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**PRESERVATION PRACTICES ON SUSTAINABLE SERVICE DELIVERY IN
ACADEMIC LIBRARIES: A COMPARATIVE ANALYSIS OF FEDERAL
COLLEGE OF EDUCATION (TECHNICAL) AKOKA (FCET, AKOKA), AND
UNIVERSITY OF LAGOS (UNILAG)**

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Abstract

This study examines the influence of digital preservation practices on the quality-of-service delivery in Academic libraries, specifically comparing the Federal College of Education (Tech), Akoka, and the University of Lagos, both in Lagos State, Nigeria. The study adopted a descriptive survey research design with a total population of 24 librarians, comprising all librarians of the FCET, Akoka, and UNILAG, both in Lagos State. The entire population was used as a sample due to its manageable size, using the census sampling technique. A self-structured questionnaire "DPPOSDQ" was used as the instrument to gather data, with a 100% return rate. Experts in the field of study validated the instrument. Reliability was by test-retest method which yielded 0.86 reliability index. The data gathered were analyzed using simple percentages and frequency counts. The findings revealed that e-journals, e-books, computers, Online Public Access Catalogue (OPAC), and institutional repositories are the major electronic resources available in both Libraries. It also identified encapsulation, copying of files into multiple locations, and resource access control as the main digital preservation practices, they currently employ. The study showed that both libraries perceive digital preservation practices as positively influencing service delivery. Finally, the study found that the major challenges affecting both libraries in maintaining digital preservation practices are technological obsolescence, poor ICT infrastructure, lack of preservation policy, and lack of internet, especially in FCET, Akoka. In conclusion, FCET, Library and the UNILAG library acknowledged the presence of e-journals, e-books, OPACs, computers, and institutional repositories leading to quality academic service delivery. The researcher recommends that libraries should develop and establish comprehensive digital preservation policies that outline standards, procedures, and responsibilities addressing issues of data backup, security, and long-term access, ensuring a structured approach to digital preservation.

Keywords: Digital Preservation, Preservation Practices, Digital resources, Quality Service Delivery, University Libraries.

Introduction

The quality of teaching, research, and community service of library staff in any university system depends largely on information materials and services available in the academic library. Information availability, accessibility, and use are essential to the teaching, research, and service activities of scholars in the Nigerian university system (Udo-Anyanwu & Mezieobi, 2020). The need for quality service delivery in libraries stems from the service-centric nature of libraries, where users' satisfaction is the gauge to measure how well the library is fulfilling its objectives. According to Igbinovia (2022), the concept of service delivery in libraries entails the act of providing library users with the necessary professional assistance required to meet their information needs. This assistance is fragmented into different direct and indirect services, which constantly need to be improved upon to catch up with the ever-changing information needs of the 21st-century library users.

The rapid advancement of digital technology that precipitates the information age has created a global networked society, transforming the landscape of information storage and retrieval, where access to digital information has revolutionized every aspect of life, especially libraries as natural curators of information and knowledge. Today's libraries are repositories and access points for print, audio, and visual materials in numerous formats, including maps, prints, documents, microform CDs, cassettes, videotapes, DVDs, video, e-books, audiobooks, and many other electronic resources (Awotola & Olowolagba, 2018). Libraries, at the heart of knowledge dissemination and preservation, have increasingly adopted digital preservation methods to safeguard valuable resources. This is all in a bid to maintain the quality of services that the library delivers, as the services rendered are as good as the information or information materials that they have stored within their collection. This is the reason Temboge and Magaji (2021) argue that e-resources are acquired and preserved by college libraries for future access and use as well as to ensure that the lifespan of the e-resources survives in forms and formats accessible and usable to the target users.

