REASONS FOR DIGITIZATION AND ITS CHALLENGES IN NIGERIAN UNIVERSITY LIBRARIES

Benson O. **ADOGBEJI**[1] & B.A. **AKPORHONOR**[2]
Federal University of Petroleum Resources Library, Effurun, Delta State, Nigeria[1],
Department of Library and Information Science, Delta State University, Abraka, Nigeria[2]
benadogbeji@gmail.com[1], bakporhonor@yahoo.com[2]

Abstracts:

Purpose: The general purpose of this study is to ascertain the reasons for digitization and the challenges of digitization of information resources in Nigerian university libraries.

Design/ Method and Approach: The population for the study was 240 library staff (librarians and library officers) of the five federal University libraries in Northern and Southern Nigeria that are involved in library materials digitization. Four research questions were used for this study. Frequency counts, percentages and mean were used to analyze data for the research questions. All inferential statistics were performed at 0.05 level of significance. The study revealed among others that the five federal universities in Nigeria are involved in digitization of information materials in their libraries. These include: Ahmadu Bello University library, Zaria; University of Jos library, Plateau State; University of Nigeria, Nsukka library, Enugu State; Obafemi Awolowo University library, Ile-Ife, Osun State and Federal University of Technology library, Owerri.

Findings: The study revealed that 203 (84.5%) library staff (librarians and library officers) were involved in the exercise of digitization of information resources in their libraries. The study showed that webserver, hard disk, local server, external drive, blogs / repository among others were used for digital preservation. It also revealed that dissertation, theses, staff abstract among others were the major materials they digitized. Desktop computer, laptop, and scanner were the major hardware facilities used while Dspace, KOHA and Endnote were the major Software used. The research shows to a large and very large extent the reasons for digitization. All these reasons of digitization were accepted, since all of them have calculated mean value greater than 2.5. These include: digital preservation (Archival purpose)), accessibility), the need to meet global need), to save time and space), to improve availability and visibility), historical and cultural values), changing nature of the library), ease to retrieval), higher education needs), technological push among others. The study found out that copyright restriction, insufficient fund and epileptic power supply were the main challenges encountered.

Implications: The study ascertained that digitization of library materials has numerous reasons and challenges. The research recommended that copyright issue should be properly addressed, fund and power supply should be made available in Nigerian University Libraries to enable digitization of library resources, digital preservation, and accessibility online. The research also recommend that copyright issue should be properly addressed, fund and power supply should be made available in Nigerian University Libraries to enable digitization of library resources, digital preservation, and accessibility

Originality / Value: This study is virtually a new research that addresses the reasons for digitization and the challenges of digitization of information resources in Nigerian university libraries.

Keywords: Digitization, Challenges of Digitization, Internet, Repository, Virtual Library, Nigeria

Paper type: Empirical

Introduction

Digitization refers to all the steps involved in the process of making collection of materials that are in analogue format to be in digital format and accessible online. It is the process of converting analogue (paper) materials into computer compatible formats. It can also be defined as a process in which materials are converted from the hard copies to electronic or soft copies. Witten and David (2003) defines digitization as the process of taking traditional library materials that are in book form

and papers and converting them to the electronic format where they can be stored and manipulated by a computer. Kannappanava; Rajamkanta and Tandur (2010) stated that digitization refers to the conversion of materials created in another format into an electronic format; this definition excludes materials that were initially created digitally.

Similarly, Jagboro, Omotayo and Aboyade (2012) define digitization as all the steps involved in the process of making collections of historical and other materials available online. Pandey and Misra (2014) describe digitization as the course of converting analogue information to a digital format. While Fabunmi, Paris, and Fabunmi (2014) asserted that the major purposes of digitalization are: to enhance access and improve preservation of library materials. To do this the librarians need certain skills. In this digital era the librarians need skills in conversion of the analogue materials, processing the materials, preserving of the materials and its accessibility in order to make them online so that they can meet their work as time become important.

