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Digitization of Library Collection in Nigerian University Libraries: University of Ilorin Library Experience

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Abstract

The aim of this paper is to discuss the difficulties that the University of Ilorin Library encountered in its digitization project and how these difficulties were handled to ensure a robust digitization outfit. The idea is to alert Nigerian Libraries which are yet to embark on digitization on some of the problems or challenges that they are likely to encounter in planning and implementing a digitization project. Admittedly, some of the problems may be unique to University of Ilorin Library but it can be said with a fair degree of accuracy that some of the problems the University of Ilorin Library encountered are general at the planning and the implementation stages. In this paper, the conception, the planning and the implementation stages of the project will be discussed. Problems will be highlighted and suggestions will be made for an effective and efficient digital service delivery.

Introduction

Libraries worldwide, especially academic libraries are increasingly becoming digital in outlook. Many libraries and allied institutions have been launching projects designed to digitize their collections in response to the global information exchange and for wide outreach. T he process in the academic library has been very challenging. The digitization project has been slow and expensive. The world over, electronic resources are preferred because of their inherent benefit of wide outreach. As a step forward in making prints in hard copy format available online for the teeming users, it becomes necessary to digitally scan all the intellectual output of the university especially the theses and dissertations so that many users can gain access to a wide variety of information online.

During the 2 000s and 2010s, the term "Information explosion" was coined to refer to the vast increase in information being generated. Taiye (2008). Today we are facing an "information revolution", that is an enormous change in the systems of handling these increasing volumes of information. Over the last decade, developments in Microelectronic have reduced the size of circuits and increased their reliability and speed of operation by several orders of magnitude.

Today, the society talks of digital, electronic, virtual and computerized libraries. All their resources are available online. These are different from the open internet, as they have restricted access. Some libraries either give special access or pay money so that students and faculty or even the public can pay to access the articles in the databases, books, services and resources through the E-library.

Smit (2001). The choice of materials to be digitized depends on the priority of each library but there are widely accepted criteria which are normally applied. These include materials that are on high demand by patrons especially when such materials are available in limited copies or are on restricted access; local and unique materials; items that are of immediate and curricular importance; aging materials that are on high demand by patrons; useful materials that are out of publication; and materials that are difficult to handle.

The paper seeks to investigate and describe the digitization of the intellectual output of the University of Ilorin library with a view to proposing ways of improving the process to enhance the effectiveness and efficiency in service delivery.

Objectives of the study include:
- To protect original record by reducing frequency handling.

- To gain access to a wide variety of information online.

- To digitize its heavily-used collection.

- To preserve the documents.

- To harvest the institutional repository of the University and make them searchable

The study focuses on the management practice of digitization in libraries. These practices will be described in detail and they in turn may provide useful information for other libraries to improve service delivery. The result of this study will also provide the impetus for improving library practice and enhance the effectiveness of digitization. It is necessary to have a database of local publication so that it can be accessed online. This is expected to improve teaching, learning and research activities among the stakeholders.

Literature Review

Digitization has been defined by Taye (2008) as a library in which collections are stored in digital formats (as opposed to print, microform, or other media) and accessible by computers. The digital content may be stored locally, or accessed remotely via computer networks.

According to Jagboro, Omotayo and Aboyade (2012), digitization refers to all of the steps involved in the process of making collections of historical and other materials available online. In the world of Information and Communication Technology (ICT) and globalization, digitization of materials is fast becoming the norm among libraries as each seeks to contribute its quota to the world information resource. Libraries embark on the digitization of their materials for various reasons. Digitization makes the library's resources available electronically thereby providing a wider access to its collections.

On a networked campus, users can access the library's digitized resources from their offices and halls of residence even when the library is physically closed. Also, as many people as possible can gain access to as much material as needed at any given time, a difficult situation with a text resource. Furthermore, digitization offers a solution for theft of items where libraries have no electronic security systems to prevent theft of their collections. It is also a way of preserving aging materials which could have otherwise gone into extinction. It further allows users to search collections rapidly and comprehensively from anywhere at any time. When digitized materials are put on the web without restrictions in some cases they tend to increase the library's visibility as the users all over the world access the materials. It is now possible to have most library resources stored virtually.

