The management of electronic information resources in tertiary institutions libraries in Kano metropolis

Bappah Magaji Abubakar, PhD, Hafsat Muhammad Abubakar and Sani M. Gwarzo, PhD
Department of Library and Information Sciences
Bayero University, Kano, Nigeria
E-mail: bmagaji02@gmail.com, hafsat20017@gmail.com, sanigwar@gmail.com
Cell: 1+2348063514814, 2+2348032119696, 3+2347038360737

1MLIS student

Abstract
The study investigated the management of electronic information resources (EIRs) in tertiary institutions’ libraries in the Kano metropolis. The objectives of the study were to determine the types of electronic information resources available in tertiary institution libraries in the Kano metropolis and to identify the management strategies of EIRs in the libraries in terms of selection, acquisition, organization, preservation/storage and dissemination. Also, to identify the challenges associated with the management of electronic information resources in the libraries. To achieve such objectives, qualitative research methodology using a narrative-based research design was adopted for the study; while a semi-structured interview was used to collect data from the participants. Eight (8) e-resource managers were purposively selected to serve as participants in the study from eight tertiary institutions in Kano Metroplitis. Thematic data analysis was used to analyze the data collected which mainly focuses on assigning themes and codes to the participants within the data. The findings from the study revealed that various types of EIRs were available in the tertiary institutions’ libraries in the Kano metropolis that include among others; e-books, e-journals, Wireless Internet, e-newspapers, e-dictionaries/encyclopedias etc. The findings also revealed that management strategies such as selection, acquisition, organization and dissemination were applied in the tertiary institutions' libraries studied with the view to enhance the management of their EIRs. It was also found that there were many challenges affecting the management of EIRs in the tertiary institutions' libraries as revealed by the participants that include among others; inadequate funding, lack of professional staff, network problems etc. The study recommends that there is a need for the provision of additional EIR preservation facilities for effective storage and maintenance of the resources. Also, necessary training should be given to the library staff that will enable them to properly handle the resources.

Keywords: Electronic information resources, management, tertiary institution libraries, kano metropolis.

Introduction
Academic libraries are active partners in the teaching and research processes in higher institutions of learning. They support their communities which comprise students and faculty through the provision of information resources and services. Therefore, academic libraries are expected to provide information resources both in print and electronic formats to support students, staff and faculty in their research and pursuit of education to enable higher institutions to achieve their objectives. Ismaila (2017) clearly stated that in higher institutions of learning, the library supports learning, teaching and research through the provision of different types of information resources both print and non-print formats.

Advancements in information and communication technologies (ICTs) have brought about a radical change in the way each institution is functioning and libraries are no exception. ICTs have influenced the way libraries collect, store, organize, retrieve and disseminate information. Studies show that electronic information resources are increasingly becoming an important component of the collection-
building activities of libraries. As such, academic libraries are acquiring more and more electronic resources because of their perceived benefits such as easy access to information and comprehensiveness. Electronic information resources (EIRs) also add great value to library collections and satisfy the unique needs of students, faculty and research scholars with less risk and time.

Maware and Sai (2017) considered EIRs as collections of information in electronic or digital format that is accessed on an electronic device, such as a mobile phone, computer, etc. They have published resources in electronic versions or formats such as encyclopedias, pamphlets, e-books, e-journals, databases, etc. These resources are well accepted among academic communities because of their 24/7 hours’ accessibility as well as features like linking related information/pages, graphics, sound, video and animation. Electronic information resources play an integral part in information sources to provide quick and easy services to the readers. As a result, there has been a substantial increase in digital collections and electronic information in libraries. According to Patra (2014), proper management of EIRs is indispensable for their optimal use and for providing the right information to the right users in the right manner.

Management of electronic information resources refers to the process associated with the acquisition and maintenance of library resources that appear in electronic format. In a general sense, electronic information resource management refers to the procedure adopted by modern libraries for selection (including identification of products and their trails), licensing (including negotiation of the license, technical evaluation), implementation (including technical processing and promotion) and maintenance and review (Singh and Mukherjee, 2018). The management of electronic information resources according to Emorjoho (2011), includes the selection, acquisition, organization, preservation and dissemination of relevant information to the users. Electronic information resources management is one of the important components of library development.

Kano metropolis comprises six (6) Local Government Areas which include Dala, Fagge, Gwale, Municipal, Nassarawa, Tarauni, Kumbotso and Ungogo (Balogun, Okewu, Maikano, Ibrahim, Sule and Abdullahi, 2021). According to Umar and Naibbi (2021), the metropolis served the dual functions of being the administrative and commercial hub of Kano state. From the historical perspective, the Kano metropolis is the major trading and industrial epicentre for Sub-Saharan trade before colonial rule. Moreover, Kano state has an estimated population of more than 10 million people with the metropolis having an estimated population of more than 6 million people in 2016 (Umar & Naibbi, 2021). It is against this backdrop that this study examines the management of electronic information resources in tertiary institutions’ libraries in Kano Metropolis through a qualitative approach.