In this current information age where time is precious, people have become increasingly dependent on digital information and Internet for their research work. It is an age where there is increased access to up-to-date information, in print and electronic format. This age is also known as digital era where information is recorded, stored, retrieved and disseminated in digital format. Digital era according to Byamugisha (2010) is an era where several persons can access and exchange information simultaneously without stress; a time where remote access and exchange of information online have become easy, unlike the situation in the past when information was accessed in analogue (paper) format. Bhardwaj (2018) asserted that the modern academic libraries do not only provide users with access to paper based information but digital information resources. Nevertheless the recent means have become digital. (Digital Library of Georgia, 2004; Jagboro; Omotayo, and Aboyade (2012). The authors further explained that digitization is the conversion of materials or analogue media into electronic format. Materials in analogue media

include books, journal articles, microform, photos, audio, video, etc. Digitization is carried out to ensure accessibility and preservation of information resources which stand as the most important component of digital library. Digitization creates room for digital library which is not a single entity but have digital contents created in-house or acquired from outside in digital format (Jagboro, Omotayo & Aboyade, 2012). In library, it involves conversion of books, journals etc.

The process of digitizing information materials such as texts, images, cards is mainly through capturing such objects (documents) using scanner and converting them into formats such as Hypertext Markup Language (HTML) files. Ratanya (2010) and Digital library of Georgia (2004) identified some file formats and deduced that the essence of this format is for the files to be opened using such format. It may be in HTML format that can be accessed using Internet explorer and Mozilla Firefox. They can also be converted into Portable Document Format (PDF) which is a file that can be opened using Acrobat Reader Software. In the same vein, document can be converted into Microsoft Word (DOC) format which can be opened using Microsoft Word. Other documents formats include Graphic Image Format (GIF), Joint Photograph Enlarged Graphics (JPEG) for photographs. These file formats are used to offer information resources in digital forms.

At present, university libraries are compelled to digitize their materials especially their projects, dissertations and theses by some important factors, one of which is the fact that almost everyone that is currently involved in knowledge production process prefers the electronic form. Kanyergo (2006) identified those involved in this process to include creators of knowledge, publishers and those that are finally responsible for permanently storing the resulting knowledge like the library. This development in electronic format has resulted in fast, timely and efficient ways of producing and disseminating information.

To advance in digitization, funds are needed to buy equipment, pay production personnel, to preserve, archive, plan and collaborate in order to successfully carry out digitization. All these

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can be made a reality when there is administrative support from government or university management, among others. The government could support digitization projects through grants as the case in developed nations like America. The availability of such grants could make digitization easier and quicker. The Colorado digitization project in the United States of America was a well-funded effort to create access to digital resources involving historical societies in Colorado (Eden, 2001).

In digitization, the choice of materials to digitize varies from library to library. In most cases it depends on the priority of the library concerned but there are widely accepted criteria which are normally applied, such as materials of high demand by patrons especially when such materials are available in limited copies or are on restricted access, materials that are of local and unique needs, items that are of immediate and curricular importance, aging materials that are on high demand by patrons, and materials that are difficult to handle as identified by Jagboro, Omotayo and Aboyade (2012). Byamugisha, (2010) further argued that there are notable reasons for digitizing information materials which include historical and cultural value of the materials, increase of access to such resources globally, breaking of distance barriers, the changing nature of the library service that is becoming electronic rather than manual.

The different materials to digitize include such library materials as publications, journal articles, theses, dissertations, abstracts. On the basis of the needs, libraries embarking on digitization project do so in selected materials especially those materials which are of great value to the libraries. Eke (2011); Jagboro, Omotayo and Aboyade (2012) reported that at the University of Jos, Obafemi Awolowo University, Ile Ife, University of Nigeria, Nsukka, the libraries mainly digitize their newspapers, dissertations and theses.

