure 8. Who manages library website?**

It is probable that it is this lack of competency or adequate human resources that accounts for only 38% of libraries having Institutional Repositories. See Figure 9.

### Do you have an Institutional Repository (IR)?

45 responses



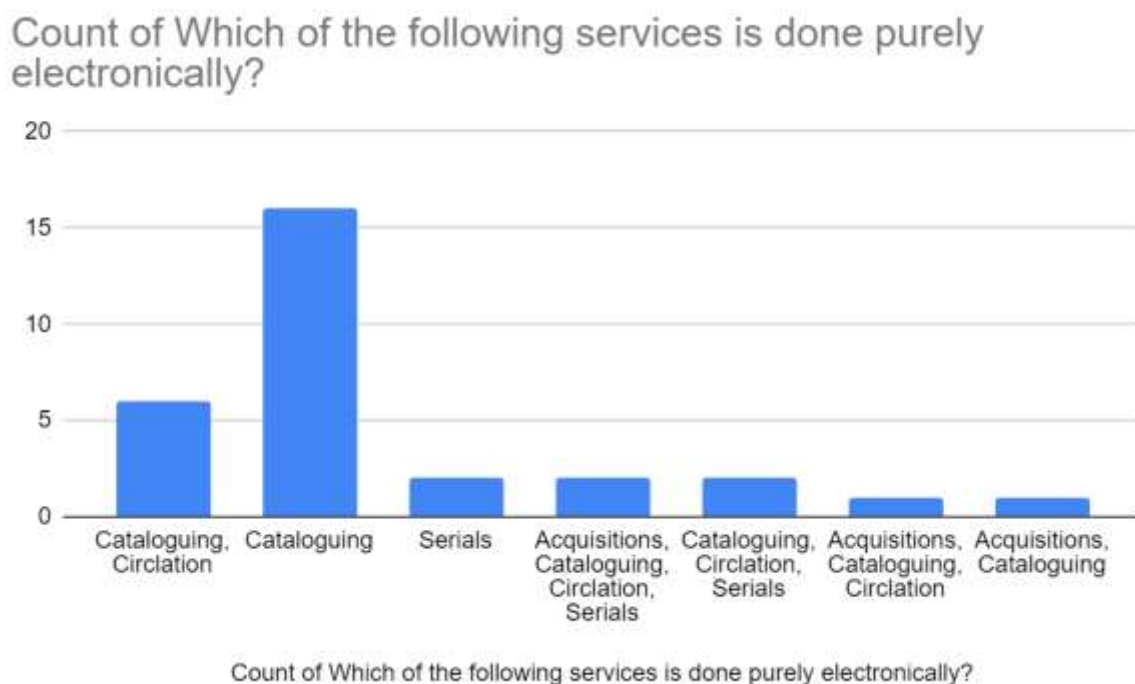
**Figure 9. Availability of Institutional Repository.**

This trend is critical because, at this point in global librarianship it is assumed that all libraries have a web presence and that all tertiary education institutions have institutional repositories where the research outputs of their institutions are aggregated, displayed and accessible. The library website is the virtual alternative to the physical library where library resources are organised and accessible. It is possible that the lack of these services in university libraries in Nigeria is responsible for the many cases of low prestige of the librarian in the universities. This emanates from low competencies and lack of adequate web access points for the scholarly community. It is pertinent to note that scholars are more likely to respect those who provide them with their immediate scholarly need in a most current and from the most credible source which a truly digitally competent library will easily provide.

## Digital Library Management

### *Library Management system*

It is therefore interesting to discover that most of Nigerian university libraries do have attractions for the library even if they fall short in terms of competency and electronic facilities. Sixty percent of the libraries do have a library management system (LMS) is used to manage services. This shows a growing need to digitize and provide electronic services for library clients. The LMSs are mainly Koha which 57% have put into use and 4% have installed but yet to activate, then there are Alexandria, NewGen Integrated Library Management Software, Readable Library Management System, SLAM, and University of Ibadan Integrated Library Management System used by single libraries respectively. It is even more interesting to discover that the service that has attracted more libraries is the cataloguing module of the LMSs, while other modules are gradually being activated. See Figure 10. This is a good development because it means that if there is consistency and continuity in library leadership, the digital operating space of Nigerian university libraries will change for the better in the next few years.

