A Descriptive Analysis of Management of Electronic Information Resources in Nigerian Public and Private University Libraries

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Abstract
University libraries all over the world are facing the challenge of the paradigm shift from the traditional environment to the electronic environment. In the electronic environment, these libraries are expected to provide information resources in a variety of formats and provide innovative services to their users. They are also expected to provide e-resources in abundance to meet theever-increasing demands of users. This study examined the management of electronic information resources in selected public and private universities in Ogun State, Nigeria. The study adopted a survey research design. A self-designed questionnaire was used to gather data from the respondents. The purposive sampling method was used to select the two state-owned and three private universities namely: Olabisi Onabanjo University, Ago-Iwoye, Tai Solarin University of Education, Ijagun, Bells University of Technology, Ota, Babcock University, Ilishan, and Covenant University, Ota.The total enumeration technique was used to collect data for this study, hence, all the seventy-two (72) librarians from all the institutions sampled formed the respondents for this study. A total number of 72 copies of the questionnaire were administeredto the respondents while 64 which represented 88.8% were retrieved and found useful for the analysis. Findings revealed that EIR are available in all the academic libraries studied, the study also found that the libraries had plans and policies for the management of EIR.The study revealed that the management of EIRis faced with numerous challenges, especially the inadequacy of required information and communication technology skills by the librarians. The study concluded that electronic information resources such as electronic books, journals, theses and dissertations, bibliographic databases, citation databases, digital collections andmeta-resources were the available EIR in selected university libraries studied. There was a lack of adequate knowledgeof different library management application software. Technological obsolescence was a major challenge identified by the selected librarians. The study recommended that there was a need for the library management to acquire modern sophisticated equipment while training and skills development in the management of electronic information resources should also be prioritized as the libraries aspire to be in tune with the latest developments in the application of modern information and communication technology for the information services delivery.

Keywords: Electronic information resources, library management, public universities, private universities, university library.

Introduction

The main function of any university library is to provide resources both in print and electronic format as well as services to its users. University libraries all over the world are facing the challenge of the paradigm shift from the traditional environment to the electronic environment. In the electronic environment, these libraries are expected to provide information resources in a variety of formats and provide innovative services to their users. They are also expected to provide e-resources in abundance to meet the ever-increasing demands of users. An electronic information resource is thus defined as an information resource that is accessed via the internet (Okore, Asogwa and Eke, 2009). The importance of electronic information resources in universities cannot be overemphasized, according to Iwehabura (2009), electronic information resources are used for academic and research activities in higher educational institutions.

Ugwu and Onyegiri (2012) identified specific types of electronic information resources as consisting of electronic books (e-books), electronic journals (e-journal), indexes, collections of journal articles, reference works, digital collections, databases and websites. Before the electronic information resources can be fully utilized in the library, there should be a coordinated effort to select, acquire, catalogue and maintain them; and this is what management of electronic information resources in libraries is all about. Yu and Breivold (2008) defined electronic information resources management as the practices used by librarians to keep track of important information about electronic information resources, especially internet-based resources such as electronic journals, databases, and electronic books. However, literature has shown that the majority of university libraries in developing countries do not have enough electronic information resources for their users (Aguolu and Aguolu, 2002). This implies that there may be management problems that hinder the development and use of these resources in university libraries in developing countries.

Adeyoyin, Idowu and Sowole (2016) identified some of the benefits accrued to the use of EIR. They noted that easy access is one major benefit of EIR. Accessing e-resources is easier for the users. They can access the desired materials within minutes, or even seconds, on their desktops, provided the equipment and facilities are available. Large collections of material can be searched and retrieved simultaneously and instantly. There is an active dissemination of information by alerting the readers either on their phones or laptops about the new electronic resources that are accepted into the database. In other words, e-resources allow intelligent full-text retrieval based on past use and interests. High speed and efficiency also benefit the publishing and distributing electronically. Authoring and publishing systems can be integrated easily with computer-readable text. Also, linkages can be enabled by hypertext and hypermedia formats among sections within an electronic information resource. E-mail contacts would be easier among users, publishers and suppliers. Users have more creative ways to have their information queries answered while the e-resources are published electronically rather than in paper and no new costs are introduced. The innovative ways of presenting research results can be supported by electronic page layout. Interactive three-dimensional models, motion video and sound are a few possibilities. Commenting on the advantages of electronic information resources, Dadzie (2007) writes that electronic information resources are invaluable research tools that complement print-based resources in a traditional library setting.