Considering the facilities use in the process of digitization, there are facilities that are engaged. Facilities in this context are hardware equipment and software made available and use, for digitization project to be a reality. Byamugisha (2010) spelt out these facilities to include computer, scanners, digital cameras, cleaning brush, dust protectors, mask, cellotapes etc. In the same vein, software facilities such as photo essential for editing of scanned documents, Dspace, FEDORA, Greenstone, Acrobat Reader and Eprints etc are used for storage, and distribution. Some other Software includes scanning software or driver for the scanner that initializes the scanner for scanning purpose. Photoshop and photo essentials are software for editing the scanned materials as reported by (Byamugisha, 2010); (Eke, 2011).

The methodology for digitization varies from library to library depending upon the policies and guidelines of the parent institution. Prabhat and Roli (2014) asserted that the basic steps involved in digitization are setting clear-cut objectives for digitization, selection of materials to be digitized, selection of technology (hardware and software) for digitization and the archiving or preservation of such digital materials. Beside these, the digital preservation makes the library holdings be saved in the server and also the backup server. They are also engage in creating metadata elements for each scanned documents and equally establish link between metadata elements and the actual scanned materials. Eke (2011); Jagboro, Omotayo and Aboyade (2012). This is to ensure that scanned and linked materials can be accessed easily when properly done. At this point, the systems librarians and the ICT experienced library staff ensure that clicking metadata elements will open the materials linked to it. The means of preservation include the following such as server, hard drive, external drive, memory card, tapes, and blogs among others. This research therefore wish to identify the types of materials digitized, the hardware and software facilities used, the reasons why the libraries embark on the assignment and the challenges they faced in the process of digitization of information resources in their libraries.

Research questions

On this premise, the researchers (PhD student and his supervisor), therefore decided to employ the following four research questions to guide the study:in order to ascertain these.

i. What are the types of materials digitized in the university libraries?
ii. What are the facilities used for digitization in the library?
iii. What are the reasons for digitizing the library information materials?
iv. What are the challenges of digitizing the library information materials

Population of the Study

The population of this study consists of the all the library staff (librarians and library officers) involved in digitization of information resources in their university library. This consists of the five federal universities in Northern and Southern Nigeria that digitized their materials.

S/N	Name of University	Location	Library staff involve	Year started Digitization
1	Federal University of Technology, Owerri	South East	40	2006
2	Obafemi Awolowo University, Ile-Ife, Osun state	South West	40	2006
3	University of Nigeria, Nsukka, Enugu state	South East	40	2008
4	Ahmadu Bello University, Zaria,	North West	70	2009
5	University of Jos, Plateau state	North Central	50	1998
			240	

Review of Related Literature

Reasons for Digitization of Information Resources in University Libraries

Digitization refers to all the steps involved in the process of making collection of materials that are in analogue format to be in digital format accessible online. It is the process of converting analogue (paper) materials into computer compatible formats. It can also be defined as a process in which materials are converted from the hard copies to electronic or soft copies. Witten and David (2003) defines digitization as the process of taking traditional library materials that are in book form and papers and converting them to the electronic format where they can be stored and manipulated by a computer.

The digitization of information resources is for revolutionizing the way libraries access, store, disseminate, and preserve information Liu (2004). In view of this there is need to digitize library resources, a project was set up by the Association of African universities. It started with the University of Jos and Obafemi Awolowo University, Ile Ife. This effort led to the organization of national interactive seminar as noted by (Okiy, 2008). This seminar came under the AAU DATA programme which equally provided a model for Ahmadu Bello University, Zaria to commence the digitization of theses and dissertations that aimed at providing global access through the Internet.