According to Masenya and Ngulube (2021), the digital age has brought significant changes to how information is stored, accessed, and preserved in academic institutions. Therefore, libraries, as the heart of these institutions, have had to adapt by adopting digital preservation methods to ensure their collections remain accessible for future generations. In Nigeria, where higher education is a critical driver of national development, the effective preservation of electronic resources is essential to maintaining the continuity and accessibility of academic content which are either acquired or a product of the academic output of both students, staff, and researchers of the institution. Preservation and conservation of library materials implies a wide range of methods and ideas to keep all the information materials found in libraries, archives, and cultural places in good shape which include books, old documents, pictures, artwork, videos, and even electronic information materials to ensure they stay in good condition, both physically, retain their intrinsic value, so they can be used and appreciated for a long time (LISedunetwork, 2021). This involves a broad spectrum of preventive measures, including environmental controls, proper storage, and careful handling guidelines, all designed to minimize deterioration and shield against potential threats. Kaminyoge and Chami (2018) averred that binding, lamination, and photocopying are traditional methods of preservation of information materials, and, consequently, outdated preservation techniques. Therefore, it is essential for librarians tasked with safeguarding information resources to acquire and implement modern preservation approaches that are consistent with the application of information and communication technology (ICT). The new and modern trend of preservation of library information resources using digital technologies is referred to as digital preservation. According to Xie and Matusiak (2016), digital preservation represents an emergent area of digital library research and practice that focuses on the policies, technologies, and strategies to ensure that digital library objects and collections are available and usable now and in the future.

It encompasses materials born in the digital format as well as those converted from the analog format through the digitization process to provide qualitative services, as well as effective and efficient library service delivery. There is no denying that digital preservation practices have become crucial in university libraries, significantly influencing the quality-of-service delivery.

As academic libraries evolve to accommodate the rapid advancements in digital technology, they increasingly rely on these practices to ensure the longevity and accessibility of their collections (Akinlolu et al., 2023). Since higher education plays a pivotal role in national development in Nigeria, maintaining access to electronic resources is essential for supporting teaching, research, and community service. Should university libraries lack the capacity to engage in digital preservation practices that can enable them to have seamless access to digital information materials, their capacity to render quality services to their patrons in this technology-saturated era may be difficult. It is on the aforementioned premise that this study seeks to explore the influence of digital preservation practices on service delivery by comparing the Federal College of Education (Tech), Akoka, Lagos, and the University of Lagos, Lagos State, Nigeria.

Statement of the Problem

Libraries in higher institutions have evolved from being mere repositories of physical books to becoming dynamic hubs of digital information as a result of the shift toward electronic resources and the need to preserve digital content. This has introduced new challenges, particularly in the context of developing countries like Nigeria, where the effectiveness of electronic preservation methods varies significantly across institutions due to differences in resources, technological infrastructure, expertise, and institutional priorities. Despite the challenges faced by these libraries with the adoption and implementation of digital preservation methods, some appear to have made notable progress in integrating digital preservation practices to improve their library services. However, there seems to be a lack of comprehensive research that compares these efforts and their influence across different institutions, which may hamper the ability of libraries to collaborate effectively, share resources, and adopt practices that could enhance their service delivery.

The study therefore seeks to dwell on the influence of digital preservation practice on quality service delivery in university libraries - comparing the Federal College of Education (Tech), Akoka, and the University of Lagos, Nigeria.

Aim and Objectives of the study

The aim of this study is to investigate the influence of digital preservation practice on quality service delivery in academic libraries, comparing Federal College of Education (Tech), Akoka, and University of Lagos, Nigeria. Specifically, it seeks to:

- i. Identify the digital information resources available in FCET, Akoka, and UNILAG libraries.
- ii. determine the digital preservation practices currently employed in the selected libraries.
- iii. ascertain the influence of digital preservation practices on the quality of service delivery in the selected libraries and;
- iii. examine the challenges faced in maintaining digital preservation in the selected libraries

Research questions

The following research questions were raised to guide the study:

1. What are the digital information resources available in FCET, Akoka, and UNILAG?
2. What are the digital preservation practices currently employed in the selected libraries?

3. What is the influence of digital preservation practices on the quality-of-service delivery in the selected libraries?
4. What are the challenges faced in maintaining digital preservation in the selected libraries?