In contrast to the benefits above, Adeyoyin, Idowu and Sowole (2016) pointed out that there are also some constraints associated with the use of EIR. The infrastructure required for displaying, storing or printing electronic information resources expensive. Downloading and printing will be a costly affair. This means a net

78% increase in economic and ecological costs and it becomes a relatively expensive way to acquire a single copy. Electronic interfaces can take a long time to master. Electronic searching, downloading and printing replace the traditional activities of physically browsing, scanning and photocopying. The intricate steps to accomplish the previously simple or habitual tasks might frustrate users. People read up to 25 to 30 percent more slowly on a computer screen than on paper. The academic community can be divided into 'haves' and 'haves -not' because of access to equipment and networks. The network or connection speed can be too slow. Screen quality of graphics and photos could be primitive when compared to print.

According to Pinfield (2001), the management of electronic information resources demands expertise in handling systems which are more complex than library management systems (LMS). It requires setting priorities on staff times, deciding how and who presides over the functionality of all things electronic, such as A-Z lists, federated search engines, e-journals, abstracting and indexing databases, dark archives, and ERMs (Electronic Resource Management Systems). It also involves providing the library users with convenient ways to find and access them and providing library staff with the tools to keep track of them (Adegbore, Okwilagwe and Salaam, 2013). Bothmann and Holmberg (2010) extended the definition to include a focus on an approach to budget management, provision of administrative functions and tracking of license agreements. They also addressed electronic resource management from the perspectives of planning, policy and workflow issues experienced by libraries. Ballard and Lang (2007) posited that effective management of electronic information resources means getting the right information to the right people at the right time.

Effective management requires planning. Planning starts with libraries developing a prioritized list of goals for electronic information resources to guide their work. Bothmann and Holmberg (2010) noted that creating a small electronic information resources committee of key players in a library's electronic resource management work is the first step. The key players should come from various divisions of the library. The committee would then identify all of the staff involved in the electronic information resources workflow from administrative support personnel to administrators (Mi&Sullenger, 2006). They gave other aspects which the committee should consider as budgetary concerns such as creating a list of electronic resource types, such as A-Z lists, open URLs, and full-text databases. The list may be used to prioritize what a library has, what it needs but is lacking and what it wants to have but is not essential for service to patrons.

Problem statement
The proliferation of digital products and changing modes of access have made managing electronic information resources a complicated and arduous task for libraries. It has been observed that the libraries and librarians are grappling with the emerging trends, particularly in the area of electronic information resources management. This is as a result of the upsurge and frequent change in the application of information and communication technology in the provision of information services in the libraries. As electronic information resources continue to grow exponentially, the need for effective management also arises. This study becomes crucial at this time as the researcher sets to investigate the types of electronic information resources available in the selected university libraries, their sources of EIR acquisition, plans and policies for the management of EIR and the challenges faced by the librarians in the management of electronic information resources. This is with a view to proffering solutions or minimising the problem through recommendations that will hinge on the findings of this study. Hence, this study focused on the management of electronic information resources in public and private universities in Ogun state, Nigeria.

Research questions
1. What are the types of electronic information resources available in your library?
2. What are the sources of acquisition of the EIR available in your library?
3. What are the s/policies for the management of EIR in your library?
4. What are the challenges you face in the management of electronic information resources?

Literature Review

Electronic information resources are regarded as the mines of information that are preserved through modern ICT devices, refined and redesigned and more often stored in cyberspace in the most concrete and compact form and can be accessed simultaneously from infinite points by a great number of audience. The phrase "electronic information resources", has broadly been defined as information accessed by computerized equipment and other electronic facilities. Moreover, electronic information resources refer to that kind of documents in digital formats which are made available to library users through a computer-based information retrieval system. Because of the effective presentation with multimedia tools, electronic information resources have become the veritable sources of information. Electronic information resources on the Internet manifest themselves in numerous flavours and categories. Although most of them emulate traditional publishing others are revolutionary in their design and approach. While the present trend to imitate and emulate the traditional models of scholarly communication may continue for some time, eventually the capabilities added by the new media will be used in more innovative ways.

The librarians say that the lives of e-resources are as complicated and challenging as those of human beings: e-resources are born, and at times they also die or are reincarnated under a different name or in a different shape; they form families, and the families may unite with other families, quarrel, or split up; treaties between families are signed and can be later discarded; and so on. Keeping in mind that change is always a possibility, the typical life cycle of an e-resource that is available for a fee would include the following stages: the awareness of a new e-resource originates from a faculty member's request, a recommendation from a subject librarian, an advertisement, a message in a forum, or any other source. The librarian then locates information about the e-resource information that might include, for example, the bibliographic details of an e-journal, the coverage period available, the packages that include this e-journal, and the interface or interfaces through which such packages are offered. The way in which a librarian finds the necessary information is related to the role of the ERM system as a collection management tool, as explained later.

