

# Imperatives for Storage and Preservation of Legal Information Resources in a Digital Era

Anyaoğu Uluocha  
Head, Readers Services Section, Nigerian Institute of Advanced Legal Studies  
University of Lagos Campus, Lagos Nigeria  
E-mail of the corresponding author: uluanyaoğu@yahoo.com

## Abstract

The paper examines the imperatives for storage and preservation of legal information resources in a digital era. An exploratory research design was adopted. The method was to first examine the legal information resources available in law libraries and the need for digital preservation. Then, the paper delineates the strategies that could be used by law librarians to preserve legal materials for future use. The paper highlighted the challenges of storage and preservation of legal information resources in developing countries. It concludes that since legal materials include both print and electronic publications; law libraries should begin to develop strategies for digital preservation in their libraries. Collaborations amongst law libraries are highly recommended.

**Keywords:** Storage, Preservation, Legal information resources, Law libraries, digital era.

## Introduction

“Future law libraries: infinite possibilities in Nigeria” is the theme of the 38<sup>th</sup> Annual seminar/Workshop of the Nigerian Association of Law Libraries Section of Nigerian Library Association. It is not only timely but auspicious for several reasons. First, it is a clear indication that Law librarians need to move with the times. This is because in recent years, the advent of online legal research outlets such as Findlaw, Westlaw, LexisNexis and Hein Online has reduced the need for some print materials. Secondly, the need for digital storage and preservation of legal materials in order to maintain continuity of access in Law libraries is immediate and needs urgent attention. Digital materials are ephemeral and exist in a digital world which is ubiquitous in nature. Law libraries therefore have a critical role to play in preservation of legal information resources. Since technology is always changing, the digital preservation will always be in a constant state of change. Digital technology has revolutionized the information production, acquisition, storage and retrieval processes (Omekwu, 2008). This has led to the need for adequate digital preservation of legal materials.

Digital preservation can be understood as the series of managed activities necessary to ensure continued access to digital materials for as long as necessary (Digital Preservation Coalition, 2008). It involves the planning, resource allocation, and application of preservation methods and technologies to ensure that digital information of continuing value remains accessible and usable (Day, 2006). It combines policies, strategies and actions to ensure access to reformatted and born digital content regardless of the challenges of media failure and technological change. The goal of digital preservation is the accurate rendering of authenticated content over time. What are the legal information resources in law libraries?

## Legal information resources and digital preservation

Legal information resources could be referred to as legal literature such as law books, law reports, legislation and statutes, legal periodicals, government publications, reference materials and other inter-related non-legal books, e-resources, unpublished works of law, for example conference papers, theses on law, and so on. Legal literature is an indispensable tool of legal education. As far back as 1980, Obilade stated that the law student requires access to it. The law lecturer, to be current today cannot function without it. The judge himself, as an author of legal literature needs it every day. Legal literature is a means whereby legal reform and the objective of transforming the legal culture can be readily achieved. More so, the legal institutions as a whole depend solely on legal literature, legislation, court decisions, rulings and citations as its authority (Ogundipe, 2003). Frequent usage and/or careless handling of these resources by law librarians and library users causes deterioration, thus preserving them is a necessary and better solution.

Sokomba (2002) noted that inadequate temperature, inadequate humidity, light especially ultra-violet rays, residual chemistry, oxides of nitrogen, harmful gases in the air, bacteria and fungi are the factors that causes deterioration of library materials. To this end, preservation in law libraries should be seen as a method that enhances access and use. Harvey (1993) and Feather (1993) both agree that preservation not only protects materials from deterioration, it also ensures access and usage of that information. Harvey (1993) goes further to express that all library staff should be constantly kept aware of preservation and its techniques while Alegbeleye (1999) concludes that librarians and information specialists should no longer claim ignorance of the need for preservation and conservation in libraries due to large quantities of information now available to them.

Information professionals today cannot neglect the fact that the information society stands the risk of losing so