Literature Review

Concept of Digital Preservation

Digital preservation refers to the processes and activities involved in maintaining and ensuring long-term access to digital information. This includes digitizing physical collections, maintaining digital repositories, implementing backup systems, and utilizing metadata standards to enhance accessibility and retrieval. The primary goal of electronic preservation is to protect information from loss, corruption, or obsolescence, which is particularly critical in academic settings where research and knowledge are central. It is meant to ensure that information is usable over time and can be made available in meaningful ways for currently existing and future users, beyond the limits of media failure or technological change (Najar & Wani, 2019). In line with the above, Sisinna (2022) posited that digital preservation is the process of maintaining, managing, and storing digital content in a way that ensures it remains accessible and usable in the future and by future generations. It is a proactive approach to managing digital content, including taking steps to ensure that it will not be lost or corrupted over time. It encompasses everything from backing up data to preserving websites and digitized collections, and also allows us to keep pace with the ever-increasing volume of born-digital content being created every day.

Digital Information Resources in Academic Libraries

To fulfill the information requirements of its patrons, each library must obtain, categorize, and share various information resources, which can be in printed or digital formats. This is essential for the library to efficiently assist its users in achieving their objectives when it comes to searching for information. according to Alhaji (2023), digital information resources have become increasingly prevalent in university libraries, revolutionizing the way students, faculty, and researchers access and utilize information. These resources include a wide range of electronic materials that can be accessed and used online. One of the primary digital information resources in university libraries is electronic databases. These databases contain vast collections of scholarly articles, research papers, and other academic resources from various disciplines. Raju (2014) asserted that the digital information resources in university libraries encompass electronic databases, e-books, e-journals, institutional repositories, and multimedia materials, which help to expand access to information, facilitate research and learning, and provide opportunities for collaboration and knowledge sharing in digital formats

In a study by Olorunfemi and Ipadeola (2021) on library and information resources use by undergraduate students of the Federal University of Technology, Akure, it was revealed that the information materials available and accessible for use in the library are textbooks, reference materials, Online Public Access Catalogue (OPAC), card catalogue, newspapers, E-Book, online databases, theses and dissertations, except for journal and CD-ROM. According to Mubofu et al. (2020), printed information resources such as textbooks, journals, magazines, maps, reference materials, etc., are more predominant in academic libraries in Nigeria than digital information resources. However, academic libraries are striving to acquire different digital resources or indulging in the digitization of their print resources to be in tune with the modern trends of information service delivery. According to Francis (2023), digital resources are digital publications that deliver knowledge through online platforms such as academic publications, databases, websites, videos, and various other things. They are well-liked by students and academicians because they offer ease, flexibility, and a great amount of knowledge that can be accessed remotely

Quality service delivery in libraries

Libraries across all types, sizes, geographical locations, and parent bodies are commonly tasked with the fundamental requirement of ensuring quality in their service delivery. This makes service delivery central to the operations of libraries, while their resources are geared toward delivering services that are adjudged to be of high quality. The need for quality service delivery in libraries stems from the service-centric nature of libraries, where users' satisfaction is the gauge for measuring how well the library is fulfilling its objectives (Igbinovia, 2022). In a study on the assessment of quality in the library services delivery of the Federal University of Technology, Owerri, by Obiano et al. (2021) while discussing the areas where quality service delivery is highly needed in academic libraries asserted that information acquisition, storage, handling, and dissemination have been tremendously and positively affected by computer technology. because of the shift in information handling from physical resources to digital or e-resources. they further noted that Computer application has remarkable benefits to academic libraries, including fast, effective, and efficient service, ease of generation of vital statistical records, and cost reduction. The quality of library service delivery is influenced by a combination of resource availability, technology adaptation, infrastructure, and user satisfaction. Libraries must prioritize these factors to improve their service offerings and meet the evolving needs of their users.

Digital preservation practices in academic libraries

Preservation may be described as involving all those library activities aimed at preventing, retarding, or stopping the deterioration of materials, so that the intellectual content may be saved for future users. In the past, libraries were mainly concerned with taking steps to preserve the physical artifact (or a photocopied or microfilmed facsimile of the artifact) that contained the information, rather than preserving the information itself (Hazarika, 2020). Traditional library preservation strategies have therefore long been established for physical objects, but these strategies do not always transfer neatly to the preservation of a digital object; hence, the introduction and use of electronic infrastructure to preserve library material is referred to as digital preservation. In line with this, Kaminyoge and Chami (2018) in their study conducted at Zanzibar National Archives argued that the method of bindings, lamination, and photocopying are traditional and therefore outdated preservation practices; recommending that librarians responsible for information resource protection should learn and adopt new preservation strategies, leaving aside the outdated methods.