In many cases, a librarian will want to try out an e-resource before deciding whether to purchase a license for it. A trial enables the librarian to offer the e-resource to some or all users, who may include patrons and librarians alike and then base a decision on their feedback. During the trial process, the librarian activates the e-resource in the desired areas of the library environment, notifies the relevant audience, and obtains feedback. Librarians pay considerable attention to specific issues when testing an e-resource. One example is the technical infrastructure required by the user interface. The librarian needs to document issues related to web browser and plug-in compatibility, which may have an impact on how browser configurations are rolled out to library and faculty computers or even whether the institution can support the interface at all. Furthermore, the testers need to evaluate the usability of the interface, because the library may well have a choice of interfaces

from different providers of a package of resources or subsets thereof. When the trial is complete, the librarian should be able to justify the choice of interface to the institution as a whole as well as to its various departments. Once the trial is over, the librarian decides whether to acquire the e-resource. A decision not to purchase the e-resource results in its deactivation in the library environment (if it were activated previously as part of the trial process). If the librarian decides to go forward and subscribe to the resource, he or she carries out an acquisition process that somewhat resembles the process for print resources.

Access, of course, is a major issue when dealing with e-resources. Once a library has acquired an e-resource, the librarians want to ensure that it is well used. First, they need to make certain that users can access it easily – for example, from an A to Z list; from the OPAC, if relevant; from a meta-search tool; or via a link server. Issues such as access by specific user groups or by remote users (for instance, proxy setup) also need to be solved. After the initial configuration of access, which might have been taken care of, at least partially, at the trial stage, librarians must deal with routine maintenance, problems such as the temporary unavailability of the resource, and changes in the provider's address or the manner of access.

Decision to renew or cancel: An e-resource subscription is typically valid for a defined time period. When the period ends, the librarian must either renew the subscription or cancel it. Unlike the decision at the selection phase, this decision is based on the information accumulated in the management system, such as the actual usage of the resource while it is available, the reliability of the interface, and the responsiveness of the provider. Whatever the outcome of the decision, renewal or cancellation, the system needs to support it. Furthermore, even after a subscription has been cancelled, the library might have perpetual access or archiving rights to the data, another area that librarians must deal with on an ongoing basis.

Borchers (1999) defines an electronic book as a portable hardware and software system that can display a large quantity of readable textual information to the user and let the user navigate through this information. An e-book is digital reading material that a user can view on a desktop or notebook, personal computer, or on a dedicated, portable device with a large storage capacity and the ability to download new titles via a network connection. An e-book is based both on emulating the basic characteristics of traditional books in an electronic format as well as leveraging internet technology to make an e-book easy and efficient to use. An e-book can take the form of a single monograph or a multi-volume set of books in a digital format that allows for viewing on various types of monitors, devices and personal computers. It should allow searching for specific information across a collection of books and within a book.

Technological developments on the Internet in the early 1990s created an environment which was suitable for holding an electronic conference. In 1994, the electronic means for meetings were all in place. The WorldWide Web provided a robust environment for presenting scientific information. The web permits a document to contain text, figures and links to other materials. In November 1994, the first Electronic Computational Chemistry Conference (ECCC-1) was held. Electronic Conferences, variably known as electronic forums, electronic user- groups, listserves, and discussion groups are important resources for researchers and scholars in every discipline. New scholars in particular get an opportunity to discover what topics are being discussed in their field, to learn who is involved in these discussions, and to make them known within their discipline by their own contributions.

Electronic journals or "e-journals" are used for those journals and

newsletters that are prepared and distributed electronically. Electronic Journals may be defined very broadly as any journal, magazine, e-zine, webzine, newsletter or type of electronic serial publication which is available over the internet and can be accessed using different technologies such as www, Gopher, FTP, telnet, email or listserv. Several traditional journals are now being published both on the web and in print. Current issues or content lists for most of the journals are available on the web or distributed to subscribers as e-mail text messages. Internet-based electronic journals started to appear at the beginning of 1990. These journals were mostly delivered as an attachment to email while their back issues were mounted on anonymous ftp sites and users were required to download them from these ftp sites. The Libraries and information centres made them accessible through their gopher site. With the advent of www technology in 1993, electronic publishing became more than a novelty. The web as a means of delivery of electronic information has grown steadily since then. As publishers experiment with different publication modes and models, the very definition of a journal is undergoing change in the electronic environment. New journals have evolved based on the graphic capabilities of the internet that are available only in electronic form.

