

DIGITIZATION IN A NIGERIAN UNIVERSITY OF TECHNOLOGY: ISSUES, CHALLENGES AND WAY FORWARD

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ABSTRACT: *Digitization entails the conversion of traditional library materials such as printed books and papers into digital formats where they can be stored and manipulated by a computer. This paper discussed digitization of library resources, process, and challenges at the Federal University of Technology, Owerri. The article outlined the advantages of digitization and further revealed some hurdles that prevent effective digitization in Nigerian academic libraries with particular reference to FUTO library. These challenges include among others: inadequate funding, erratic power supply, lack of modern infrastructure, lack of skilled staff and nonchalant attitude of departments. Also, the paper explored efforts made so far by the management of FUTO library in addressing the challenges of digitization.*

KEYWORDS: Digitization, University, Library, Technology, Resources.

INTRODUCTION

The major reason for establishment of libraries is to make information resources available to patrons. These resources come in different formats and are processed and organized to meet the varying needs of patrons. Also, some of these resources are delicate due to their age, value, type of chemical components, or materials used for the production, size, and shapes of information resources while some are scarce and in high demand. Due to the aforementioned factors, libraries are increasingly becoming digital conscious. The reason is to ensure the preservation of library resources especially those that are delicate and also promote simultaneous access for scarce resources that are in high demand.

The library of the Federal University of Technology Owerri is one of the few in south east Nigeria involved in the digitization project. The library has a total of one hundred and thirty members of staff made of academic librarians, non-academic and library assistants dispatched to various units but yet work in unison to fulfill the library's mission. As a growing organism, the FUTO library has continued to expand both in human capacity, resource acquisition, operations, and services. Digitization is one of the emerging services in FUTO library.

Concept of digitization

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 form where they can be stored and manipulated by a computer. Kannappanava; Rajamkanta and Tandur (2010) state that digitization refers to the conversion of materials created in another format into an electronic form, this definition excludes materials that were initially created digitally, such as email communication. 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 analog information to a digital format. The authors explained that traditional

library resources in the form of books, papers, documents, manuscripts, are converted to electronic formats whereas images like photographs and maps are converted into digital representations using some device such as scanners or digitizer so that they can be displayed and manipulated on a screen. The authors further stated that digitization is one of the newest methods of managing information resources in the information age, where technology has helped people have access to information even in their homes. Digitization makes library resources available electronically thereby providing wider access to its collection.

Digitization implies the creation of digital surrogates for an original copy or physical object. Digitization encourages open access to resources such as electronic theses. Ding,(2000) highlights the advantages of digitization as follows:

- Digitization means no new buildings are required; improvement in information sharing and redundancy of collections reduced.
- Digitization leads to the development of Internet in digitalized based libraries.
- Digital materials can be transmitted, sorted and retrieved easily and quickly.
- It is cheaper to access electronic information than its print counterpart when storing files in an electronic device with compatible facilities and equipment.
- Digital texts can be linked, made interactively; and improves the retrieval of more information.

Also, clients do not have to travel to libraries that have the hard copies of library resources before they can access and use such materials (Fabunmi, Paris, and Fabunmi, 2009). Pandey and Misra (2014) mention that digital projects allow users to search for groups rapidly and comprehensively from anywhere at any time; several users can access the same material the same time without a barrier. In contributing to this, Urhiewhu and Daniel (2015), opines that in digitizing library resources, everyone will have access to information instead of to a group of researchers. The authors also stated that digitization makes the invisible to be visible.

Other benefits as summarized by Akpan-Atata and Enyene (2014) are as follows:

- Universal Access - people from all over the world, gained access to the same information as long as an internet connection is available.
- Capacity – in the traditional libraries, there are limited storage spaces while digital books have the possibilities to reserve much more information, simply because digital information requires very little physical space to contain them.
- Cost - the cost of sustaining a digital library is lower than that of running a traditional library. A traditional library must spend much money paying for staff, rent, book maintenance and additional books.
- Enhanced searching methods through different search engines and manipulation of information.
- Improved facilities for information sharing.
- Access to information is made possible in a short time.
- Improved collaboration with other information institutions and centers, chances to form consortia where they can pull their resources together and get a real bargain of scale to acquire library software.