much of valuable and profitable written heritage documented in print materials through deterioration and decay of paper on which they are written. According to Popoola (2003), the situation is more disturbing in African countries, especially Nigeria where if care is not taken, a great number of paper-based information materials will be lost because of the interplay of several factors such as temperature, humidity, acidity, atmospheric pollutants and bacteria. Preservation of electronic legal information resources, born digital or migrated to digital environment is an essential component in library resources management. There is need to store and preserve legal information resources that are critical to the research activities of the clientele regardless of format. Digital preservation is the planning, resource allocation and application of preservation methods and technologies necessary to ensure that digital information of continuing value remain accessible and usable (Hedstrom, 1998). According to Russel (1999), digital preservation is a process by which digital data is preserved in digital form in order to ensure the usability, durability and intellectual integrity of the information contained therein. It is the process and activities which stabilize and protect reformatted and digital authentic records in forms which are retrievable, readable, and useable over time (National Archives and Records Service of South Africa, 2006). The source and process of digital records need to be preserved. But Heslop et. al. (2002) cautioned that while preserving the source is possible, preserving the process is unrealistic because of the dynamic nature of the IT industry. Storage media, such as discs, tapes, and cartridges, decay relatively rapidly compared to other media, and technological obsolescence. This poses problem for the preservation of electronic records. Hence, a constant media migration/refreshing programme are the only way to ensure the survival of digital materials. Also, manufacturers need to update and release new systems, software applications and hardware technologies at a rapid rate.

The growth of information resources has become a phenomenon, most especially in developed societies, owing to technological advancement in information technology (IT). Academics in Nigerian universities now have access to global digital information resources, particularly through the Internet, for their scholarly communication (Ani and Ahiauzu, 2008). Legal information resources could be assessed manually or electronically.

Electronic information resources have gradually become a major resource in every university community. Electronic information resources are provided in electronic form. Anglo American cataloguing Rules 2 (2002) cited in Weitz (2004) defined electronic resources as material/data and /or program(s) encoded for manipulation by a computerized device. These materials may require the use of a peripheral directly connected to computer (example CD-Rom drive) or a connection to computer network (example the Internet). There are different types of electronic resources such as the Internet, Online Public Access Catalogues (OPACs), online legal databases such as Hein-On-Line, Nexis-Lexis, Law Pavillion, Compulaw etc, electronic books, electronic journals and other computer-based electronic networks (Ehikhamenor, 2003; Jagboro, 2003; Shuling, 2006; Tsakonas and Papatheodorou, 2006). Academics in developing countries are eagerly embracing the electronic information resources for research. Some studies have revealed the use of the Internet, email and search engines for research purposes (Ojedokun and Owolabi, 2003; Oduwole, 2004; Badu and Markwei, 2005; Ani and Ahiauzu, 2008). Electronic information resources, especially Internet services, have become a global source of information resources accessible irrespective of time and space. They facilitate access to a wealth of information on the web for the academic society to support their academic and research activities (Misra and Satyanarayan, 2001).

The relationship between research and use of electronic resources for scholarly electronic publications is symbiotic and interactive in nature because research outputs are communicated in the form of scholarly electronic publications while scholarly publications form one of the basic input resources for research activity (Teferra, 2003). Academics use varied forms of scholarly electronic publications in formal and informal settings to communicate with one another in the same discipline as well as with others beyond their disciplines and institution (Teferra, 2003).

Scholarly electronic publications are vital in the conduct of research by lawyers. They are available in federal universities in Nigeria courtesy of government, universities, nongovernmental organizations (NGOs), external agencies /donors, and private individual/ organization. But there is low use of scholarly electronic publications by lecturers in federal universities in Nigeria compared to their counterparts in Britain, United State, and even in Botswana and South Africa (Olalude, 2007).

### **Imperatives for digital preservation of legal information resources**

Advances in information and communication technologies have brought about increase in the provision of legal information resources in law libraries and preservation of these resources is imperative. In Nigeria as in many countries across the globe, law libraries legal information resources are systematically being complemented by electronic resources. These include CD-ROM, e-books, OPACs, e-databases and e-journals among others. However, use of these resources may be functions of many factors consisting of awareness of the existence of the resources by users, availability of the necessary hardware, internet connectivity, users skills to manipulate the hardware and software prior to retrieving information in the resources for subsequent research usage and

preservation for future use.

Preservation aims at increasing the longevity of active materials through careful storage and use. Preservation and conservation is necessary because there is usually lack of funds and time to give individual attention to the treatment of documents. Poor storage can encourage mould, insects, rodents, structural defects and aging of archives and records.

While we are still able to read some written heritage preserved from several thousand years ago, the digital information created merely a decade ago is in serious danger of being lost to posterity and thereby create a digital dark age. The US Library of Congress (2003) reported that 44% of the websites available on the internet in 1998 had vanished after one year and has created a stumbling block for preserving digital information. Through preservation efforts, patrons are rest assured that although materials are constantly deteriorating over time, the library itself will remain a stable, reliable environment for information needs.