Theses submitted to the universities as requirements for the award of PhD degree constitute a useful source of information for new and ongoing research. A thesis contains records of an original contribution to knowledge. Although a large number of doctoral theses are submitted to every university each year, they are not being used to their fullest potential because most libraries keep them in closed-access collections. Doctoral theses submitted to universities and academic institutions are originally created in digital format using word processing software packages like MSWord, LaTex, Word Perfect, Word Pro, etc. These documents are undisputedly highly valuable collections, especially in digital format that qualify to be an important component of a digital library. Several universities and institutions have already implemented electronic submission of doctoral dissertations under the overall umbrella of an international digital library initiative called "Networked Digital Library of Theses and Dissertations (NDLTD)"

Databases are a collection of records pertaining to a specific field of study. An increasing number of bibliographic databases with abstracts of chapters in books, journal articles and conference proceedings are now available on various media. The availability of CD-ROM, as a media with high storage capacity, longevity and ease of transportation, triggered the production of several CD-ROM-based information products including several bibliographic databases which were earlier available only through online vendors or as abstracting and indexing services in printed format.

A citation is a reference to an article or part of an article identifying the document in which it may be found. References given at the end of an article are called "cited articles" while the article that provides references is called "citing article". A citation index consists of a list of cited articles, each one of them followed by the citing articles. ISI Citation Databases are multidisciplinary databases of bibliographic information gathered from thousands of scholarly journals. It is indexed so that one can search for specific articles by subject, 62 author, journal and author address.The Internet and web technology is a suitable substrate for multimedia websites including information in the form of text, images, sounds and movies. The web hosts a rich collection of sounds and images, many of which can be used for commercial as well as personal purposes.

Meta resources, variably called Subject Gateways, Subject-based Information Gateways

(SBIGs), subject-based gateways, subject-index gateways, virtual libraries, clearing houses, subject trees, pathfinders, and guide to Internet resources are facilities that allow easier access to networked-based resources in a defined subject area. A Meta resource can be defined as an organized and structured guide to Internet-based electronic information resources that are carefully selected after a predefined process of evaluation and filtration in a subject area or speciality. Meta resources are often independent websites or part of an institution or library's website that serve as a guide to Internet resources considered appropriate for their target audiences. A Meta resource site that is a part of an institutional website or the library's website may include resources that are on subscription by the parent organization or are accessible for free, to all. A Meta resource site may also be built by a commercial enterprise that is accessible free of cost up to the bibliographic level. However, a user may be required to pay if he/ she wishes to access the fulltext. Home pages of all the major educational and research institutions, especially in the developed world, provide an organized and structured guide to electronic information resources available on the Internet.

Librarians who manage EIRs should possess management skills. This is important according to Moloi and Mutula(2007) to be abreast of technological obsolescence. Emmanuel and Sife (2008) observed the lack of management skills of EIR is more pronounced among librarians in developing countries. For this reason, Kavishe and Dulle (2016) suggest that libraries should at all costs attract and retain the skilled information professionals who are available in the field as well as other professionals who are within the wider parameters of library science.According to Gbaje (2011), offering special training programmes to staff is one way of equipping them with the necessary skills to perform their work effectively. Therefore, the implication of not attaining special training programmes on the management of EIR is that librarians/information professionals will not be equipped to manage EIR effectively. Kavishe and Dulle's (2016) study revealed that it is the responsibility of the librarians to monitor the library's EIR format and see if they are still suitable for preservation. There should be continuous monitoring of the EIR's formats that is done by librarians who are experts in preserving EIRs.Asongwe and Ezema (2012) identified the lack of specialized training institutions in the management of EIRs as one of the bane to the management of EIRs in developing countries. They further stressed the lack of technical expertise in most libraries in African countries. According to Emmanuel and Sife(2008), libraries in Africa find it difficult to retain staff and train them.