In their paper, a two-year project financed by the European Commission through its CIP ICT PSP program, Sofronijevi and Mitrovi (2012) present details of the European libraries project : Aggregating digital content from Europe's libraries" with special focus on participation of University library "Svetozar Markovic" in it. This CIP-Best Practice Network ICT-PSP project brought together 24 institutions including some of Europe's leading research libraries from 11 countries. Over 1500 institutions across Europe have contributed to Europeana. Together, their assembled collections let users explore Europe's cultural and scientific heritage from prehistory to the modern day. Their aim is to build the library aggregator for Europeana and create infrastructure that will allow for ingestion into Europeana of digital materials from other research libraries across the Europe after 2013.

Several articles and project reports identify principles and guidelines for the successful development of digital libraries. For example, Rusbridge (1998) presents management lessons learned from the first two phases of the UK Electronic Libraries Programme (eLib) emphasizing the need for evaluation and continued training for project managers. Pinfield (2001) summarizes the lessons learned from the third phase of the same project including the areas of management, staffing, and partnerships. McCray and Gallagher (2001) also present 10 principles for the development of a digital library including designing usable systems with open access, to be aware of data rights, to adopt standards, etc. Wynne et al. (2001) present a practical guide for implementing a hybrid library consisting of ten steps which include senior management support, team work, and strong links to the academic staff. From reviewing these articles it becomes clear that there exist certain guidelines but there is no simple solution to introduce and manage a digital library.

In an article, Hashler (2003) reports on the effort of the university library of the Vienna University of Economics and Business Administration to integrate a Digital library component for research documents authored at the university into the existing library infrastructure. A research frame work is used to identify the key players in this change process and to analyze their incentive structures. The paper further describe the light-weight integration approach employed by the university and show how it provides incentives to the key players and at the same time requires only minimal adaptation of the organization in terms of changing existing work-flows. The experience gathered suggests that this light-weight integration offers a cost

efficient and low risk intermediate step towards switching to exclusive digital document acquisition.

Adams and Blandford, (2002) reviews the social and organizational impacts of digital libraries across contrasting departments of Humanities, Computing and Business of a London university. In-depth interviews and focus groups with twenty-five lecturers and librarians were conducted, and analyzed using the grounded theory method. Web-accessible digital libraries are identified as changing the roles and working patterns of academic staff (i.e. lecturers, librarians and computer support staff). However, poor accessibility due to inappropriate implementation strategies, access mechanisms, searching support and digital library usability reduces the use of these resources. Consequently, web and personal collections without guarantees of quality are widely used as an accessible alternative. One conclusion is the importance of implementation strategies (e.g. giving feedback on document context, collection boundaries, ownership, accountability and support) in informing digital library design.

Brief History of Digitization at University of Ilorin Library

The University of Ilorin library's plan to digitize its collection started in 2008, when a team of University of Ilorin academics led by the then Vice-Chancellor, visited University of Cape Coast, Ghana. On visiting the Cape Coast University library, Professor Oloyede found out that there were electronic projects going on which he would like to implement in the University of Ilorin library. Digitization project was one of those projects that caught his attention and impressed him so much that he decided to invite the initiator of the project to assist University of Ilorin library to carry out the digitization project.

Learning from the previous mistakes regarding the abortive automation in the University of Ilorin library which was the problem of awarding the whole contract to only one person and not involving the library ICT officer, a plan was drawn up to segment the whole project.

The first segment constitutes activities involved in developing a robust infrastructure electronic and electrical cabling and installation of wireless of access points and also robust digitization scanners. The next segment is the acquisition of computers and accessories. The next is the minor civil works like carpentry and lastly is training of staff to use the equipment. Each segment was given to experts in order to have a long term sustainable project.

The digitization proposal was submitted and approved. The old postgraduate school building outside the location of the e-library was demolished and the digitization project was

moved there instead.   Two Digitization Machines (ATIZ Book Drive and pro scanner) was ordered and arrived. Later some staff was sent for training at the University of Cape Coast in Ghana and University of Ghana. After their trainings, the process of digitization started in earnest. Because the ICT officer was involved in the whole project planning, whenever anything goes wrong, he is easily called upon to fix the problem and this has greatly helped to sustain project so far.

