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AN ASSESSMENT OF INFORMATION RESOURCES DIGITIZATION BY UNIVERSITY LIBRARIES IN EDO AND DELTA STATE, NIGERIA

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Abstract

The study assessed information resources digitization by university libraries in Edo and Delta States, Nigeria. The study was guided by four research objectives and questions. A descriptive survey research design was adopted for the study with a population of 177 librarians engaged in the university libraries in Edo and Delta States, Nigeria. The total enumeration sampling was used in this study to select the entire population. A structured questionnaire was distributed to the respondents with the aid of two research assistants. The descriptive analysis method was adopted for the analysis of the data elicited using a questionnaire. The study achieved a 93% return rate on the questionnaire distributed. The findings revealed that the university libraries in Edo and Delta States, Nigeria had available Scanners, Image image-capturing software, Visualizers, Computers, Lighting, and document software which implies that there is digitization equipment available in the university libraries. The findings also show that the materials being digitized in the university libraries of Edo and Delta States, Nigeria are mostly project/ thesis/ dissertation, books, journals, abstracts, reference materials, newspapers, geographical materials, magazines and government publications. It was revealed in the study that the extent of digitization of information materials in the university libraries in Edo and Delta State, Nigeria is low. The challenges militating against the digitization efforts in university libraries in Edo and Delta States, Nigeria are majorly inadequate finance, inadequate skilled manpower, epileptic power supply, poor internet access, intellectual property right issues, non-availability of required facilities, copyright issues, and poor support from university management, among others. The researcher recommends that funds should be allocated for digitization projects by university management and other funding bodies of libraries to increase digitization efforts by the librarians in university libraries and the required infrastructural facilities and equipment to enhance the success of digitization projects should be acquired and made available to librarians in university libraries.

Keywords: Digitization; Information Resources; University Libraries; Edo State; Delta State; Nigeria

Introduction

In this digital age, technologies are now increasingly adopted for meeting several needs of mankind in their strive for survival. To buttress the aforementioned, UpKeep Technologies (2023) posited that the world has experienced several stages of revolutions that resulted in a drastic shift in the way humans survive, render services, and communicate. The world has undergone several stages of revolutions from the first industrial revolution which started in 1765, the second industrial revolution of 1870, the third industrial revolution of 1969 and the fourth industrial revolution of the year 2000 which is characterized by the advent of renewable energies like solar, wind and geothermal (Institute of Entrepreneurship Development, 2019; UpKeep Technologies, 2023).

Scholars have argued that the characteristics of the Fourth Industrial Revolution are mainly product customization, optimization, machine-to-human interaction, adaptation and automation, value-added services and businesses and digitization (Posada, et al 2015; Roblek, et al 2016). According to Maltaverne (2017), digitization is the process of going from traditional analogue formats to digital ones (such as the digitization of information). However, digitizing library holdings is now becoming an important mission for libraries, with the main aim of boosting accessibility to their collections (Otubelu & Ume, 2015). In Nigeria, there area lot of efforts towards digitization projects to boost access to library collections. One earlier effort towards digitization in academic libraries is the Virtual Library Project organized by the Nigerian Universities Commission (NUC) with a mandate of ensuring each university library in Nigeria digitizes its collection bringing electronic information resources closer to the university community (Ochai, 2007).

Academic libraries nowadays, especially those at universities, must prioritize digitization as it is crucial to the operation of contemporary libraries (Udem et al 2015). Also, Otubelu and Ume (2015) argued that the process of transforming physical resources into digital formats has given libraries the chance to connect with new customers and deliver new services. The full benefits of incorporating open access into university libraries can only be realized if digitization is made a fundamental part of the objectives and guidelines of each university library (Udem et al 2015). Currently, there is a dearth of studies that focus on the digitization of print information resources in the university libraries in Edo and Delta States of Nigeria, this lacuna in knowledge prompted the need for the present study.

OBJECTIVES OF THE STUDY

The study seeks to understand the information resources digitization of the university libraries in Edo and States, Nigeria. The study-specific objectives are to:

1. Explore the availability of digitization equipment in the university libraries in Edo and Delta States, Nigeria.
2. Identify the types of material being digitized in the university libraries in Edo and Delta States, Nigeria.
3. Ascertain the extent of digitization of information materials in the university libraries in Edo and Delta States, Nigeria.
4. Pinpoint the challenges faced by university libraries in the digitization of information resources in Edo and Delta State, Nigeria.