The obvious reasons for digitization as noted by Byamugisha (2010) who carried out a study in Uganda on Digitizing Library Resources for New Modes of Information Use, identified reasons for digitization which includes academic issue, historical and cultural values, increase of access to data or resources, preservation of information resources, document delivery, global needs, commercial exploitation, breaking of distance barriers to information resources, time and space saving among others. In the same vein, additional reasons for digitization as asserted by (Eke, 2011) who carried out a study on Digitizing Resources for University of Nigeria repository: process, and challenges.The study aimed to establish progress that has been made by UNN in digitizing their resources; report the process of digitizing these materials; find out problems encountered in the digitization project; and proffer solutions to the problems encountered. Additionally, information on digitization of University of Nigeria resources was gathered through the University website as it contained necessary information that guided the study. The paper gives an overview of digitization and the digitization initiative in the University of Nigeria, Nsukka including the processes. A lot of challenges are facing the successful digitization of resources in University of Nigeria. Such major deterrents in the project include legal aspect and finances. Other factors were also discussed and the ways forward to the hindrances highlighted. This paper establishes that there are challenges militating against the digitization project in the University of Nigeria, Nsukka (UNN) which demands immediate attention. However, solutions are

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proffered, which can help in ameliorating the challenges raised.

Koehler (2004) carried out a study on Digital Libraries, digital containers, Library patrons and Visions for the future. Out of the fifteen university libraries used for the study on digitization, all chose and agreed that the reasons for digitizing the library materials were preservation, access, storage, copyright control and value for intellectual content. However, two university libraries, the University of Malaysia (UM) and Multimedia University (MMU) attested to easy access as the libraries main reason for digitization.

Pandey and Misra (2014) carried out a research on Digitization of Library Materials in Academic Libraries: Issues and Challenges in India. They highlighted the reasons for digitization which include accessibility and preservation. Other reasons for digitization include the changing nature of the library which is becoming digital rather than analogue; the standard expected of the library is that of online transactions as the developed nations are now doing, so also is information retrieval and metadata etc. The changing nature of the library: The changing nature of the library operations that is now digital makes the library world to undergo much re-thinking in the last quarter century by embracing the idea of library without walls, which is to meet the expectation of the patrons that involve wide variety of automated push and or pull services from libraries and from the distance such that information resources could be access anywhere anytime from the Net without actual move to such library. The Standards war: With the growing nature of the online library operations, there are standard such as online provision of resources by libraries as such the libraries must meet the standard that is expected. Stating further, changing library standardization and increased universality of that standardization would lead to unanticipated consequences in the digital library community and in society in general (Koehler, 2004).

Information retrieval and metadata: In order to make these resources available online there is the need to develop retrieval strategies which entails developing metadata for proper indexing and reference purpose electronically. That at present and in the future, information retrieval would be easy with well-developed metadata that clearly describe the collections.

Higher education needs: The higher education need is becoming more digital than analogue. That libraries need to reposition themselves within their institutions in order to continue to ensure access to information, education, people, services, and ICT. The libraries, especially in Uganda, have to adapt the needs of higher education sector and opt to digitization as library budgets continue to reduce. There are calls for change in the entire systems of higher education in order to meet the demands of users. This is to show that despite budget constraints, African nations must strive to meet with the global need of digitization and metadata creation.

Technology push: that there is need for technology push for Africa to meet up with the global needs in this era of digitization. There is need of integrating multiple resources for the user into a comprehensive landscape, allowing cross-searching or searching of many databases with one interface (Yeates, 2002).

The reasons for digitization is to let African countries realize that meeting with the global needs of providing information online, there is need for virtual library, there is also need for metadata standard for our digital resources. In the same vein, there is need to clearly define the metadata that describe the digitized resources thereby improving information retrieval. Similarly, the higher institutions in Africa as applicable to the academic libraries in the United States must position themselves in the front race of the digitization to ensure access to information relevant to the masses and researchers. This can be possible when there is technology push which the libraries must encourage (Byamugisha, 2010). It is therefore imperative to examine these in this research.

Challenges of Digitization in University Libraries

The challenges of digitization of information resources are numerous. In India, the challenges include legal issues, constant changing software

and hardware, funding, technophobia, technical expertise, inadequate technology infrastructure, technological obsolescence, continuous migration, deterioration of digital media among others (Pandey & Misra, 2014). Other challenges consist of selection of materials, the installation of proper storage facilities, the ability of the library to adapt to the digitization project, digital content, collection, fund, copyright issues, technical know-how etc. In Uganda and other part of the world, challenges involved include the following as explained below (Shiri, 2003); (Digital Library of Georgia, 2004); (Okorie, 2011); (Jagboro, Omotayo & Aboyade, 2012).