Akinlolu et al. (2023) asserted that among the digital preservation practices undertaken in digital libraries is encapsulation, which is keeping the old technology or the hardware and software that were used to create and access the digital information in its original form and environment. Technology emulation as part of digital preservation practices is the process of developing new software to replicate the functionality of previous software. Another preservation practice is metadata, which helps in tracing the history of digital items; therefore, it is important to manage and keep the metadata safely to enable users to find and use them in the future. This is similar to the findings of Nworie (2019) in a study on preservation strategies for electronic records revealed that the digital preservation strategies in use for addressing the problem of deteriorating digital information resources were refreshing, migration, and emulation.

In a study by Mubofu et al. (2020) on academic libraries and information resource preservation strategies, the researchers recommend that due to the rapid rate of information resource deterioration in academic libraries, modern preservation strategies such as databases, institutional repositories, technological emulations, and content migration for digital resources should be used be adopted to safely protect the resources in both formats for current and future generation. Digital preservation of library resources has the

potential to help solve problems in the information hemisphere in the present and future by providing access to data that would otherwise be lost.

Digital preservation practices and service delivery in academic libraries

The function of any library is to acquire, process, organize, preserve, and conserve printed and non-printed information materials for utilization by the users. Libraries' holdings are the priceless birthright of mankind as they preserve facts, ideas, thoughts, accomplishments, and evidence of human development in diverse areas, ages, and directions. Therefore, preserving intellectual cultural heritage is not just an academic commitment but also the moral responsibility of the library professionals, who are in charge of library repositories (Makinde et al., 2022). A change to the digital era is compelling academic libraries to rethink their structures, operations and services to remain relevant in this digital era. Hence, the proliferation of the explosive growth of digital devices and related applications has collectively altered the traditional academic library beyond recognition (Masenya & Ngulube, 2021).

Digital materials are information resources in electronic format that contain data for the use of library patrons. The fragile and delicate nature of these materials necessitates proper preservation to ensure effective service delivery (Azobuogu, 2019). This involves maintaining long-term accessibility and security of electronic resources, which is essential for providing quality library services. In line with this, Masenya (2018) argued that the primary reasons for preserving digital materials in academic libraries include managing digital content, enhancing library services, increasing adoption and interest in digital technologies, pressure from other institutions in developed countries, competition among academic institutions, and demand from researchers at other libraries. Therefore, digital preservation is a vital aspect of delivering quality library services in the digital era, as ensuring long-term access, security, and preservation of electronic resources allows libraries to improve user satisfaction, safeguard institutional knowledge, and stay relevant in an increasingly digital world.

Challenges to digital preservation in academic libraries

The purpose of preservation in libraries is to protect information and make it accessible. Digital technology appears to offer solutions to preservation problems, but it faces such challenges as changing technology and media instability, which could render digital information useless (Kari & Baro, 2016). The researchers further noted that digital preservation is a problem facing libraries in Nigeria. Libraries are struggling to preserve scholarly and cultural records now that this information is increasingly being produced in digital form. Digital information is fragile and faces many threats; among them are technological obsolescence and the deterioration of digital storage media. Masenya and Ngulube (2021) averred that whilst digital repositories and archives containing digital materials are useful to institutions and user communities, they can pose a threat if proper security protections are not put in place.

Another challenge facing digital library projects in Africa has been university libraries' lack of readiness concerning skills and knowledge (Kari & Baro, 2016). In line with this, the findings of an earlier study by Okoh and Sambo (2014) revealed that most librarians do not have training in digital preservation. This is a threat to the efficient and effective information services in the information technology era. The result also identified a lack of training as a major challenge, while there is the use of lack of manpower, management support, and a lack of policy.

Methodology

The study employed a descriptive survey research design. The total population for this study is 24 librarians, which comprises all 9 librarians of the Federal College of Education (Tech), Akoka, Library, and 15 librarians in UNILAG Library. The small, manageable size of the population necessitated the use of a total enumeration sampling technique. The sample of the study is 24 librarians. The census sampling technique was used. A self-structured questionnaire “Digital Preservation Practice on Service Delivery Questioner (DPPSDQ) was designed and used as the instrument for eliciting response from the respondents. Experts in the field of study validated the instrument. Reliability was by test re-test method with reliability index of 0.86 indicating that the instrument is good for the study. The researcher personally administered 24 copies of the questionnaire to the respondents at their offices to achieve 100% return rate. The simple percentage and frequency counts were used to analyze data generated from the responses of the respondents using the questionnaire.