RESEARCH QUESTIONS

To meet the study objectives, the following questions were raised:

1. What is the digitization equipment available in the university libraries in Edo and Delta States, Nigeria?
2. What are the types of materials digitized in the university libraries in Edo and Delta States, Nigeria?
3. What is the extent of digitization of information materials in the university libraries in Edo and Delta States, Nigeria?
5. What are the challenges faced by university libraries in the digitization of information resources in Edo and Delta State, Nigeria?

LITERATURE REVIEW

In the library context, digitization is the conversion of print information materials to electronic forms for swift accessibility, dissemination, and use (Yadav et al, 2015). Adogbeji and Akporhonor (2021) defined digitization as the conversion of information into a digital format. It is the process of converting information from a physical hard copy form into a digital or computerized form. Digitization of library resources is the process of transforming analogue information into a digital format (Feather & Sturges, 2003).

Islam (2011) assessed the prospects and challenges of achieving digitization in Bangladesh libraries. This finding indicates the poor availability of infrastructural facilities and hardware equipment among the university libraries of Bangladesh. This agrees with the research of Iwhiwhu and Eyekpegha (2009) which indicates that the non-availability of infrastructural facilities has negatively affected digitization projects in Nigerian libraries. In yet another study, Saka (2014) affirmed that due to the lack of resources and infrastructure, many of the innovative technologies available in advanced nations are not available in Nigeria which affects digitization projects. Obiozor-Ekeze (2022) studied the digitization of information resources in academic libraries in Nigeria, assessing the strategies and challenges. The findings revealed that the unavailability of ICT infrastructure facilities and the high cost of digital equipment have caused major constraints to digitization projects of academic libraries. Usman (2007) studied the digitization of past question papers, theses and dissertations using 30 university libraries in Nigeria as a case study. The study showed that the major obstacle to digitization projects is the lack of appropriate equipment/ facilities. As argued by most studies the academic libraries in Nigeria lack the required facilities to be successful in their digitization projects.

Jagboro et al (2012) studied the digitization efforts of Hezekiah Oluwasanmi Library collections to assess their strategies and constraints. The findings revealed that the university libraries put efforts towards digitizing their abstracts of dissertations and theses as well as their Newspapers to boost access and preservation of their collection. The project aims to create a database which is sponsored by the Carnegie Corporation and the Association of African Universities. Islam's (2011) study revealed that most Bangladesh libraries engage in digitizing books and other rare collections. As published by the Lund University Library they aim to digitize the Swedish cultural heritage from the 1400s to recently comprising books, journals and rare collections in collaboration with the National Library of Sweden and four other libraries Uppsala, Umea, Gothenburg and Stockholm. In Zimbabwe, Tasikani (2008) reported there are efforts towards digitizing Newspapers at the University of Zimbabwe library to create a national newspaper repository. Liu (2004) stated that university libraries are in the process of converting various

historical materials of international and cultural importance, such as newspapers, coins, art, music, and children's literature, into digital format. This primarily includes records from early American and European history.

As regards the extent of digitization, Rafiq and Ameen (2013) undertook a comprehensive investigation to determine the prevailing condition of digitization efforts in university libraries in Pakistan. Their research revealed that a significant majority (69.1 percent) of the libraries were not actively involved in digitization projects. Nneji (2018) investigated the process of converting academic library resources into digital formats at the University of Port Harcourt. The study had five main objectives. The results indicate that the level of digitization at Donald E. U. Ekong Library is significant and the librarians responsible for the digitization possess the required competence and skills. However, Usman's (2007) research on the state of digitization in 30 Nigerian university libraries found that these institutions are falling behind when it comes to converting their question papers, theses, and dissertations into digital form. Oni et al. (2018) studied the drawbacks and benefits of undertaking digitization projects in academic libraries to boost service delivery using university libraries in Edo State as a case study. The findings indicated that the libraries engage in digitization of their archival materials, manuscripts, catalogue cards, and newspapers to a great extent.