The Selection of materials: the primary purpose and orientation of the digital project impose selection of materials challenges as the source of the data needs to be determined. In this regard, the libraries need to ascertain the source of the materials before digitizing and uploading (Byamugisha, 2009).

The installation of storage facilities: The installing of proper storage facilities is a prerequisite for a well working repository. In this aspect, it is expected that the libraries would install good and workable server and backup servers with very large storage and processing speed to meet users' needs.

The digitization project: The library must cope with the project. The challenge therein is that the library has to meet the budget needs of digitization project by accepting to be involved in fund drives with permission from the management to augment the government subvention in order to meet up with the needs, as most cases done in the developed nations to meet with the training and acquisition of the equipment.

Digital content and collection: one major challenge with regard to metadata is the diversity of digital formats and the way they should be described in different collections with different target audience and uses. This is because in the electronic environment institutions and individuals license access to content, they do not own the containers that surround the content (Shiri, 2003).

Fund: Since digitization is an expensive project, which requires fund, the libraries must seek financial support from the government, funding agencies.

Technical-know-how: Digitization requires technical skills to carry it out, therefore, the project needs skillful personnel to handle the project but so many libraries lack such personnel hence there comes the need for training (Shiri, 2003); (Jagboro, Omotayo & Aboyade, 2012). These and many more this study is trying to ascertain in regards to university libraries in Nigeria.

Findings of the Research

Table 1: Name of University and the number of staff involved in digitization process

S/N	Name of University	Questionnaire distributed	Questionnaire returned and used
1	Federal University of Technology, Owerri	40	34
2	Obafemi Awolowo University, Ile-Ife, Osun state	40	38
3	University of Nigeria, Nsukka, Enugu state	40	26
4	Ahmadu Bello University, Zaria,	70	56
5	University of Jos, Plateau state	50	49
Total		**240**	**203**

A total of two hundred and forty questionnaires were distributed but two hundred and three (84.5%) were returned and used for the study from the five Federal Universities that are digitizing their library materials. Note that in the analysis of data retrieved from the 203 respondents the values of 1, 2, 3 and 4 were assigned to the options; Strongly Disagree (SD), Disagree (D), Agree (A) and Strongly Agreed (SA) respectively using a 4-point Likert scale. In analyzing responses for the research questions, a benchmark of mean ≥ 2.5 which implies "Accepted" else ≤ 2.5 "Rejected" was set for this study.

Table 2: Types of materials digitize

Types of materials digitize	Number	%
Abstracts of staff publications	158	79%
Postgraduate Theses and Dissertations	203	100%
Students results	2	1%
Senate reports / bulletins	32	16%
Inaugural Lectures papers	75	38%

The study reveals that Postgraduate Dissertations and Theses (100%), and abstracts of staff publications (79%) are the major resources being digitized in the five university libraries. In this study, it reveals that Postgraduate Theses and Dissertations, and abstracts of staff publications are the major resources being digitized in the five university libraries. This is line with Jagboro, Omotayo & Aboyade (2012) that materials of high demand by patrons especially when such materials are available in limited copies or are on restricted access, materials that are of local and unique needs, items that are of immediate and curricular importance and materials that are difficult to handle are being digitized. (Ogushola, 2004); (Ezeani & Ezema, 2009); (Ibinaye, 2012) study also support this finding that libraries embarking on digitization projects do so with selected materials such as abstracts of staff publications, dissertations, and theses as applicable to the University of Nigeria, such as UNN Nsukka, University of Jos; Obafemi Awolowo University, Ile-Ife, ABU Zaria. The types of materials digitize are numerous, Eke (2011) identified some which includes theses, dissertations, projects, inaugural lectures, university newspaper, lecturers scholarly articles and publications, text books, term papers, past question papers, and other materials belonging to the university. Moreover theses, and other pieces of history such as books, newspapers, postcards, journals (Liu 2004); (Vrana, 2010). Liu (2004) posited that libraries usually digitize newspapers, maps, art, music, children's literature, historical records and images of international and cultural interests in the United States.