Policies are germane in giving strategic direction for the management of EIR. Despite this, according to Ogbebor (2010), most African countries have no policies on the management of both paper and electronic information resources. Satish and Umesh (2005) buttressed Ogbebor's assertion and stressed that most African information centres that preserve EIRs have weak policies while some do lack.Management technique is one of the essential requirements for librarians who are managing EIRS. This according to Kanyengo (2006) is largely lacking among the staff of library preservation departments. Okoye and Ugwuanyi (2012) commenting on this stated the need to expose staff to EIR management irrespective of the staff's rank. EIR management strategies are important because of the technological landscape that changes so rapidly (Gbaje, 2011).In terms of managing EIR, Kanyengo (2006) pointed out the lack of infrastructure in Africa. Among the problems facing EIR management, Asongwa and Ezema (2012) identified that frequent power rationing has an effect on electronic equipment. He further stressed the high cost of running a standby generator.

Methodology

The study used a descriptive survey research design to obtain data on the management of electronic information resources in two state-owned and three private universities in Ogun state namely: OlabisiOnabanjo University, Ago-Iwoye, Tai Solarin University of Education,Ijagun, Bells University of Technology, Ota, Babcock UniversityIlishan, and Covenant University, Ota. The purposive sampling method was used to select the two state-owned and three private universities and the total enumeration technique was used to collect data for this study. Hence, all the librarians from all the institutions sampled formed the respondents for thisstudy.Seventy-two (72) librarians formed the population for this study. A self-designed questionnaire titled Descriptive Analysis of Management of Electronic Information Resources in Public and Private University Libraries (DAMEIRPPUL) was used to gather data from the respondents. Thequestionnaire was validated by two experts in the field of library and information science. Thirty (30) copies of questionnaire were pretested at the Federal University of Agriculture, Abeokuta among the library personnel and the reliability result showed 0.90 using Cronbach Alpha Coefficient. A total number of 72 copies of the questionnaire were administered to the respondents while 64 which represented 88.8% were retrieved. The data collected were analysed using frequency count, percentages, mean and standard deviation.

Data Analysis and Results
Socio-demographic characteristics of the respondents
Socio-demographic characteristics of the respondents included gender, marital status, age, academic qualification, designation, and number of years in service in the university library.
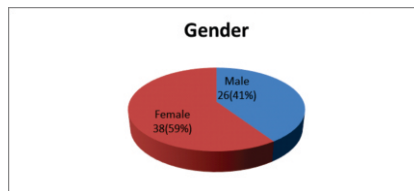
Fig. 1: Distribution of Respondents by Gender

Figure 1: Pie chart illustrating Gender distribution of the Respondents
Figure 1 reveals that 38(59%) of respondents were female, while 26(41%) were male. This implies that a higher percentage of the respondents were female.

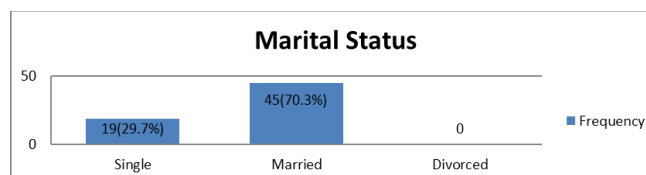**Fig. 2: Distribution of Respondents by Marital Status**

Figure 2: Bar chart illustrating the marital status of the respondents
Figure 2 shows the marital status of respondents. 19(29.7%) of the respondents surveyed were single, 45(70.3%) surveyed were married and none of the respondents was divorced.

Fig. 3: Distribution of Respondents by Age

Age

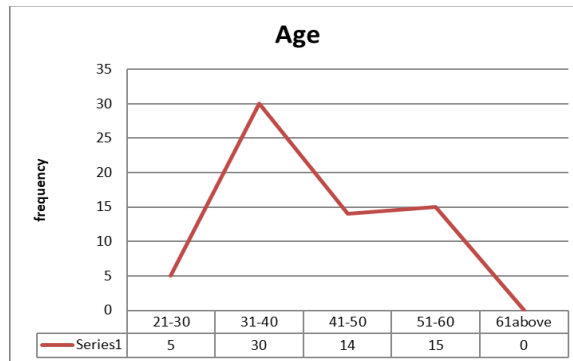|	21-30	31-40	41-50	51-60	61above
Series1	5	30	14	15	0

Figure 3:Line graph illustrating the age range of the respondents
Figure 3 shows that 5(7.8%) of the respondents were between the ages of 21-30 years, 30(46.9%) were in the age group of 31-40 years, 14(21.8%) were in the age group of 41-50 years, 15(23.4%) were in the age group of 51-60 years, while none of the respondents were 61 years above of ages. This implied that the majority of the respondents were within the age range of 31-40 years and an aggregate of 23.4% of respondents were within the age profile of 51- 60 years.