Table 1: Population of the Study

S/N	Name of Library	Ownership	Librarians'
1	Federal College of Education (Tech), Akoka, Library.	Federal	9
2	University of Lagos Library	Federal	15
	Total		24

Table 2: Response Rate

S/N	Name of Library	Response
1	Federal College of Education (Tech), Akoka, Library.	9
2	University of Lagos Library	15
	Total	24

Findings

Research question 1: What are the digital information resources available in FCET, Akoka, and UNILAG libraries?

Table 3: Digital information resources available in FCET, Akoka, and UNILAG libraries.

S/N	Available digital resources	Federal College of Education (Tech), Akoka				UNILAG			
		Agree	%	Disagree	%	Agree	%	Disagree	%
1	E-journals	9	100	0	0	15	100	0	0
2	E-book	9	100	0	0	15	100	0	0
3	E-newspapers/magazines	2	22	7	78	4	31	9	69
4	E-project/dissertation	6	67	3	33	9	69	4	31
5	Institutional Repository	9	100	0	0	15	100	0	0
6	Online database	6	67	3	33	12	92	1	8
7	Computer	9	100	0	0	15	100	0	0
8	Online Public Access Catalogue (OPAC)	9	100	0	0	15	100	0	0
9	Multimedia collections	2	22	7	78	3	23	10	77
10	External storage devices (CD-ROM, flash drives, hard drives, etc.)	6	67	3	33	8	62	5	38
11	Open Education Resources	1	11	8	89	11	85	2	15

Table 3 below shows that every respondent in both FCET, Akoka, and UNILAG libraries confirmed the availability of e-journals, e-books, OPAC, computers, and institutional repositories, which accounts for 100% of respondents in both libraries. In both institutions, e-projects/dissertations (67% in FCET, 69% in UNILAG) and online databases (67% in FCET, 92% in UNILAG) are mostly accessible, with UNILAG slightly higher. In both libraries, e-newspapers/magazines (22% in FCET, 31% in UNILAG) and multimedia collections (22% in FCET, 23% in UNILAG) were largely absent. Open Educational Resources (OER) were more available at UNILAG (85%) than at FCET, Akoka (11%); this may arise due to comparatively high funding and technological investment that universities receive, as opposed to colleges of education.

Research question 2: What are the digital preservation practices currently employed in the selected libraries?

Table 4: Digital preservation practices currently employed in the selected libraries

S/N	Digital preservation practice	FCET, Akoka				UNILAG			
		Agree	%	Disagree	%	Agree	%	Disagree	%
1	Digitization (Scanning of library materials) is ordinarily in print format	3	33	6	67	9	6	4	31
2	Migration (copying files to new modern media)	4	44	5	56	10	7	3	23
3	Encapsulation (repackaging digital content)	5	56	4	44	9	6	4	31
4	Refreshing (copying of files into multiple locations)	6	67	3	33	11	8	2	15
5	Regular storage and backup in external devices (hard drive, flash drive, CD/DVD)	7	78	2	22	6	4	7	54
6	Digital storage/cloud computing	4	44	5	56	9	6	4	31
7	Backup of e-resources in an offline database server	6	67	3	33	8	6	5	38
8	Resource access control (Encrypting system with a password to avoid unauthorized access)	8	89	1	11	12	9	1	8
9	Use of anti-virus to protect against virus and malware attacks	8	89	1	11	10	7	3	23

Table 4 shows major digital preservation practices in FCET, Akoka Library, which include: resource access control (89%); use of antivirus protection (89%); regularly storing and backing up external devices (78%); refreshing (67%); and offline database servers (67%). These results show that FCET, Akoka, emphasizes security and backups to protect its digital resources. Meanwhile, in UNILAG Library resource access control (92%), refreshing (85%), use of antivirus software (77%), digitization (69%), encapsulation (69%), cloud storage (69%), and other practices as major preservation approaches shows that UNILAG incorporates a broader, more varied strategy that integrates cloud security, content management, and preventive control. Thus, both libraries put resource access control and antivirus protection into active use, while a slightly more advanced, technology-oriented preservation strategy is observed at UNILAG.

