

CHALLENGES OF DIGITAL PRESERVATION IN FEDERAL UNIVERSITY LIBRARIES IN NORTH WESTERN STATES OF NIGERIA

By

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Abstract

This paper investigates the challenges militating against successful preservation of digital information resources in federal university libraries in North Western States of Nigeria. Qualitative research method was adopted, purposive sampling was adopted for the study; the instruments used to collect data were the interview and observation. The responses were analyzed descriptively. The study revealed that the predominant challenges militating against successful preservation of digital information resources were lack of digital preservation policy inadequate power supply, unskilled professionals, technological obsolescence, poor maintenance culture, technophobia, storage media degradation, inadequate funding, changes in technology and inadequate infrastructure. The paper recommended that digital preservation policy, standby generators and inverters need to be provided, adequate professionals need to be employed, file formats need to be emulated and storage media needs to be refreshed.

Introduction

The emergence of information and communication technology has revolutionized the way information resources are preserved in libraries and information centers. It has greatly enhanced information accessibility, saves time, and reduce costs. Institutions are not only able to store large amount of information but also quickly access and retrieve large volume of information remotely. Information and communication technology has enabled librarians to carry out their mandate of information capture, storages, preservation and dissemination. Today there is ever increasing flood of resources created and generated. Considering the speed at which they are created their management becomes a challenge for most institutions particularly in the area of handling access and retrieval and use for the purpose of decision making.

Digital preservation can be seen as the set of processes and activities that ensure continued access to information. This assertion is supported by Gbaje (2011) who stated that, digital preservation refers to series of managerial activities designed to ensure continuing access to resources in digital formats for as long as possible and to protect them from media failure, physical loss and obsolescence.

The information resources in the library are in the print and non print format: Information in the print format include books, maps, theses, journals, conference papers, handbooks, dictionaries e.t.c while at the other hand, information in the non print format includes online databases, E-books, e- journal and those on the website and other digital storage media. Tamaro (2006) stated that digital information resources include online databases and e-

journals. Therefore digital resources are information that can be accessed via a computer network.

Without an effective digital preservation of information resources in libraries, access via digital devices will produce little or no resources for teaching, learning and research. Therefore, the rationale behind the research is to identify the challenges militating against successful preservation of digital information resources in order to proffer solutions to them.

Statement of the Problem

Federal university libraries in the North Western states of Nigeria are acidulously converting their information resources from hard copy to soft copy. Despite the use of ICTs in preserving information the libraries are faced with a lot of challenges that do not allow the successful digital preservation which leads to the loss of valuable data and prone to deterioration of information resources and media failure. Therefore, this paper is set out to investigate the challenges militating against successful preservation of digital information resources.

Objectives of the study

This study has the following questions;

1. To identify the challenge militating against successful preservation of digital information resources in Federal University Librarian in Northwest States of Nigeria.
2. To proffer solutions to the challenges of preservation of digital information resources in Federal Universities in Northwest States of Nigeria.

Literature Review Digital

preservation is the series of management, policies and activities necessary to ensure the enduring usability, authenticity, discoverability and accessing of contents over long term, while digital preservation strategies are seen as those activities such as use of standard, normalization, refreshing, migration, emulation e.t.c carried out to ensure continued access to information resources for as long as possible (Rahaman and Muhammed 2012). Several studies have reported numerous challenges related to digital preservation across the globe.

Frequent power outage constitute serious delay to digital preservation activities, Zulu (2008) reported that inadequate supply of electricity makes it impossible to maintain a conducive and sustainable technological environment. In addition, Anyaogu (2014) stated that standby generators, inverters and solar systems should be provided to support power supply and overcome the problem of inadequate power supply in digital preservation.

Brenda and Ifeanyi (2011) stated that libraries are faced with the challenges of inadequate and qualified professionals who are not fully equipped and qualified to train and retrain others on digital preservation. Many library and archives staff does not have the required training and I.C.T skills needed to carry out this important work. With human actions come human error, however, many libraries and archives staff does not have the required training and skills. The professional skills needed include technical proficiency in areas such as metadata schema coding, and authentication (Sanett, 2013). Information Records Management Trust (IRMT) (2009) suggested that the librarians and archivist should undergo a training programme that would include both the operating environmental control and storage.

Quickly changing digital technologies are one of the most serious challenges associated with digital preservation. Because there is no way of knowing what formats or procedures people will be using 50 or 100 years from now, it is more important to focus on a shorter time frame. If professionals focus on the coming five, ten or even twenty years, they are more likely to have a better idea of what the practices will be (Gladney, 2009).

Gbaje (2011) also stated that the continuous changes in computer hardware and software cause technological obsolescence that is a threat to digital preservation. It causes the loss to the means of accessing information in digital form and to tackle the problem of changes in technology digital

information resource needs to be migrated from one platform or format to another due to the constant changes in technology hardware and software so as to meet up with the current changes and upgrades. Gbaje (2011), Kol & Oltmans (2005) asserted that the purpose of migration is to preserve the integrity of digital objects and to retain the ability for clients to retrieve, display, and otherwise use them in the face of constantly changing technology. With migration, file formats will be converted into new formats as soon as the original formats run the risk of becoming obsolete.