The benefits of digitization cannot be over emphasized. Digitization has transformed scholarship and brought with it tremendous changes and easy access to resources which were formerly restricted. Carr (2000), observed that in academic institutions, digital institutional resources such as theses, research papers, manuscripts, images or specialized monographs are of very high value. To retain the original copies of rare publications emanating from institutions, digitization becomes the best option. Academic institutions are leveraging the benefits of digitization to preserve their original publications while promoting surrogate copies.

Digitization of resources in Federal University of Technology Library Owerri: The Journey so far

Digitization in the Federal University of Technology Owerri library was borne out of the desire to create wider access and increase the visibility of the library's resources. This desire was catalyzed by ICT revolution and the Open Access Initiative which encouraged unrestricted access to research outputs. Anunobi and Onyebinama (2011) report that the awareness on the possibilities of Electronic Theses and Dissertations (ETDs) was developed through the introduction of Database of African Theses and Dissertations (DATAD) by the Association of African Universities (AAU). The library, Federal University of Technology Owerri became one of the university libraries in Nigeria that emigrated from print through low technology (Word processing) to EndNote technology TDs.. Thus, in 2007, the FUTO library started the digitization of theses and dissertations.

The process was not an easy task for staff who had to dismember the bound TDs (theses, dissertations) and scan the individual pages using the HP Scanjet 7800. The procedure appeared to be quite cumbersome as dismembering the bound TDs sometimes recorded loss of some of the pages or misplacement. Staff involved in this process were trained in-house on the use of the scanner, and as time went on, they became conversant with the fundamental operations. To curb the challenges of possible page loss arising from dismembering bound copies of TDs, students and faculties were mandated to submit electronic copies of TDs on CD-ROMs in addition to physical copies. The CD-ROMs will have to be verified by the library before sending to the Postgraduate school. The essence is to ensure that the CDs are in good condition. Also, the project works are arranged in a definite sequence approved by the library. That is, projects must contain keywords and saved in PDF. This is to eliminate formatting errors and lighten the burden of library staff who are involved in digitization.

Having overcome the initial teething problems associated with new operations, the library began digitizing other information resources such as question papers, inaugural lectures, public lectures, conference proceedings and other indigenous publications from the university. Today, FUTO library has an institutional repository which showcases the university publications to a wider audience. The library has over seven hundred digitized resources in her repository despite immense infrastructural and technical challenges which sometimes rare their ugly heads.

Digitization process in FUTO library

Digitization in FUTO library is undertaken by staff in the Information and Communication Technology (ICT) Unit of the library. The following processes take place before print materials are converted to digital formats.

Collection: Materials for digitization are collected from various sources within the institution. Staff receives past question papers from the documents unit of the library or directly from departments. Copies of inaugural and public lectures, conference proceedings are submitted to the library by the Information Unit of the university. Sometimes, these documents may be delayed due to certain factors. To facilitate submission, library staff involved in resource collection often visits departments personally to collect documents such as question papers and inaugural lectures. Electronic theses and dissertations which are initially verified in the library are submitted by the Postgraduate school.

Conversion: conversion takes place after the collected information materials are checked and certified ready for conversion. Library staff proceeds to convert the print resources through scanning. The library uses the flat bed scanners (Microtek XT6060 and HpScanjet G4010) for conversion.

Editing: Editing entails image enhancement processes such as cropping, resizing, rotating, etc. Scanned documents are saved in flash drives and further transferred to other computer systems where they are subjected to editing. The library staff uses the GIMP software to edit scanned documents.