### **Strategies of digital preservation of legal information resources**

The strategies that law librarians may use to combat the loss of legal materials in a digital era include:

**Migration:** This is the transferring of data to newer system environments (Garrett et al., 1996). This may include conversion of resources from one file format to another example, conversion of Microsoft Word to PDF or from one operating system to another example, Windows to GNU/Linux so the resource remains fully accessible and functional. The purpose of migration is to preserve the integrity of electronic records and to retain the ability for users to access them as authentic records in the face of constantly changing technology. Two significant problems face migration as a plausible method of digital preservation in the long terms. Due to the fact that digital objects are subject to a state of near continuous change, migration may cause problems in relation to authenticity and migration has proven to be time-consuming and expensive for "large collections of heterogeneous objects, which would need constant monitoring and intervention (Day, 2006).

**Refreshing:** This is the transfer of data between two types of the same storage medium so that there are no changes or alteration of data (Cornell University Library, 2005). It is a way of periodically moving files from one physical medium to another in order to avoid obsolescence or degradation of the storage medium. An example is transferring voters' registration or census data from one old preservation device, example CD to a new one.

**Replication:** This involves creating duplicate copies of data on one or more systems. Data that exists as a single copy in only one location is highly vulnerable to software or hardware failure, intentional or accidental alteration, and environmental catastrophes like fire, flooding, etc. For preservation, digital data is more likely to survive if it is replicated in several locations. Replicated data may introduce difficulties in refreshing, migration, versioning, and access control since the data is located in multiple places.

**Emulation:** This is the replicating of functionality of an obsolete system. According to van der Hoeven, "Emulation does not focus on the digital object, but on the hard- and software environment in which the object is rendered. It aims at (re)creating the environment in which the digital object was originally created." Examples are having the ability to replicate or imitate another operating system (Rothenberg, 1998). The feasibility of emulation as a catch-all solution has been debated in the academic community (Granger, 2000). Emulation is an approach which keeps the source digital object in its original data format but recreates some or all of the process (for instance, the hardware configuration or software applications such as operating systems), enabling the performance to be created on current computers (Heslop, et. al., 2002).

**Encapsulation :** This method maintains that preserved objects should be self-describing, virtually "linking content with all of the information required for it to be deciphered and understood" (Day:2006). The files associated with the digital object would have details of how to interpret that object by using "logical structures called "containers" or "wrappers" to provide a relationship between all information components that could be used in future development of emulators, viewers or converters through machine readable specifications. The method of encapsulation is usually applied to collections that will go unused for long periods of time.

### **Challenges of digital storage and preservation of legal information resources in Developing Countries**

Storage and preservation of legal information resources is not without some constraints especially in developing country like Nigeria where information and communication technology is gradually being incorporated into every sphere of library and information science operations. Some of these constraints include;

**Changes in software and hardware:** Frequent changes in soft ware and hard ware create greater pressure on archival institutions because preservation of digital archival collections centers on the interim mechanism for storing the digital information, migrating to new form and providing long-term access. One of the greatest issues facing the longevity of digital collections in developing countries is not only the storage media deterioration, but the problem of rapidly changing storage devices (Asogwa and Ezema, 2012). Unlike analogue information which places emphasis on the preservation of physical artifacts, it is the informational contents of the digitized material that is preserved. It will therefore take a conscious effort of archivists in Africa and other developing

countries in the world to make sure that the digital information is preserved since “continuously change in software and hardware creates headache for staff working on digital longevity” (Besser, 1999).

**Lack of Legislation/Policy:** Wamukoya & Mutula (2005) observe that legislators in Africa are neither aware of, nor conversant with the requirements of digital preservation and for that reason; they either ignore or inadequately cover digital preservation issues. The Internet links is also a challenge to digitization because of copyright legislation. The copyrights of software needed to access digital files, and the right to copy for preservation has not been adequately articulated in most national legislation, and if permission for digitization cannot be obtained, digitization of such materials should not proceed.

**Intellectual property rights (IPR):** "Compounding the technical challenges of migrating digital information is the problem of managing the process in a legal and organizational environment that is in flux as it moves to accommodate rapidly changing digital technologies"(Garrett et al, 1996). Copyright and other intellectual property rights (IPR) such as moral rights have a substantial impact on digital preservation. The IPR issues in digital materials are arguably more complex and significant than for print media and if not addressed can impede or even prevent preservation activities. Consideration may need to be given not only to content but to any associated software. Simply copying (refreshing) digital materials onto another medium, encapsulating content and software for emulation, or migrating content to new hardware and software, all involve activities which can infringe IPR unless statutory exemptions exist or specific permissions have been obtained from rights holders. As both migration and emulation will involve manipulation and changing presentation and functionality to some degree (especially over any period of time) important issues of principle and practice are raised in negotiations. It is important to establish a dialogue with rights holders so that they are fully aware of these issues and the actions and rights required to ensure the preservation of selected items.