Making available for all users a full text search of all the institutional repository of the University of Ilorin, i.e. all the intellectual output of the University is the main and the most important aim of the digitization project. Another important aim of this project is to increase usage of Unilorin Library collection by researchers, librarians and end-users. The space software is in use to make the information searchable for all users.

After the installation and configuration of the ATIZ Drive Pro Scanner, some staff were trained on how to operate the scanner and the digitization process began. The e-library where the digitization project is taking place which is a subset of the main library is digitizing master's thesis, doctoral dissertation, conference papers and any information that is published by the University administration like order of proceeding, university of Ilorin bulletin, image database of activities and happenings. The arrangement made is to collect the old hard print theses and dissertations which have no soft copies from the main library, digitize and convert them into PDF and then compress them with PDF compressor before uploading them. OCR is used for converting the image to searchable text format. Now theses and dissertations are required to be submitted with the soft copies. These are easily uploaded without scanning. The uploaded information is then edited and refined by removing noise and correct errors that has been made during scanning. Uploaded files are saved on offline external storage devise, published and the process is completed. The hard copy theses and dissertation are checked out of the digital library.

The choice of these collections being digitized was informed by its high demand and heavy usage by both staff and students for research purposes. Theses and dissertations served as good complements of books, journals and other resources in the library.
In this setting it seems natural to think about making use of digital versions of research documents that are produced within the library's own university (e.g., dissertations, theses and working papers).

Problems Facing University of Ilorin Library

The digitalization project of the University of Ilorin library has been confronted by a number of problems. These may not be peculiar to University of Ilorin Library in its effort to contribute local data to the global information resource base. Despite everything that digitization can accomplish, there are some good reasons librarians in the University of Ilorin Library may regret embarking on such project. Not everything in the collection is worth of digitizing because the idea of an entire library being digitized is along way process. Successful digital project are the result of careful planning and evaluation of collections and the digitization of only those items that will provide the greatest benefits to the user. Below are some of impediments to digitization project in the University of Ilorin library.

Digitization of library resources poses a great deal of challenges to the major stakeholders, that is, the library management, employees and library users. The library management has to source for fund for the digitization project. This is essential so as to be able to continue with the digitization exercise after the conversion program. Clear cut decisions have to be taken on the form of digitization to adopt. Where the fund available is grossly inadequate, the library can be linked to existing digital libraries. It is also possible for library to select and digitize additional materials. The proportion of the additional material to be digitized will therefore depend upon the available fund. The problem of most digitizing effort is that of inadequate fund and not that of technology. There should be continuous flow of fund so that the project can be functional. Stefano (2001) advocated for allocation of adequate fund of the digital conversion by the appropriate authorities.

Lack of power supply: Computerization and digitization become unrealizable in an environment of unstable power supply. For instance, the University of Ilorin library suffers from acute power supply disruption from the national grid. Despite the commercialization of PHCN, it is still ineffective and inefficient in the supply of electricity to its customers. Lives and properties are being lost or destroyed daily due to unexpected power outages. Power up surge and low supply of such items as automatic voltage stabilizer, anti-electric power surge, uninterrupted power supply (UPS). This has resulted in constant breakdown of the digitization equipment hence University of Ilorin library is forced to procure alternative power. The issue of power has become a national calamity, thus it has to be given a priority by any library aspiring to attain global visibility. Frequent power outage constitute serious bottleneck of digitization in Nigeria.

This has the effects in damaging digital equipment and where there is generating set 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, telecommunication infrastructures in most African countries are either lacking or poorly developed, and few African states have modem digital and packet switching telecommunications facilities needed for data transmission.

Lack of quality staff: The task of carrying along all the staff and guiding library users can be challenging. Some of the staff will like to resist change, particularly those that are not computer literate. It is essential for the library management to explain the essence of the project to them and arrange to retrain the employees so that they can participate in the definitely find it difficult to search for materials in the digital terrain. It is good for library assistants to be available to render assistance. This is very essential in academic libraries where the users can be many and are also regular users. Poor staffing is one of the major problems. The number of staff available to carryout the digitization process is inadequate for the available volume of work to be done. This is hampering the progress of the project. Training and retraining remains a major problem in digitization as it requires a combination of skills like scanning and photographing. Many librarians lack the basic computer training, not to mention specialized training required in the art of digitization.