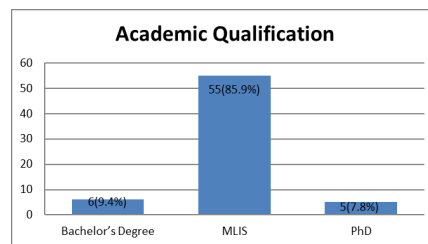**Fig. 4: Distribution of Respondents by Academic Qualification**

Academic Qualification

Figure 4:Bar chart illustrating the highest academic qualification of the respondents

Figure 4 shows the academic qualifications of respondents. The data collected revealed that 6(9.4%) had a Bachelor's degree, 55(85.9%) were Master's degree holders and 5(7.8%) of respondents were PhD holders. The majority of the respondents possessed basicalty a Master's degree such as MLS/MLIS/M.Inf.Sc./Archiv because of the fact that librarians in the university system are academic staff and are required to satisfy faculty requirements.

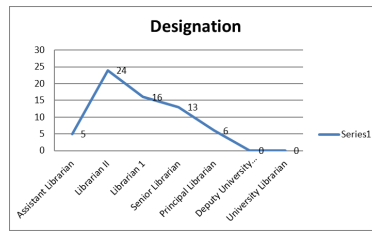**Fig. 5: Distribution of Respondents by Designation**

Figure 5: Line graph illustrating the designation of the respondents
Figure 5 shows that 5(7.8%) of the respondents surveyed were Assistant Librarians, 24(37.5%) surveyed were Librarian II, 16(25%) surveyed were Librarian I, 13(20.3%) surveyed were Senior Librarians, 6(9.4%) surveyed were Principal Librarians, none of the respondents was Deputy University Librarian and University Librarian.

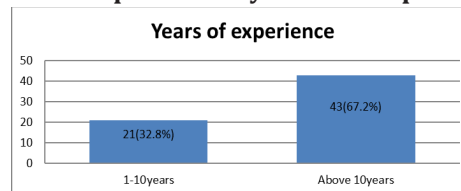**Fig. 6: Distribution of Respondents by Years of Experience**

Figure 6: Bar chart illustrating the Years of experience of the respondents
Figure 6 revealed that 21(32.8%) of the respondents have working experience between 1–10 years while 43(67.2%) have above 10 years of working experience.

Research question 1: What are the types of EIRs available in your library?
Table 1: The types of electronic information resources available in selected University Libraries

S/N	Types of EIR	Availability	%
1.	Electronic Books	64	100
2.	Electronic Journals	64	100
3.	Electronic Theses and Dissertations	64	100
4.	Bibliographic Databases	64	100
5.	Citation Databases	64	100
6.	Digital Collections	64	100
7.	Meta Resources	64	100

In order to identify the types of electronic information resources available in the selected university libraries, the respondents indicated their responses through questionnaire containing the seven (7) items through a simple tick on the types of electronic information resources available in the selected university libraries as it affects their university libraries. The results presented in Table 1 illustrate the types of electronic information resources available in the selected university libraries. The finding from the respondents revealed the types of electronic information resources available in the selected university libraries. Table 1 shows that 64(100%) of the respondents indicated that electronic books, electronic journals, electronic theses and dissertations, bibliographic databases, citation databases, digital collections, and meta resources are the types of EIRs available in selected university libraries.

Research question 2: What are the sources of acquisition of EIR available in your library?
Table 2: Sources of acquisition of EIR available in the selected university libraries

S/N	EIR	Sources of Acquisition			
		Open Access	%	Subscribed	%
1.	Electronic Books	64	100	64	100
2.	Electronic Journals	64	100	64	100
3.	Electronic Theses and Dissertations	64	100	-	-
4.	Bibliographic Databases	64	100	64	100
5.	Citation Databases	64	100	64	100
6.	Digital Collections	64	100	-	-
7.	Meta Resources	64	100	-	-

In order to identify the sources of acquisition of EIR available in the selected university libraries, the respondents indicated their responses through questionnaire containing the seven (7) items through a simple tick on the sources of acquisition of EIR available in the selected university libraries as it affects their university libraries. The results presented in Table 2 illustrate the sources of acquisition of EIR available in the selected university libraries. The finding from the respondents revealed the sources of acquisition of EIR available in the selected university libraries. Table 2 shows that 64(100%) indicated the sources of acquisition of their electronic books, electronic journals, bibliographic databases, citation databases, to be open access and also subscribed while electronic theses and dissertations, digital collections, and meta resources are acquired through open access sources in selected university libraries.