Table 3: Hardware facilities used for digitization.

Hardware used	Number	%
Desktop computer	203	100%
Laptop	176	88%
Scanner	203	100%
Book Scanner	186	88%
Digital Camera	70	35%
Digital Phone or Digitizer	58	29%
Photo smart with three in one (**Printer, photocopier, and scanner**)	84	42%

The study identifies that desktop computer (100%), scanner (100%) book scanner (88%), digital camera (35%) digital phone or digitizer (29%) are mostly required for digitization of information resources. The study identifies that desktop computer 100%, scanner 100%, book scanner, digital camera or digitizer are the mostly require facilities for digitization of information resources. This is in support of (Jagboro, Omotayo & Aboyade, 2012) who identified the various hardware in digitization projects to encompass the use of certain equipment such as computer, scanners, and digital cameras.

Table 4: Software is used for digitization and management of materials in my library?

Software used for digitization	Number	%
Dspace	196	98%
E-Print	17	9%
Green Stone Library Software	-	-
Fedora	-	-
Endnote	20	10%
KOHA	68	34%
Enda Image	-	-
Photo essential software	-	-

Table 5: Reasons for digitizing library materials

Reasons for digitizing	N	Minimum	Maximum	Mean
Digital preservation (Archival purpose)	185	2	4	3.5
Accessibility	197	2	4	3.5
Document delivery	197	2	4	3.2
To meet the global need	199	2	4	3.2
To break distance barriers	189	2	4	3.3
To increase access to data and information resources	189	2	4	3.6
To save time and space	191	2	4	3.5
To improve availability and visibility	183	2	4	3.5
Historical and cultural values	175	2	4	3.3
Changing nature of the library	177	2	4	3.2
Ease of information retrieval	197	2	4	3.3
Higher education needs	199	2	4	3.3
Technological push to make materials available online	197	2	4	3.3
Valid N (list wise)	141			

The study reveals that two Software are mainly use in the management of the digitized library resources. These are Dspace (98%), Endnote (10%) and KOHA (34%).

All the reasons above for digitization of information resources are accepted. All these reasons of digitization such as digital preservation (Archival purpose), accessibility, the need to meet global need, to save time and space among others as indicated in the Table 5 above are accepted since all these have mean value greater than 2.5 (≥ 2.5) as their level of support as reasons for digitization.

All these reasons for digitizing library resources such as digital preservation (Archival purpose) (3.5), accessibility(3.5), the need to meet global need(3.2), to save time and space (3.5), to improve availability and visibility(3.5), historical and cultural values(3.3), changing nature of the library (3.2), ease to retrieval (3.3), higher education needs(3.3), technological push (3.3) among others are accepted since all these have

mean value greater than 2.5 as their level of support for digitization. The obvious reasons for digitization as noted by Byamugisha (2010) who carried out a study in Uganda on Digitizing Library Resources for New Modes of Information Use identified reasons for digitization which includes academic issue, historical and cultural values, increase of access to data or resources, preservation of information resources, document delivery, global needs, commercial exploitation, breaking of distance barriers to information resources, time and space saving among others. The reasons for digitization also support Koehler (2004) findings in a study carried out on Digital Libraries, digital containers, Library patrons and Visions for the future. Out of the fifteen university libraries used for the study on digitization in Malaysia, all the respondents chose and agreed that the reasons for digitizing the library materials were preservation, access, storage, copyright control and value for intellectual content.