Statement of the problem
With the advent of ICTs, libraries, particularly academic libraries have attempted to remain relevant through the provision of EIRs to their clients. The National University Commission (NUC) (2007) stated that academic libraries must provide access to both print and electronic resources to serve users and to increase the visibility of their institutions, and as a measure of prestige. Some of the advantages of EIRs include access to more current information, advanced search capabilities, and access to information without the
restraint of time, location and finance, they open up the possibility of searching multiple files at one time. They indeed play a significant role in academic libraries as they are mostly used for the promotion of academic excellence and research. Muritala, Andrew, and Olawanle (2013), ascertained that proper management of EIRs will enhance and influence their use. However, although EIRs have greatly established a formidable presence in academic libraries and are beneficial to users in tertiary institutions who are striving for academic success, observation, as well as the literature, shows that there are many challenges associated with the management of EIRs in libraries especially in developing countries that include among others: lack of professional skills, underutilization, difficulty in having access etc. This situation may not be different in tertiary institutions’ libraries in the Kano metropolis. Therefore, it is given the above-mentioned challenges investigating the management of EIRs in tertiary institutions in the Kano metropolis was considered imperative by the researchers.

Objectives of the study
The main objective of this study is to determine the management and use of electronic information resources in tertiary institutions’ libraries in the Kano metropolis. The precise objectives are to:

1. Determine the types of electronic information resources available in tertiary institutions’ libraries in the Kano metropolis.
2. Identify the management strategies of electronic information resources in the libraries in terms of:
   a. Selection
   b. Acquisition
   c. Organization
   d. Preservation/Storage
   e. Dissemination.
3. Ascertain the challenges associated with the management of electronic information resources in the libraries.

Literature Review
The Internet has today become an indispensable part of academic institutions the world over as it plays a crucial role in meeting the information and communication requirements of institutions. The Internet provides opportunities for access to a wide array of information resources from different locations globally. According to Patra (2014) presently, there is a wide range of EIRs available in libraries from the 1960s to 2000’s courtesy of the Internet, which includes online cataloguing, machine-readable cataloguing, shared cataloguing, Online Public Access Catalogue (OPAC), web-based catalogue, databases, bibliographic databases, e-journals, e-books, Institutional Repositories among others. Indeed, typical examples of EIRs frequently accessed by students include the Internet, CD-ROM databases, online databases, Online Public Access Catalogues (OPAC), electronic journals, electronic books and digitized materials (Ismaila, 2017).

Libraries are service-oriented institutions aimed at satisfying the information needs of their clients. Hence, libraries particularly those in tertiary institutions are striving to make EIRs available to their users. EIRs have gradually become important components of academic library collections due to advancements in ICTs as well as the changing demands of the users which are becoming sophisticated by the day. According to Afifi (2008), with the advent of virtual and EIRs, their management processes have dramatically changed due to their sophistication.

Various studies have shown evidence of the availability of different types of EIRs in academic libraries. For example, Uche
and Imo (2017) in their study on EIRs sharing among university libraries in Southern Nigeria, found that the university libraries studied had diverse types of EIRs. Their study additionally found out that only web-based OPAC scored a low percentage of responses with 30%. Similarly, Tiemo’s (2016) study established that there were 17 types of electronic information resource databases available in the federal university libraries in South-South, Nigeria that include among others; AGORA, HINARI, EBSCO host resources, AJOL, OARE, DATAD, TEEAL, INASP, MIT Open Course Ware, DOAJ, JSTOR, World Public Library, LexisNexis, Questia, Ebrary, The Observatory and Egranary.

In the area of management, Obaseki (2014) observed that the management of information resources could not be done effectively through the otherwise known traditional method, hence the need to try the emerging Information and Communication Technology (ICT). As a result, Manjack, Dangani and Fari (2019) submitted that the advancements in technology have enabled new forms of handling information and have created more dynamic and flexible tools for managing and making it accessible than the print formats.

Management can be seen as the ability to optimize efficiency toward the attainment of specific objectives. Management of electronic information resources according to Verminsk and Blanchat (2017), refers to the process associated with the acquisition and maintenance of library resources in electronic format. Emorjoho (2011) posited that the management of electronic collections includes the selection, acquisition, organization, storage and dissemination of relevant information to the users. Das (2011) in Patra (2014) opined that information resources management is a philosophical and practical approach to managing information. Since information is a valuable resource, it is to be managed like other resources. To maximize the usefulness of information, an integrated approach is required to manage the entire life cycle of information that is from creation to dissemination, to archiving or destruction. It has been concluded that electronic information resources management is one of the important components of library development. In support of this, Kabara (2016) asserted that information resources management is a technique, practice and step-by-step process that ensured the information resources are deliberately planned to guarantee equitable access to the resources.