**Inadequate Funding:** Digital projects are expensive. Digitization of archives requires enormous funding due to frequent hardware and software upgrades, and increasing cost of subscription to electronic databases (Jain, 2002; Mutula, 2003). Apart from inadequate fund to train archivists in Africa, training of archivists in digitization and preservation creates a herculean problem. A well funded digitization project assures new and improved services and sustainability of the project.

**Computer Phobia:** As a result of generation gaps between the new and old professionals, computers are perceived as a threat to their status as experts. Thus, they find it difficult to cope or measure up with the requirements of the electronic/digital age, and are at the same time 'too reluctant to jettison the old practices for new one' (Ayoku and Ojedokun, 2008). Successful application of information handling technologies in developing countries requires an ability to overcome staff and personal resistance to such innovation.

**Skills:** Information and communication technologies have resulted in a need for the learning of new skills, abilities, and capabilities/competences to effectively and efficiently handle job related tasks in electronic environment. Knowledge, skill and competence with computer technology are now vital assets for all employees in institutions and organizations ( Zin, Zaman, Judi, Mukti, Amin, Sahran, Ahmad, Ayob, Abdulla, and Abdullah, 2000). However, in many African countries, human resources with appropriate skills, competences and attitude are not readily available to initiate, implement and sustain digitization project, and most African states are still lagging behind in technological and telecommunications infrastructure. Added to these is the fact that as Ngulube (2004) in Constable (2008) argues, African trainers (archivists) lack expertise and are ill-equipped to train others in electronic preservation and digitization as was obtainable in America and other European countries.

**Inadequate Technology Infrastructures:** Frequent power outage constitute serious bottleneck to digital preservation of legal information resources in law libraries. This has the effects in damaging digital equipment and where there is a standby electric generator, the cost of running them is prohibitive. Added to this is the harsh environment of Sub-Saharan Africa which is not always friendly with technology equipment. “Most countries in Africa” Zulu (1994) reports, “do not have adequate and reliable supply of electricity which consequently makes it impossible to maintain a conducive and sustainable technological environment suitable for digitization project in the continent”. Again, telecommunications infrastructures in most African countries are either lacking or poorly developed, and few African states have modern digital and packet switching telecommunications facilities needed for data transmission.

**Technological Obsolescence:** The continuous changes in computer hardware and software cause technological obsolescence which is a threat to digital preservation in law libraries. It causes the loss of the means to access to information in digital form. Technological obsolescence is caused by continuous upgrade of operating system, programming language application and storage media. Alegbeleye (2009) suggested that digital archives should be transcribed every ten to twenty years to ensure that they will not become technologically obsolete.

**Funding:** In Nigeria, law libraries are underfunded and as such have not been able to achieve the strategic function of storage and preservation of legal information resources for future use. Lamenting the sorry state of funding of academic libraries Akintunde (2006) noted: “funding by government which has been the sponsor of 75per cent of the libraries has been dwindling and quite unreliable in the last few years”. This is so pathetic

because funds will be needed in Law libraries for administration, staffing, and technological maintenance of the technical and architectural infrastructure necessary for storage of digital resources.

## CONCLUSION

As scholarly communications in Law libraries have shifted rapidly from print-based materials to either hybrids of prints and electronic materials or to exclusive publication in digital form, the need to preserve a comprehensive record and scholarly achievement has not diminished. Thus, it is imperative that as digital preservation becomes an increasingly widespread and accessible practice, Law libraries should begin to take steps towards developing strategies for implementing digital preservation in their own libraries. Law libraries should collaborate among themselves to achieve continuity of access for legal information resources. This is because digital technology seems at first sight to offer untold opportunities for developing countries to catapult the digital divide and leapfrog technological generations in order to utilize technologies of the day. In reality however, the high cost of establishing a digital platform, continuous operating costs, on-going access fees and a demand to keep abreast with technological advances place inordinate burdens on law libraries in developing countries (Ukoha, 2013). Hence, in the apt words of Omolayole (2011), "Digitization of rare materials must commence to avoid irreparable damage. The public catalogue of the library should be converted to electronic formats so that the wide clientele could be served. The electronic milieu will make the library more effective in every way if it must meet the aspirations of the founders. Application of information and communication technologies to the process of the library is an imperative. It opens a whole vista of opportunities".

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Anyago Uluocha is a Principal Librarian and the Head of Readers Services Section at Nigerian Institute of Advanced Legal Studies, University of Lagos Campus, Akoka, Lagos Nigeria. She holds a Masters Degree in Library and Information Studies (University of Ibadan, 1998). Her areas of interest include Law librarianship, Library Management and Reference Services. Currently, she is a Ph.D student at University of Ibadan, Oyo State, Nigeria

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