Another serious challenge facing digital preservation is technological obsolescence which is caused by continuous upgrade of operating system, programming language application and storage media due to commercial interest the devices, software and formats used to store information are often designed for obsolescence. In other words, corporations that design these hardware and software design them with a shelf life in order to ensure the sales of latest upgrades and models (Reyes, 2013). Moghaddam (2012) stated that emulator should be used to recreate the functionality of obsolete technical environments on modern computer platforms.

Many traditional librarians and archivists are conservatives and have phobia for computers because of generation gaps between the new and old professionals, the old professionals' sees computer as a threat to them and their status as experts. Thus, they find it difficult to cope or meet up with the requirements of the digital age and are at the same time too reluctant to leave the old practices for new one. Ayoku (2008) stated that Successful application of information handling technologies in libraries requires an ability to overcome staff and personal resistance to innovation. Therefore they should be educated on the importance and need of meeting up with the digital age and how it will make their work easy, effective and efficient.

Katun (2006) observed that digital resources storage media has a shorter life span than paper, while a paper record is said to last for 200years, digital media is said to start deteriorating after the first 5years. There by making digital information available for longer periods becomes a problem. This leads to situations where libraries are left with deteriorated or outdated storage media, to this storage media needs to be refreshed when it begins to get old. MIT (2005) asserted that refreshing is the periodically moving of files from one physical storage medium to another in order to avoid degradation of the storage medium.

Anyago (2014) stated that inadequate funding remains a crippling problem in most libraries and the cost of making new purchases of digital technology devices for digital preservation and its maintenance is another drawback for most libraries struggling to stay within budget allocations. Digital preservation and digitization of archives and libraries is expensive and it requires enormous funding due to frequent hardware and software upgrades (Mutula and Ojedokun 2008). Therefore, adequate funds should be provided in order to assure new and improved services and sustainability of the project.

Methodology

The qualitative research design was adopted for the study; the population of the study covered all the seven federal university libraries in the North Western states of Nigeria which are Kashim Ibrahim

Library, Abdullahi Fodio Library, University Library Kano, University Library Federal University Dutsinma, University Library Federal University Dutse, Police Academy Library Wudil, Nigerian Defence Academy Library Kaduna. The subjects of the study were the staff of the digitization unit.

Three (3) out of seven (7) libraries with a digitization unit were selected purposively because they are the ones responsible for preserving digital information and the three (3) libraries have a total of (14) staff that formed the sample size for the study.

Interview and observation were the instruments used to collect data for the study; triangulation was used to determine the validity of the data collected. The data collected was organized, tabulated and discussed descriptively

Findings and Discussion

Table 1: Response Rate

S/N	University	Total Number of Respondents	Total Number of Respondents Interviewed	Percentage (%)
1	Kashim Ibrahim Library, Ahmadu Bello University Zaria	8	6	75
2	Abdullahi Fodio Library, Sokoto Usman Danfodio University	2	2	100
3	University Library Kano Bayero University Kano	4	4	100
Total		14	12	85.7%

The response rate indicated that only 12(85.7%) out of the (14) staff were interviewed because two of the staff were absent at the time of the interview.

Table 2: Factors Militating against Preservation of Digital Information Resources

Challenges	Kashim Ibrahim Library, A.B.U	Abdullahi Fodio Library, U.D.U.S	University Library Kano, B.U.K
Lack of Digital Preservation Policy	x	✓	✓
Inadequate Power Supply	✓	X	✓
Inadequate and Unskilled Professionals	X	✓	✓
Technological obsolescence	✓	✓	✓
Poor Maintenance Culture	✓	X	X
Technophobia	X	X	✓
Storage Media Degradation	✓	✓	✓
Inadequate Funding	✓	✓	✓
Changes in technology	✓	X	✓

Key: X = Not Available ✓ = Available

The findings revealed that technological obsolescence, storage media degradation and inadequate funding were said to be the most challenging factors. Abdullahi Fodio library and Bayero university library Kano were faced with lack of digital preservation policy, Kashim Ibrahim library and Bayero university library Kano were faced with the problem of inadequate power supply while Abdullahi Fodio library and Bayero university library Kano were faced with the challenges of inadequate and unskilled professionals in addition Kashim Ibrahim library is faced with the challenges of poor maintenance culture where as Bayero university library Kano is faced with techno phobia problem in conclusion Kashim Ibrahim Library and university library Kano are faced with the issue of changes in technology .

Conclusion

Preservation of digital information resources was not effective because of a number of challenges. Base on this a number of suggestions were made. The findings of the study and conclusions reached above, several suggestions were made as follows:

Recommendations

A policy needs to be in place; adequate power supply through the use of standby generators, inverters; solar systems need to be ensured ; adequate professionals with I.C.T background need to be employed, training and retraining of

professionals on digital preservation have become so important ; hardware and software need to be emulated if it becomes obsolete: digital storage media needs to be handled with care; old professionals needs to be enlighten on the importance of new technology and also encourage them to accept the new technology as a way of improving their services not as threats; digital storage media need to be refreshed ; adequate fund need be provided to acquire current and high capacity digital devices, fund for maintaining the devices in conclusion digital information should needs to be migrated for long term preservation.

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