Verminski and Blanchat (2017) opined that because electronic resources are not physically shipped and delivered, there is no absolute marker to trigger workflows and thus more proactive, anticipatory management is needed. Managing these electronic resources, according to Pradhan and Mohanty (2016), involves providing the libraries users with convenient ways to find and access them and providing library staff with the tools to keep track of them. The role of management is very important for the successful implementation of academic libraries. That is why Chandel and Saikia (2012) suggested that what is required is a synergy of professional skills and abilities with the application of the right technology so that electronic information resources are managed well for effective accessibility and use by the majority of users globally.

Muhammad (2018) observed that electronic information resources come in many different types and are used for many different purposes. Therefore, academic libraries are expected to select those which can meet the needs of the users. Kenchakkanavar (2014) pointed out that the selection of electronic information resources should be done according to the needs and
demands of users. Similarly, according to Pawar and Sadashiv (2014), the selection process should be done relevant to the demands of the users, committee, focus group, users’ recommendation etc.

Okogwu and Achebe (2018) conducted a study on the “Selection and Acquisition of Electronic Resources in University Libraries in South East Nigeria.” The study revealed that in the case of electronic information resources, the librarians assess its subject relevance, the authenticity of the information, its usage and accessibility, pricing, vendor reputation, and many more technical factors. This shows that university librarians are using different criteria for selecting electronic information resources so that the best one can be selected and procured for their libraries.

In another study conducted by Nwosu, Okeke, and Ejadafiru (2013) on the challenges of electronic information management in Nigerian university libraries identified that insufficient computers, financial constraints, non-availability of antivirus software, epileptic power supply, and poor capacity building for librarians were some of the challenges associated with the management of electronic information resources. Academic libraries in Tertiary Institutions in Kano State, particularly in the Kano metropolis, like those in other parts of the country were established primarily to meet the information needs of their parent institutions, careful provision of efficient resources to support teaching, research and dissemination of knowledge. For these institutions to achieve their objectives, their libraries must acquire, organize, store and disseminate relevant information resources that need to be managed effectively in the best possible way to facilitate efficient use of the resources by the community of users.

Methods

A qualitative research approach was employed for this study. The population of the study was all eight (8) tertiary institutions in the Kano metropolis that have electronic information resources and all the electronic information resources managers of the libraries which are 29 in number. The researchers purposively selected one (1) electronic information resource manager from each institution totalling eight (8) electronic information managers. Purposive sampling, according to Master Class (2022) is a non-probability sampling method in which researchers make designed choices in their sampling strategy to choose a specific type of participants. Furthermore, it is also known as judgmental sampling, selective sampling, expert sampling, and subjective sampling as the case may be. It relies on the notion that occasionally researchers must pre-select subgroups from an entire population to create a case study or form a grounded theory. The purposive sampling technique was adopted for the study because it was considered appropriate as the respondents were selected based on some characteristics of the purpose of the research. To collect appropriate and reliable data for this study, the interview method was adopted. A semi-structured interview guide was designed by the researchers and administered to the participants. The semi-structured interview guide was developed by the researchers using the research objectives as a benchmark. Thematic data analysis was used to analyze the collected data focusing on assigning themes and codes to the participants and this was in line with the research objectives.

Results and discussion

A total of eight (8) e-resource managers from the different libraries in tertiary institutions within the Kano metropolis were interviewed. The researchers coded the participants as: P1, P2, P3, P4, P5, P6, P7
and P8 respectively. The interview data were transcribed and presented based on the responses obtained from the participants. Also, the interviews were held in their respective offices. The average duration of each interviewing session lasted between 20-25 minutes. Their views were recorded and transcribed. All the participants were experienced, hardworking and dedicated to their responsibilities. They equally have adequate qualifications to serve in their respective offices which were considered imperative for the study.

**Research question 1:** What types of electronic information resources are available in tertiary institutions' libraries in the Kano metropolis?

Participants were asked about the types of electronic information resources available in their libraries. Their responses revealed that various types of current and relevant electronic information resources were available at the tertiary institutions' libraries in the Kano metropolis, such as e-books, e-journals, e-mails, Wireless Internet, e-newspapers, e-dictionaries/encyclopedias, library portal, dedicated library websites, wired internet access, webpage resources, search engines and e-magazines. In addition, P6 and P8 revealed that they do not have a specific subscription for e-resources but they use to download PDFs using Google.