Research question 3: What is the influence of digital preservation practices on the quality of service delivery in the selected libraries?

Table 5: Influence of Digital Preservation Practices on the Quality of Service Delivery in the Selected Libraries

S/N	Influence of digital preservation on service delivery	FCET, Akoka				UNILAG			
		Agree	%	Disagree	%	Agree	%	Disagree	%
1	Information can be accessed from any location	9	100	0	0	15	100	0	0
2	Dispels the fear of loss of information resources	9	100	0	0	15	100	0	0
3	Long-term accessibility to library electronic resources	9	100	0	0	15	100	0	0
4	Encourage the use of digital technology	9	100	0	0	15	100	0	0
5	Provides multiple access to library resources	9	100	0	0	15	100	0	0
6	Increase the visibility of the library	9	100	0	0	15	100	0	0
7	Helps the library keep up with advancing technology	8	89	1	1	11	85	2	15
8	Enables the library to migrate information to a more useful format	9	100	0	0	12	92	1	8

Table 5 above shows that all the respondents (100%) from both FCET, Akoka, and UNILAG agree that the practice of digital preservation greatly affects the quality of library services offered. Respondents also agreed that digital preservation practices make library services more accessible from anywhere, that electronically held resources are always available for use, that there is no fear of resources being lost, that digital technology is embraced, that library resources can be accessed in multiple ways, and that the library can be seen as more. Also, a large number of respondents (89% from Akoka and 85% from UNILAG) stated that digital preservation practices assist libraries in maintaining their technology. Equally, the respondents from FCET, Akoka, and 92% from UNILAG showed overwhelming support (100%) to digital preservation practices that support the transition of information to more useful formats.

\Question 4: What are the challenges faced in maintaining digital preservation in the selected libraries?

Table 6: Challenges faced in maintaining digital preservation in the selected libraries

S/N	Challenges of digital preservation	FCET, Akoka				UNILAG			
		Agree	%	Disagree	%	Agree	%	Disagree	%
1	Technological obsolescence	7	78	2	22	11	85	2	15
2	Deterioration of digital media	6	67	3	33	9	69	4	31
3	Inadequate power supply	6	67	3	33	5	38	8	62
4	Lack of internet	7	78	2	22	4	31	9	69
5	Poor digital preservation skills	7	78	2	22	8	62	5	38
6	Lack of policy on digital preservation	9	100	0	0	15	85	2	15
7	Poor management support for the preservation of e-resources	7	78	2	22	8	62	5	38
8	Poor ICT infrastructure	7	78	2	22	9	69	4	31

Table 6 shows the primary challenges facing digital preservation of FCET Library: the absence of a digital preservation policy, technological obsolescence, lack of internet access, insufficient digital preservation skills, inadequate managerial support for the preservation of e-resources, and poor ICT infrastructure, all at 78%. The remaining notable challenges, at 67% each, are the deterioration of digital media and inadequate power supply. This means FCET experiences complex, interrelated issues that could threaten the sustainability of digital preservation. On the other hand, the UNILAG library challenges are technological obsolescence at 85% and a lack of a policy on digital preservation. Other significant issues are poor ICT infrastructure, deterioration of digital media at 69%, and poor digital preservation skills at 62%. Compared to challenges at FCET, Akoka, problems at UNILAG library due to inadequate power supply at 38% and lack of internet access at 31% are relatively minor. In terms of infrastructure, the absence of policy and

management support, findings show that the FCET Library is experiencing a higher level of digital preservation challenges than the UNILAG Library.