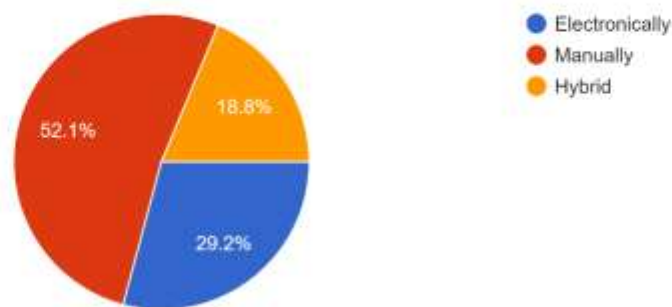


**Figure 10. Library services performed digitally.**

### *Library registration*

It is equally interesting to discover that 48% of libraries now register new clients either electronically or hybrid of electronic and manual. See Figure 11. This is developing because hitherto, this was not the case.

How is the registration of new patrons done in your library?  
48 responses



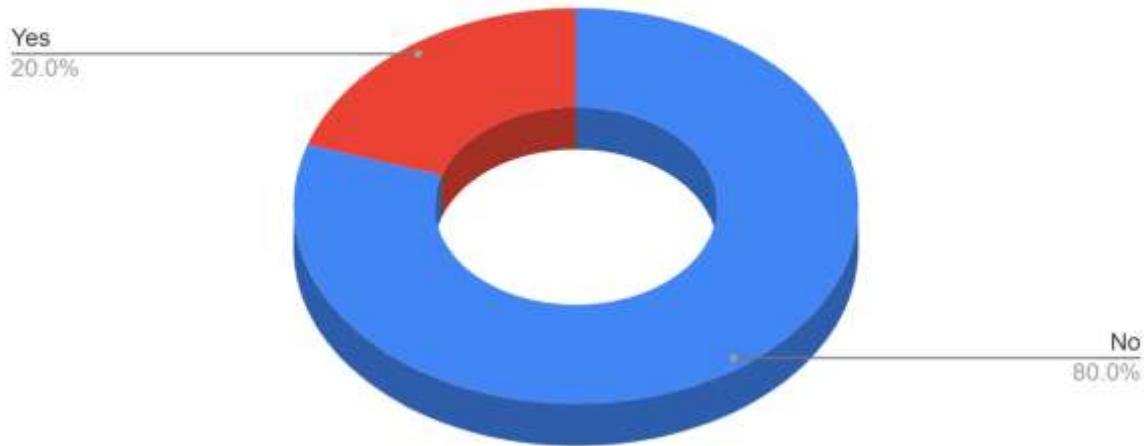
**Figure 11. Registration of new library patrons.**

### ***Online Library Tour***

Similarly, 30% of university libraries now have Tour Guide online, and about the same percentage – 32% attend to queries online. The implications of these are that with time, more clients will feel more comfortable approaching the librarian for services and see the library as an integral part of the academic system. It also connotes more competencies and diversity of services for library staff. It is imperative therefore, that university libraries in Nigeria should put in more effort at improving on their present ICT situations for a more seamless digital environment.

One of the critical areas of library services is in the evaluation of library services. This is one aspect of academic librarianship where leaders are yet to properly explore in order to match demand with budget and advocacy. Towards solving this problem, some libraries have mounted electronic gates which are used in monitoring visits to the library, while LMSs record circulation data. In the study, it was found that 21% of libraries now have functioning electronic gates. See Figure 12. Data from electronic gate counters can be used effectively to prove the compulsive use of the library by students and staff and in making requests for more library budgets and facilities.

Count of Do you have a functional and functioning electronic gate/entrance into your library?



**Figure 12. Electronic gate.**

### ***Database subscription***

This study also discovered that all the libraries, except one, subscribe to databases as reflected in Figure 13. Subscription to databases means availability of research literature for staff and students, no matter the level of subscription. This attracts clients to the library whether virtually or physically. And, since these are electronic resources, and with library websites not up and running in all the libraries, it means that access to these resources will be limited, probably to working hours. It also means that money spent will not be effectively used. In other words, return on investment will be low.

Does your library subscribe to the following databases? Check all that is relevant  
47 responses