**Research question 2:** What are the management strategies of electronic information resources in tertiary institutions’ libraries in the Kano metropolis?

Findings on the management strategies of electronic information resources disclosed that in terms of selection and acquisition of EIRs, findings revealed that selection process is a teamwork between the library staff and faculty members as representatives of the end users except for P1 and P5 who indicated having a policy that guides their selection. By implication, such findings were anticipated since library staff and faculty members are in the best position to select the information resources based on the demands of their primary users. The result is however, concurrent with the literature that established that selection based on staff recommendations and subject relevance can make an impact on library collection development. Also, Kumar’s findings (2016) also revealed that the institutions acquire their resources through direct purchases, subscriptions, free downloading, gifts and donations. However, most of the institutions acquire their e-resources through free downloading from Google. This is in line with the findings of Tiemo (2016) who found out that there are more free EIR databases than fee-based EIR databases in the federal and state university libraries in the South-South Zone of Nigeria.

The findings on the organization of electronic information resources revealed that all the participants indicated that the e-resources were organized based on the subject matter, by creating folders in the computers and the use of software such as KOHA and calibre. The findings also revealed that the tertiary institutions' libraries in the Kano metropolis preserved their resources through the use of internal and external hard discs (backup), functional anti-virus and migrating to a newer version of the software. Additionally, P1, P2 and P3 indicated that apart from the backup they equally preserve their e-resources using a cloud computing system. The study also found out that the libraries disseminate their e-resources using e-mail, blogs, websites (web OPAC, webpage), cellphones, intercom, e-user guide, banners, fliers, Selective Dissemination of Information (SDI), notice boards, library user orientation
and also through the use of social media platforms such as WhatsApp, Facebook, Twitter among others.

**Research question 3:** What are the challenges associated with the management of electronic information resources in the libraries?

The findings on the challenges affecting the management of electronic information resources in the libraries revealed that there were many challenges affecting the management of EIRs in tertiary institutions’ libraries in the Kano metropolis but the foremost challenges as revealed by the participants were inadequate funding, lack of professional staff, network problems, system/hard disc crash as well as lack of storage and backup facilities. This finding corroborates the findings of Sejane (2017), who found that the major challenges in academic libraries of Lesotho were technical, administrative and human resource issues that include lack of search skills, shortage of staff due to loss of knowledgeable staff or members resigning, lack of up-to-date equipment, few computers and slow internet, others were budget cut, inadequate funding and extreme fluctuation in the exchange rate of local currencies with the Dollar, Pound and Euro currencies among others.

Regarding the solutions to the challenges affecting the management of electronic information resources, the participants suggested that there is a need for the management of the institutions to always fast-track the purchase of either online or offline resources because when it is delayed it will affect the price of subscription as well as the need for finding a standard way of organizing e-resources in the libraries. They also suggested that to overcome the challenges of preservation, cloud base storage system should be adopted. The e-librarians should look at how the users will retrieve the resources easily without wasting time. Likewise, tertiary institutions’ libraries especially in the Kano metropolis should come together through conferences, workshops and seminars to develop a single management strategy for their EIRs. P3 suggested that a separate internet connection should be provided for the library, and Nigerian tertiary institutions should adopt more ICTs into the library operations.

The participants also suggested that enough funds should be provided to the libraries, there should also be a collaboration between the librarians and the management in terms of selection of the e-resources, there is a need for more preservation tools such as CD-ROMs, hardware for conversion of the resources as well as more cameras for scanning, and functioning network should also be provided. Similarly, the libraries should create more awareness of the existence of e-resources. Finally, all e-libraries must have sufficient computers with enough bandwidths of data and separate internet connections.

**Conclusion**

This research investigated the management of electronic information resources in tertiary institutions’ libraries in the Kano metropolis. Libraries need to use various methods to properly manage their electronic information resources to ensure optimum use of the resources and provide the right information to the right users at the right time. From the findings of the study, it can be observed that the management strategies such as selection, acquisition, organization and dissemination were applied in the tertiary institutions’ libraries in the Kano metropolis to enhance the management of their electronic information resources. This is not without challenges such as inadequate funding, lack of professional staff, network...
problems, system/hard disc crashes as well as lack of storage and backup facilities.

Based on the findings of the study, the following recommendations are offered:

1. The libraries should endeavour to employ more professional and competent librarians especially those with relevant ICT skills. This would help in the efficient management of electronic information resources in the libraries.
2. More computers with increased internet bandwidth should be provided for efficient and effective use of the resources.
3. There is a need for the provision of additional EIR preservation facilities for effective storage and maintenance of the resources.
4. Finally, necessary training should be given to library staff particularly ICT-based that will enable them to properly handle the EIRs.

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