Metadata: digitized materials are assigned metadata to facilitate quick access and retrieval. Metadata describes other data in that it makes finding necessary information easier. Professional library staff is responsible for assigning appropriate metadata to information resources.

Storage: When documents have been certified web ready, they are saved in folders with appropriate file naming conventions and stored in the computer hard drive or external storage (such as external hard disk and flash drives) for upload to the institutional repository.

Challenges

Digitization is a laudable project that enhances global accessibility to the library collections. Nevertheless, some hurdles impede its smooth operations; they include inadequate funding. Funding for the purchase and maintenance of modern and state-of-the-art digital equipment remains a major constraint.

Erratic power supply

It is very unrealizable for computerization and digitization to take effect in an environment of epileptic power supply. The issue of power has become a national calamity. Thus it has to be given priority by any library aspiring to attain global visibility. Hence the Federal University of Technology Owerri only depends on a generator for its power supply, and most often there is no light due to lack of diesel or generator breakdown which often hinders the digitization process.

Lack of Modern Infrastructure

Infrastructural facilities in most Nigerian academic libraries are in a state of disrepair. Yaya and Adeeko (2016) observed that ICT department in these libraries lack modern computer systems; even the few available systems are being infected with a virus which makes them unfit for the digitization project and FUTO library is not left out on this as lack of upgraded software, hardware, lack of internet affects the digitization project.

Lack of skilled staff

Many librarians lack the basic computer training, not to mention specialized training required for digitization (Jagboro, Omotayo, and Aboyade, 2012). There is a need for continuous training to build library staff capacity in equipment maintenance and software management. Also, digitization is a complex process which requires specialized skills. However, a good number of staff involved in the digitization process in the Federal University of Technology library Owerri are not skilled as they do not possess adequate knowledge or competence in the handling of digitization equipment.

Nonchalant attitude of departments

Digitization in FUTO library is often bedevilled by nonchalant attitude of various units and departments of the university saddled with the responsibility of submitting documents to the library such as question papers, inaugural and public lectures to the library for digitization. Most times, library staff are compelled to personally visit the departments to facilitate submission.

Efforts in making it better.

Despite the challenges faced by the university library in the digitization process, the library management of the Federal University of Technology, Owerri has made various efforts to address the challenges of digitization. For instance, the library has been able to provide backup sources which serves as alternative in adverse situations such as virus attacks or system breakdown. This will ensure continuity in the digitization process. Also, the University library management provides training and re-training opportunities for the library personnel while staff in the ICT Unit of the library especially those involved in digitization continually brainstorm to be more effective in their work. Inhouse training ensures that the staff are up to date in skills requirements as articulated by Okiy (2010) citing the work of Omekwu (2003), on e-competencies required of librarians as follows:

Having basic understanding of computers and their capacities;

Having the Proficiency with search engine and internet facilities;

Having the competency with e-mail and web navigator tools;

Competency web file formats and with web browsers;

Competency with database software;

Web development and management know-how.

The University/Library management has acquired more computers for the library and is presently partnering with the MTN in the provision of internet service for the library. This will improve digitization activities as more resources are expected to be hosted on the institutional repository.

Further more, staff involved in the digitization process often go out of their way to collect documents from departments and units to facilitate digitization of university publications such as inaugural and public lectures.

CONCLUSION

Digitization is a complicated process with many crucial dependencies between different stages over time. The digitization process in FUTO library has not been an easy task, therefore, utilizing a holistic life-cycle approach for digitization will help to develop a sustainable and fruitful project. The FUTO library has continued to ensure its vital importance in the academic community by responding to users through provision of services that align with their needs. Though digitization in FUTO library has met several bottlenecks which are fortunately being addressed, it is pertinent to note that the success of digitization depends primarily on skilled staff who are the active players in the project. A viable and robust technological infrastructure is germane to ensuring a continuous workflow and positive outcomes in FUTO library.

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