Discussion of findings

The findings show that FCET, Akoka, and the UNILAG libraries acknowledged the presence of e-journals, e-books, OPACs, computers, and institutional repositories. In both libraries, the most accessible components were e-projects/dissertations and online databases. UNILAG showed slightly higher availability in both components. In the opposite case, e-newspapers/magazines and multimedia collections were largely available. Open Educational Resources (OER) were significantly more available at UNILAG compared to FCET. This difference could stem from the relatively higher funding and technological investments, which are more available to universities than to colleges of education. The finding is however at variance with the findings of the study on digital preservation practices and use of the digital library by postgraduate students in selected universities in South-West, Nigeria by Akinlolu et al. (2023), which revealed that the digital resources available and frequently used in the library are open educational resources (OERs), Multimedia collections, e-newspapers, e-journals, open access resources, and e-dictionaries. This indicates that even though the libraries in question have incorporated some electronic resources, the variety of their technological offerings and digital information resources is relatively poor.

The study further revealed that the digital preservation practices used by the chosen libraries include encapsulation, copying files to multiple locations, and resource access control (such as encryption and passwords). FCET, Akoka Library uses security and backup procedures, such as regular data storage, antivirus protection, and backing up data on external devices and offline database servers. On the other hand, UNILAG Library focuses on a broader, more advanced preservation approach that involves digitization, cloud storage, refreshing, encapsulation, with resource access control and antivirus measures. Although both libraries actively use resource access control and antivirus software to protect digital materials, UNILAG employs a broad strategy that incorporates cloud security and digital content management systems. This is similar to an earlier study by Saka et al. (2020) on the influence of preservation techniques and access to digital resources on research outputs of academic staff in Federal University libraries in Northern Nigeria which revealed that the preservation techniques applied in the preservation of digital resources are encapsulation, refreshing, replication, information emulation and information migration, even though digitization was the popular preservation technique adopted.

Furthermore, the study found that both FCET, Akoka, and UNILAG agree that the practice of digital preservation affects the quality of library services offered. Also, a large number of respondents stated that digital preservation practices assist libraries in maintaining their technology. c. This conforms with the findings of a study by Omehia et al. (2022) on preservation parameters and longevity of information

resources in academic libraries which revealed that digital preservation practice reduces the cost of access to information and introduces a variety of information to information users making knowledge to very accessible and available online, remove physical limitations for storage through access via the internet, create saving space, preserve old texts/manuscripts, enable duplication of digital files with exactness, and multiple access to digital files at the same time. This shows that both libraries share the advantages that exist in digital preservation practices for quality service delivery.

Finally, the study revealed that the FCE (T) Library experiences complex, interrelated issues that could threaten the sustainability of digital preservation. Compared to challenges at FCET, Akoka, problems at the UNILAG library were relatively minor. In terms of infrastructure, the absence of policy and management support, findings show that the FCET Library is experiencing a higher level of digital preservation challenges than the UNILAG Library. Similar with the study by Shah et al. (2021) on problems and challenges in the preservation of digital contents, which revealed that the most critical problems/challenges faced during the process of digital preservation are the nature of the contents (i.e., “made digital” or “born digital”); keeping the data; maintaining trust in the data; coping with the data deluge; technological obsolescence; media fragility; lack of expert and copyright and intellectual property rights and information centers with the necessary skills to handle the management of digital resources and its preservation.

Conclusion

The study revealed that FCET, Library and the UNILAG library acknowledged the presence of e-journals, e-books, OPACs, computers, and institutional repositories. In both libraries, the most accessible components were e-projects/dissertations and online databases. It further revealed that the digital preservation practices used by the chosen libraries include encapsulation, copying files to multiple locations, and resource access control (such as encryption and passwords). Also, Equally, the respondents from FCET, and UNILAG libraries showed overwhelming support for digital preservation practices that support the transition of information to more useful formats. Findings show that the FCET Library is experiencing a higher level of digital preservation challenges than the UNILAG Library.

Recommendations

In light of the findings of this study, the following recommendations are made to improve the digital preservation practices and resource availability in the FCET, Akoka and UNILAG libraries to enhance the quality and accessibility of their library services;

1. Both libraries should consider adopting cloud storage and digital preservation solutions that provide secure, scalable, and accessible storage options.

2. Both libraries should develop and establish comprehensive digital preservation policies that outline standards, procedures, and responsibilities addressing issues of data backup, security, and long-term access, ensuring a structured approach to digital preservation
3. The library management should provide training sessions and professional development opportunities for library staff to enhance their skills in digital preservation techniques and technologies.
4. FCET, Akoka library should address the lack of internet connectivity to improve digital preservation practices, resource access, and overall service delivery.

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