Researchers have highlighted the following challenges affecting digitization projects in Nigeria. First on the list of challenges is the financial challenges facing academic libraries in Nigeria, this is followed by copyright issues, poor technical knowhow among librarians, the expensive nature of digital facilities, epileptic power supply, poor attitude of librarians, the poor working environment of Nigerian workers, system breakdown, poor planning, among others (Mutula &Ajedokun, 2008; UNN Library Report, 2009; Mohammed, 2013). Another issue is the lack of awareness among library users about the availability of digital resources (Adogbeji & Akporhonor, 2021). Many library users are not aware of the digital resources that are available in their libraries. This is because libraries do not have effective publicity and marketing strategies to promote digital resources. Digitization projects of academic libraries in developing nations such as Nigeria have been met with mixed results. This is due to several factors, including a lack of infrastructure, financial resources, and access to skilled labour (Nnenna & Emenike, 2015; Nneji, 2018; Oni et al. 2018).

While digitizing library resources has its advantages, Nneji (2018) found that there are also challenges that impede this process. These challenges comprise obtaining funding for digitization projects, ensuring staff proficiency in managing the digitization process, addressing intellectual property rights, having appropriate infrastructure for the digitization process, dealing with users who solely rely on conventional library resources, and managing the obsolescence of hardware and software.

Ogar and Onah (2023) assert that there aren't enough financial resources to support digitalization efforts in Nigerian academic libraries in addition to a lack of infrastructure. The non-availability of high-speed broadband networks, dependable energy, and public Internet access points are all constrained (Japheth &Kikelomo, 2016). The success of digitization efforts is hampered by these limitations, which also restrict consumers' access to digital library services.

METHODOLOGY

The study adopted a survey research method since it is quantitative research. According to Bhaskaran (2023), a survey research method is a viable research method because it enables researchers to elicit an opinion from respondents to understand a given phenomenon or situation. The population of the study is the librarians in the university libraries in Edo and Delta States, Nigeria. The exact population of this research is 177 librarians in the university libraries in Edo and Delta States, Nigeria. The total enumeration sampling technique is adopted for the research due to the controllable population size. To throw more light on the aforementioned Canonizado (2021) argued that researchers select the total enumeration sampling method because their population is well-defined and small in size. The instrument deployed for eliciting data from the respondents is a structured questionnaire. The data collection period lasted for one month starting June 1 to June 30, 2023. The data collected using the questionnaire was analyzed using the descriptive statistics method using tables for clarity.

FINDINGS
Table 1 Shows the Questionnaire Return Rate

Librarians in University Libraries	No. of Questionnaire Distributed	No. of Questionnaire Returned	Percentage (%) of the Returned Questionnaire
Total	177	164	93%

A total of 177 copies of the questionnaire were distributed, of which 164 (93%) were returned and considered suitable for research because Dulle, Majanja, and Cloete (2010) stated that the acceptable rate of return for most surveys was 60%.

SECTION A: RESPONDENTS' DEMOGRAPHIC CHARACTERISTICS
Table 2: Gender Distribution of the Respondents

Gender	No. of Respondents	Percentage (%)
Male	98	60%
Female	66	40%
Total	164	100%

Table 2 reveals that male respondents accounted for 60 %, while female respondents accounted for 40%. There are more males than females in this study.

Table 3: Educational Qualification of the Respondents

Qualification	No. of Respondents	Percentage (%)
B.Sc./ B.Ed.	88	54%
M.Sc./ M.Ed.	58	35%
Ph.D.	18	11%

Total	164	100%

According to Table 3, 88 (54%) of the respondents have a B.Sc. / B.Ed. degree, 58 (35%) have a M.Sc. / M.Ed. degree and 18 (11%) have a Ph.D. degree. As a result, first-degree holders make up the majority of those who took part in the survey.

FINDINGS ON RESEARCH FINDINGS

Research Question 1: What is the digitization equipment available in the university libraries in Edo and Delta States, Nigeria?