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Table 6: Challenges of digitization of information resources in university libraries

	N	Minimum	Maximum	Mean
Copyright restriction	195	2	4	3.5
Lack of insufficient infrastructures for digitization	189	2	4	3.3
Insufficient manpower with skills for digitization	183	2	4	3.4
Insufficient fund	191	2	4	3.3
Insufficient hardware facilities	169	2	4	3.1
Frequent breakdown of Software	159	2	4	2.8
Frequent breakdown of scanner or digitizer	165	2	4	2.7
Server and workstation defect	163	1	4	2.7
Administrative procedures that delay activities	177	1	4	2.6
Inconsistency in the production of information	173	1	4	2.6
Security of data holdings and virus infection	185	1	4	2.9
Epileptic power supply	197	1	4	3.2
Metadata creation standards difficulties	183	1	4	2.9
Valid N (list wise)	125			

As reveals in Table 6 above, copyright (mean 3.5), insufficient fund (mean 3.3), insufficient infrastructures (3.3), insufficient manpower (3.4) and Epileptic Power supply (mean 3.2) are the three major factors that act as impediments or challenges to digitization of information resources in the five university libraries studied. The impediments to digitization of information resources are numerous. Copyright (3.5), insufficient fund (3.4), insufficient infrastructures (3.3), insufficient manpower (3.4) and Epileptic Power supply (3.2) are the five major factors that act as impediments or challenges to digitization of information resources in the five university libraries studied. (Pandey & Misra, 2014) found out that in India, the challenges include legal issues, constant changing software and hardware, funding, technophobia, technical expertise, inadequate technology infrastructure, technological obsolescence, continuous migration, deterioration of digital media among others. (Shiri, 2003); (Okorie, 2011); (Jagboro, Omotayo & Aboyade, 2012).also discovered that in the selection of materials: the primary purpose and orientation of the digital project impose selection of materials challenges as the source of the data needs to be determined. In this regard, the libraries need to ascertain the source of the materials before digitizing and uploading.

Findings of the research

i. That postgraduate theses and dissertations, and staff abstracts are the major materials digitized in the library studied.

ii. That desktop computers, laptops, scanner, book scanner and digitizers are the major hardware facilities used for digitization.

iii. That Dspace, KOHA and Endnote are the three-software used for the management of the digitized information resources in Nigerian university libraries.

iv. All the reasons above for digitization of information resources are accepted. All these reasons of digitization such as digital preservation (Archival purpose), accessibility, the need to meet global need, to save time and space among others as indicated in the Table 8 above are accepted since all these have mean value greater than 2.5 (≥ 2.5) as their level of support as reasons for digitization.

v. The library users should also be oriented on how to operate and use digital information resources so that they could derive maximum benefits from the system.

vi. Copyright, fund and Epileptic Power supply which are the three major factors that act as impediments to

digitization of information resources in the five university libraries studied should be proffer solution to in order to have easy digitization of information resources in libraries.

Conclusion

This study on reasons and challenges of digitization of information resources in Nigeria exposes the reasons and the challenges faced by the university libraries. It therefore nice to say that the libraries should be involve in digitization of information resources as this is the new trend in information resources management for online services and remote or global access.

Recommendations

1. The research recommend that materials to digitize should be resources that are useful in the present time and the future, therefore library managers need to identify those items to reduce waste of resources. These include: dissertations, theses, materials of high demand etc.
2. To enhance digitization, the library needs to increase its budget to purchase technology equipment and offer solution to such challenges as copyright, fund and Epileptic Power supply which are the three major factors that act as challenges to digitization of information resources in Nigeria. There is need for regular light in the library hence need for internal power plant.