Research question 3: What are the plans/policies for the management of EIR in the selected university libraries?
Table 3: The plans/policies for the management of EIR in the selected university libraries

SN	Statement	$\bar{x}$	Std. Dev.	Decision
1	I am aware of my library policy on the management of EIR	3.56	1.17	Significant
2	My library reviews EIR policy from time to time	3.33	1.31	Significant
3	The policy indicates which staff will be involved in the management of EIR	3.30	1.28	Significant
4	The policy defined the duties of the staff involved in the management of EIR	2.55	1.63	Not Significant
5	My library has a license agreement with the EIR vendors	4.23	0.43	Significant
6	My library has competent staff to manage EIR	4.22	0.42	Significant
7	My library organizes special training for staff on the use of EIR	3.63	0.95	Significant
8	The software in my library is compatible with the available EIR	4.17	1.29	Significant
9.	My library creates awareness of the available EIR	3.81	0.99	Significant
10.	My library carries out regular evaluations of the effectiveness of the available EIR	3.91	0.90	Significant
11.	My library has an adequate budget for EIR	3.20	0.96	Significant

Decision: It was adjudged that the mean score rating of x=3.0 is set as the benchmark.

In order to identify the plans/policies for the management of EIR in the selected university libraries, the respondents indicated their responses through questionnaire containing the eleven (11) items measured on a modified 4-point Likert scale of Highly Significant = 4, Significant =3, Rarely Significant =2 and Not Significant = 1 on the plans/policies for the management of EIR in the selected university libraries. The results presented in Table 3 illustrate the plans/policies for the management of EIR in the selected university libraries. The finding from the respondents revealed the plans/policies for the management of EIR in the selected University Libraries. The results show a mean and standard deviation score of (= 3.56; SD = 1.17) for awareness of library policy on management of EIR, for reviewing EIR policy from time to time (= 3.33; SD = 1.31), license agreement with the EIR vendors, (= 4.23; SD = 0.43), for competence of staff to manage EIR, (= 4.22; SD = 0.42), for compatibility of software with the available EIR, (= 4.17; SD = 1.29), for awareness on the available EIR, (= 3.81; SD = 0.99), for regular evaluation on the effectiveness of the available EIR (= 3.91; SD = 0.90), for adequate budget for EIR, (= 3.20; SD = 0.96) Therefore, on the items of measuring plans/policies for the management of EIR in selected University Libraries, the total of 10 items were significant. However, for the definition of duties of the staff involved in the management of EIR in the policy, (= 2.55; SD = 1.63) was not significant. This implied that the librarians agreed that the plans/policies for the management of EIR in the selected university libraries was high.

Research question 4: What are the challenges faced by the respondents in the management of electronic information resources?

Table 4: The challenges faced in the management of electronic information resources

SN	Statement	Mean	Std. Deviation	Decision
1	Lack of adequate knowledge on the use of EIR hardware operations	2.97	0.85	Not Significant
2	Inadequate Computer systems	2.78	0.83	Not Significant
3	Technological obsolescence	3.73	0.88	Significant
4	Security of EIR gadgets	2.25	0.56	Not Significant
5	Lack of adequate knowledge of different application software	3.56	1.22	Significant
6	Technophobia	2.52	0.62	Not Significant
7	Erratic Power supply	4.48	0.62	Significant
8	Inadequate Funding	4.61	0.49	Significant
9	Lack of a conducive environment	3.84	1.18	Significant
10	Inadequacy of required ICT skills	4.16	0.88	Significant

Decision: It was adjudged that the mean score rating of x=3.0 is set as the benchmark.
In order to identify the challenges faced by the respondents in the management of electronic information resources in the selected university libraries, the respondents indicated their responses through questionnaire containing the ten (10) items measured on a modified 4-point Likert scale of Highly Significant = 4, Significant =3, Rarely Significant =2 and Not Significant = 1 on the challenges faced by the respondents in the management of electronic information resources in the selected university libraries. The results presented in Table 4 illustrate the challenges faced by

the respondents in the management of electronic information resources in the selected university libraries. The finding from the respondents revealed the challenges faced by the respondents in the management of electronic information resources in the selected University Libraries.