Table 4: Digitization Equipment Available in the University Libraries Understudy

Digitization Equipment	Available	Not Available	Total
Scanners	146(89%)	18(11%)	164(100%)
Visualizers	146(89%)	18(11%)	164(100%)
Digital Cameras	22(13%)	142(87%)	164(100%)
Computers	160(98%)	4(2%)	164(100%)
Lighting	124(76%)	40(24%)	164(100%)
Image Capturing Software	152(93%)	12(7%)	164(100%)
Document Software	148(90%)	16(10%)	164(100%)
Optical Character Recognition Software	26(16%)	138(84%)	164(100%)
Bulk Renaming Software	22(13%)	142(87%)	164(100%)
Checksum Software	8(5%)	156(95%)	164(100%)
Audio/ Video Software	128(78%)	36(22%)	164(100%)

As indicated in Table 4, the university libraries in Edo and Delta States, Nigeria had available Scanners, Image Capturing Software, Visualizers, Computers, Lighting, and document software. The university libraries did not have digital cameras and optical character recognition software. This finding implies that there is digitization equipment available in the university libraries in Edo and Delta States, Nigeria though there is room for improvement.

Research Question 2: What are the types of materials digitized in the university libraries in Edo and Delta States, Nigeria?

Table 5: Types of Materials Digitized In the University Libraries

Types of Materials Digitized	Frequency	Percentage
Books	144	88%
Journals	142	87%
Abstracts	128	78%
Reference Materials	114	70%
Geographical Materials	82	50%
Project/ Thesis/ Dissertation	158	96%
Newspapers	84	51%
Magazines	42	26%
Government Publications	18	11%

From Table 5 above, the materials being digitized in the university libraries of Edo and Delta States, Nigeria are majorly project/ thesis/ dissertation, books, journals, abstracts, reference materials, newspapers, geographical materials, magazines and government publications.

Research Question 3: Ascertain the extent of digitization of information materials in the university libraries in Edo and Delta States, Nigeria.
Table 6: The extent of digitization of information materials in the university libraries
Note: VHL: Very High Level; HL: High Level; LL: Low Level; VLL: Very Low Level

Extent of Digitization	VHL	HL	LL	VLE	Mean
Books	142	8	6	8	3.73
Journals	138	6	8	12	3.64
Abstracts	8	12	22	122	1.42
Reference Materials	18	10	34	102	1.65
Geographical Materials	12	18	24	110	1.58
Project/ Dissertation/ Thesis	148	6	4	6	3.80
Newspapers	108	26	20	10	3.41
Magazines	14	6	12	132	1.40
Government Publications	4	6	14	142	1.24
Aggregate Mean					2.43
Criterion Mean				2.50	

Table 6 revealed the extent of digitization of information materials in the university libraries understudy. With an aggregate mean of 2.43 which is lower than the criterion mean of 2.50, it is glaring that the extent of digitization of information materials in the university libraries in Edo and Delta State, Nigeria is low. This finding implies that the librarians in the university libraries in Edo and Delta State, Nigeria hardly engage in the digitization of their information materials.

Research Question 4: What are the challenges faced by university libraries in the digitization of information resources in Edo and Delta State, Nigeria?

Table 7: Challenges faced by university libraries in the digitization of information resources

Challenges Statement	Frequency	Percentage
Inadequate Finance Available	164	100%
Copyright Issues	98	60%
Epileptic Power Supply	148	90%
Poor Attitude of Librarians	68	41%
Inadequate skilled manpower	164	100%
Non-availability of required facilities	102	62%
Obsolescence of hardware and software issues	46	28%
Poor Internet Access	124	76%
Poor support from university management	98	60%
Intellectual Property Right Issues	104	63%

The findings in Table 7 revealed that the challenges faced by university libraries in their digitization efforts are majorly inadequate finance available and inadequate skilled manpower to undertake digitization projects as indicated by 164(100%) of the respondents, this is followed by epileptic power supply as indicated by 148(90%) of the respondents, poor internet access as indicated by 124(76%) of the respondents, intellectual property right issues as indicated by 104(63%) of the respondents, 102(62%) of the respondents indicated non-availability of required facilities, 98(60%) of the respondents indicated copyright issues and poor support from university management, 68(41%) of the respondents indicated poor attitude of librarians, and 46(28%) of the respondents indicated obsolescence of hardware and software issues.