References

Byamugisha, H.M.(2010). Digitizing library resources for new modes of information use in Uganda. Library Management, 31 (1/2), 42-55: Retrieved from http://www.emeraldinsight.com/0143-5124.htm

Digital Library of Georgia (2004). Digital Library of Georgia digitization guidelines Version 2.0 September. Retrieved from http://dlg.galilo.usg.edu/AboutDLG/Digitization Guide.html?welcome

Eden, B. (2001). Getting started with library digitization projects: Funding your first and subsequent digital projects. Bottom line Managing Library Finance, 14 (2), 53-55

Retrieved from http://www.mbcup.com/research_registers

Eke, H.N. (2011) Digitizing Resources for University of Nigeria repository: process, and challenges. Retrieved from http://www.webology.org/v8nl/a85.html

Ezeani, C.H. & Ezema, I. (2009). Digital preservation of cultural heritage of University of Nigeria, Nsukka: Issues and current status. Abuja: Nigeria Library Association.

Ezeani, C. N., & Ezema, I. J. (2011).Digitizing Institutional Research Output of University of Nigeria, Nsukka. Library Philosophy and Practice, 1-17. Retrieved October 10, 2012, from http://unllib.unl.edu/LPP/ezeani-ezema.htm

Fabunmi, B.A. Paris, M. & Fabunmi, M. (2006). Digitization of library resources: challenges and implications for policy and planning. Retrieved from http://ajes.siue.edu/ois/index.php/ijaas/article/viewfile/80/142

Jagboro, K.O., Omotayo, B.O., Aboyode, W.A.(2012) Digitization of library collection in developing countries. The Hezekiah Oluwasanmi Library experience. Library Philosophy and Practice (e-journal) Retrieved from http://digitalcommons.unl.edu/libphiprac/823

Kannappanara, B. U; Rajamkanta, S. T and Tandur, S.K. (2010). Importance of digitization of library materials. SRELS Journal of information management 47(1): 61-70

Kanyergo, C.W. (2006). Managing digital information resources in Africa: Preserving the integrity of scholarship. Presented at the Bridging the North-South Divide in Scholarly communication on African, Threats and opportunities in the Digital era

Koehler, W. (2004) Digital Libraries, digital containers, Library patrons and Visions for the future : The Electronic Library 22 (5), 401-407.

Liu, Y.Q. (2004) Best practices and techniques for digitizing library materials: a snapshotof library, digitization practices in the USA. Online Information Review 28 (5), 338-345. Retrieved from http://www.emeraldinsight.com/1468-452.htm

Masenya, T.M. & Ngulube, P. (2020) Factors that influence digital preservation sustainability in academic libraries in South Africa. SA Jnl Libs & Info Sci 2020, 86(1).

Ogunsola, L.A. (2004). Nigerian university librarians and challenges of globalization:

The way forward Electronic Journal of academic and special Librarianship 5 (2-3), 1-9.

Okiy, R.B.(2008). Digitizing and archiving information resource in libraries: reactions toglobal initiation from Nigeria. IFLA ITS Newsletter, 5-6.

Okorie, (2011). Rationales and strategies for digitizing library information resources.

Retrieved from http://www.okorie.hubpages.com/hub/rationals-and-strategies-for- digitizing.

Pandy, P, and Misra, R.(2014). Digitization of library materials in academic libraries: issues and challenges. Journal of industrial and intelligent information 2(2): 136- 141. Retrieved from http://www.jiii.org/uploadfile/2014/0113/2014 0113034520805.pdf

Prabhat, P., & Misra, R. (2014). Digitization of library materials in academic libraries: Issues and challenges. Journal of Industrial and Intelligent Information, 2(2), 136-141.

Ratanya, F. C. (2010). Electronic theses and dissertations (ETD) as unique open access materials. Case of the Kenya Information Preservation Society (KIPs) Library Hi Tech News 4 (5), 15-20

Shiri, A. (2003). "Digital library Research: Current developments and trends": Library Review 52 (5), 198. Retrieved from http://level.emeraldinsight.com

Vrana, R. (2010). Public Libraries in Croatia and the digitization challenge. Library Review 50 (5), 325-340

Witten, I.H and David, B. (2003). How to build a digital library. London: Morgan Kaufman Publishers.

Yeates, R. (2002) Digital library research and information systems: where are we Heading, 32(4), 3-18.