Table 4 shows the challenges faced by the respondents in the management of electronic information resources. The results show a mean and standard deviation score of (= 2.97; SD = 0.85) was realized for lack of adequate knowledge on the use of EIR hardware operations, (= 2.78; SD = 0.83) for inadequate computer systems, (= 3.94; SD = 1.03), for technological obsolescence, (= 3.73; SD = 0.88) security of EIR gadgets, (= 2.25; SD = 0.56) for lack of adequate knowledge on different application software, (= 3.56; SD = 1.22), for technophobia, (= 2.52; SD = 0.62) for erratic power supply, (= 4.48; SD = 0.62) for inadequate funding, (= 4.61; SD = 0.49) for lack of conducive environment (=3.84; SD = 1.18), and a mean and standard deviation score of (= 4.16; SD = 0.88) for inadequacy of required ICT skills

Therefore, on the items of measuring the challenges faced by respondents in the management of electronic information resources, the total of 10 items were measured, 6 of them were significant: Technological obsolescence, Lack of adequate knowledge of different application software, Erratic Power supply, Inadequate Funding, Lack of Conducive environment, and Inadequacy of required ICT skills while Lack of adequate knowledge on the use of EIR hardware operations, Inadequate Computer systems, Security of EIR gadgets and Technophobia were not significant because they fell below the mean score rating of 3.0 set as the benchmark.

Discussion of findings

The findings of this study showed that electronic books, electronic journals, electronic theses and dissertations, bibliographic databases, citation databases, digital collections and metaresourceswere the available EIR in selected university libraries studied. This is in tandem with Ugwu and Onyegiri's (2012) research findings on the available EIR in Nigerian university libraries.This study also found that there wasa library policy on the management of EIR in the selected university libraries as against the assertion of Ogbebor (2010) and Satish and Umesh(2005) who stated that most African countries have no policies on the management of both paper and electronic information resources.

The librarians in the selected university libraries admitted that their libraries organize special training for staff on the use of EIR which corroborates with Gbaje's (2011) findings on staff training. It was also discovered that there was regular evaluation of the effectiveness of the available EIR in the selected university libraries as postulated by Kavishe and Dulle (2016).

This study also found that there was a lack of adequate knowledge of different library management application software which further stressed the assertion of Asongwe and Ezema (2012) who had earlier found that the complexity of some library management software both open access and proprietary made their use for the purpose of electronic information resourcesmanagement difficult.The findings also showed that technological obsolescence was a major challenge identified by the selected librarians which confirmedMoloi and Mutula's (2007) findings.

One of the major challenges besetting the management of EIR in the selected universities was the inadequacy of required ICT skills. This was also in consonance with Emanuel and Sife's (2008) research findings. The study also indicated that the

respondents in the selected university libraries identified erratic power supply as one of the major problems confronting the management of EIR. This confirmed the assertion of Asongwa and Ezema (2012).

Conclusion

This study concluded based on the findings. The study concluded that electronic information resources such as electronic books, electronic journals, electronic theses and dissertations, bibliographic databases, citation databases, digital collections and meta-resources were the available EIR in selected university libraries studied. The librarians in the selected university libraries admitted that their libraries organize special training for staff on the use of EIR. There was a lack of adequate knowledge of different library management application software. Technological obsolescence was a major challenge identified by the selected librarians. Other major challenges of EIR management include inadequacy of required ICT skills anderratic power supply.

Recommendations

The following recommendations were made based on the findings of this study.

1. There is a need for training and skills development in the management of EIR since it is evident that the majority of the staff working in these university libraries do not consider themselves sufficiently skilled in managing electronic information resources. Apparently, the university library management with the support from the university management should consider the capacity building of these librarians as a very crucial issue by sponsoring them to trainings both on-shore and off-shore. The librarians themselves should up their games by attending, seminars, conferences and workshops where current trends and emerging technologies are learnt among the professional colleagues with a view to develop adequate skills that commensurate with the upsurge of EIRs and emerging information and communication technological tools..

2. The library should be in tune with the latest developments in ICT. This will go a long way to solve the problem of technological obsolescence. The university library management should ensure the constant upgrading of equipment and facilities to drive the electronic information resources in the university library. This becomes necessary as the advancement in technology leads to the introduction of new versions, editions and models of both hard and software packages. Closely related to this is the rapid rate at which new application softwares are introduced calls for caution among the university library management. Some university libraries experience a setback when new application software are out even before the vendor gets through with the installation of newly acquired proprietary application software. Subscription for proprietary EIRs are very expensive, hence the need for caution among the university library management to ensure that the university community and faculty members derive maximum benefits from both subscribed and open access application softwares.

3. The library should provide an alternative power supply for effective management of EIR. Aside from the source of power from the national grid, a standby electricity generating set and other alternative power supply source such as solar power system become crucial to the efficient and effective management of electronic information

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