DISCUSSION OF FINDINGS

The study assessed the digitization practices of university libraries in Edo and Delta States, Nigeria. The study showed that there are more male respondents than female. The majority of the respondents possess a B.Sc. / B.Ed. degree. The finding revealed that the university libraries in Edo and Delta States, Nigeria had available Scanners, Image image-capturing software, Visualizers, Computers, Lighting, and document software which implies that there is digitization equipment available in the university libraries. This finding, however, disagrees with most prior research that assessed the availability of digitization facilities, the study by Islam (2011) indicates the poor availability of infrastructural facilities and hardware equipment among the university libraries of Bangladesh was the drawback of digitization projects, also, Iwhiwhu and Eyekpegha (2009) study indicated that the non-availability of infrastructural

facilities has negatively affected digitization projects in Nigerian libraries. Similarly, the study of Obiozor-Ekeze (2022) indicated that the unavailability of ICT infrastructural facilities has caused major constraints on digitization projects of academic libraries.

The findings revealed that the materials being digitized in the university libraries of Edo and Delta States, Nigeria are mostly project/ thesis/ dissertation, books, journals, abstracts, reference materials, newspapers, geographical materials, magazines and government publications. This aligns with the study of Jagboro et al (2012) which indicated that the Hezekiah Oluwasanmi Library digitization efforts arechannelled towards the digitization of abstracts of projects, theses and dissertations which is closely followed by newspapers, among others.

From the findings, with an aggregate mean of 2.43 which is lower than the criterion mean of 2.50, it is glaring that the extent of digitization of information materials in the university libraries in Edo and Delta State, Nigeria is low. The findings agree with the study of Rafiq and Ameen (2013) which revealed that a significant majority (69.1 percent) of the libraries in Pakistan were not actively involved in digitization projects. However, these findings disagreed with the study of Oni et al (2018) which revealed that the university libraries in Edo State, Nigeria engage in the digitization of their archival materials, manuscripts, catalogue cards, and newspapers to a great extent.

The findings revealed that the challenges affecting digitization projects of the university libraries in Edo and Delta States, Nigeria are majorly inadequate finance, inadequate skilled manpower, epileptic power supply, poor internet access, intellectual property right issues, non-availability of required facilities, copyright issues, and poor support from university management, among others. Most scholars in the literature have stressed the issues of financial challenges as the major impediment to digitization efforts by university libraries in Nigeria (Mutula & Ajedokun, 2008; Mohammed, 2013; Nnenna & Emenike, 2015; Nneji, 2018; Oni et al. 2018).

CONCLUSION

Digitization has been categorized as among the highlights of the Fourth Industrial Revolution Era. University libraries are now increasingly digitizing their information materials to preserve them and boost accessibility. It can be concluded from this study that most university libraries in Edo and Delta States, Nigeria possess the needed digitization facilities which they use for digitizing their projects, dissertations and theses, books, journals, and newspapers, among others.

Despite the availability of facilities for digitization in the university libraries in Edo and Delta States, Nigeria, it has been established that the extent of digitization is still quite low. The drawback militating against digitization projects by the university libraries in Nigeria is financial constraints and this is peculiar to university libraries in most developing nations of the world. Other challenges affecting digitization projects are skill deficits among librarians, epileptic power, poor internet access, intellectual property rights issues, and non-availability of required facilities, among others.

Improving digitization efforts in university libraries required a whole lot of effort and motivation from librarians, university management and the government. The next section of this research willreveal some recommendations put forward by the researcher to improve the digitization of information materials by the university libraries in Edo and Delta State, Nigeria.

RECOMMENDATIONS

The researcher recommends the following:

1. Funds should be allocated for digitization projects by university management and other funding bodies of libraries to increase digitization efforts by the librarians in university libraries.

2. The required infrastructural facilities and equipment to enhance the success of digitization projects should be acquired and made available to librarians in university libraries.

3. Training should be organized for librarians in university libraries to enhance their skills in digitization routines.

4. Alternative renewable energy sources should be acquired and installed in university libraries to eradicate the epileptic power supply experienced by the university libraries in Edo and Delta States, Nigeria which would enhance their digitization efforts.

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