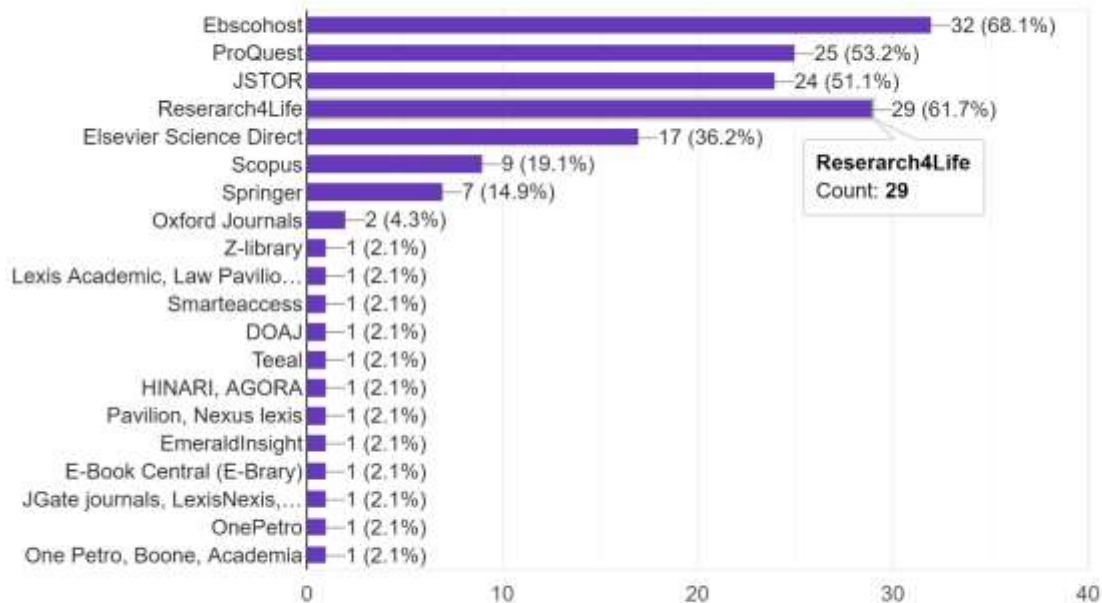
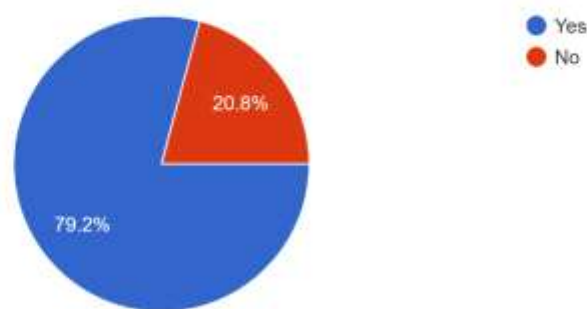


Figure 13. Databases subscribed to.

**Information literacy**

However, this loss can be mitigated by an intensive information literacy programme which 79% of the libraries claim to engage in and which can lead to maximal use of resources. See Figure 14. Information literacy enables the user of information to do appropriate search, then evaluate the result and use. It includes digital literacy (DL) which has been described as “a crucial skill which will become more important. Without extensive training in information literacy and digital fluency, users will not be able to access resources nor take advantage of them. DL should involve the ability to evaluate information”( Baker & Ellis, 2021, p.9).

Does your Library run Information Literacy programme for your patrons?  
48 responses



**Figure 14. Information literacy programme.**

### **Conclusion**

Results from this study of the state of ICTs in Nigerian University Libraries indicate that some progress has been made in the last decade towards improving the provision of digital services. However, a lot still has to be done in emboldening librarians to take responsibility for the management of services and resources that they offer to clients by having necessary competencies and taking the leadership role on campus. University Librarians can immensely influence the current in a positive way by improving on their own personal competencies and demonstrating these to their staff and the university community. The environment for the uptake and diffusion of digital library services deserves vast improvement involving basically leadership influence and funding. As university libraries improve on their collection of databases, this must be accompanied by digital literacy and information literacy such that resources are maximally utilized and there is a return on investment. To have a more comprehensive understanding of the state of ICTs in Nigerian University libraries will demand a response from the beneficiary of the library services. Indicative research reports show that the users are yet to maximally benefit from technology driven services of university libraires in Nigeria. Every effort must therefore be made to improve the situation.

### **Recommendations**

1. University Librarians in Nigeria must strategise to bring to reality a digital library environment in the Nigerian University system. This would enable sharing of resources, both human and virtual.
2. Each university library must take responsibility for the evolution of a technology ready library.
3. University libraries should seek collaborative support amongst themselves for the development of the whole. Libraries in need of support should approach those who are better positioned for enhanced growth.

4. The employment and training of competent library staff to manage technology in the library should be a priority.
5. University Librarians should serve as models for their staff in the adaptation and use of technology for library services.
6. University Librarians should demonstrate their competencies to the management of their respective universities as a strategic means of attracting support for library development.
7. The Association of University Librarians of Nigerian Universities should draw up a benchmark of ICT requirements for the running of universities in Nigeria with timelines in order to accelerate the adaptation and use of technology for library services in the country.



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