Constantly software and hardware:- this creates greater pressure on because preservation of digital collections. One of the greatest issues facing the longevity of digital collections is not only the storage media deterioration, but the problem of rapidly changing storage devices, unlike analogue information which places emphasis on the preservation of physical artifacts; it is the information contents of the digitized material that is preserved. It will therefore take a conscious effort of librarians make sure that the digital information is preserved since "continuously change software and hardware create hand ache for staff working on digital longevity" This is one of the problem facing digitization at University of Ilorin library.

Deterioration of Digital Media:- Deterioration of digital media is responsible for the disappearance of, or inaccessibility of digital information in the long run. This is because media deteriorates or decays within few years after digitization. Another challenge is that digital media get lost during disaster or virus attacks, and in Africa there may be absence of or inadequate organization plans to manage e-records. The problem of deterioration of digital media is also common at University of Ilorin library digital unit.

Furthermore, storage of the digital information into storage media of choice as well as the preservation of the content of the storage media and media themselves pose another major problem to digitization. Scanning pages of documents at high speed without doing damage to them is another problem that calls for urgent attention at University of Ilorin library.

Lack of Fund:- Digital projects are expensive Digitization of library automation requires enormous funding due to frequent hardware and software upgrades, and increasing cost of subscription to electronic databases. Apart from inadequate fund to train librarians, training of librarians in digitization and preservation of electronic format create a herculean problem. A well funded digitization project assures new and improved services and sustainability of the project.

Funding for the purchase and maintenance of modern and state of the art digital equipment remains a major problem. The problem of funding unearths the need for capacity-building in the area of grant-writing and sourcing for funds among librarians.

Lack of Technical Expertise:- Inadequate technical expertise is prevalent in many African countries including Nigeria. There is shortage of personnel/human capital. Few librarians with computer science qualifications (computer engineers) work in librarian, hence the consequent frequent break down of ICT facilities and disruption of services in digitized libraries and library. In many African countries, including Nigeria 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. University of Ilorin is facing this challenge.

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 of 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. This problem can be observed at University of Ilorin library digitization unit.

Another major problem is bureaucratic bottlenecks. This is a situation whereby government departments have to go through many processes before taking actions. Negative attitudes by library management towards computerization and digitization affect the growth of the project.

Solutions to the problems facing Digitization at University of Ilorin Library

One of the strategies adopted to overcome the problem of digitization is continuous planning and review of the project .The issue of electricity could be addressed by cultivating a power saving culture. When purchasing computers for instance, preference has to be given to flat screen monitors because they consume less energy compared to CRT display units. Stand by generator could be provided, in addition to inverters for constant power supply.

Furthermore, proper storage facilities should be given in order to afford/prevent quick damage (of media, as well as the preservation) of the content of the storage media.

Infrastructure needs to be given serious attention. The laying of fiber optics by Globacom and the Nigeria Communications satellite I (Nig.comsat-1) recently launched are steps in the right direction.

Adequate Staff Training; There is need for continuous training to build library staff capacity in equipment maintenance and software management. There should be series of ICT workshops for librarians. Library management should cater for the sponsorship since most cannot afford to sponsor themselves. It is cheaper to train staff than to outsource the project.

Library management needs to accord high priority to digitization. For University of Ilorin library to be relevant in the digital age there is an urgent need for collaboration between national and international donor agencies.

Other minor solutions to the problems of digitization are; adequate training facilities, adequate system analysts' adequate access to vendors, adequate professional librarians, adequate

space for digitization. It is when this is done that University of Ilorin library can upload their peculiar local content to the world information data base.

Technology is usually ahead of the law, and the internet creates added pressure of new legislation to be made in order to protect digital materials. There are many proactive measures institutions should apply to protect their digital collections,

One of them is listing full copyright information with the images on the websites. Controlled access to the collections may be provided when digital images are marked correctly with ownership.

Technical feasibility and a long-term commitment to infrastructures must be evaluated before embarking on a digital conversion projects. System analysts must understand the changing software and hardware and make collaboration and migration a crucial element of digitization project.

The stakeholders and key-players (librarian, archivists, administrators, systems analysts, programmers, scholars and end-users) must work together to make the intellectual control of digitized collection very important in their institutions. Powerful technology allows electronic materials to be easily manipulated and end users must be educated on the importance of authenticating the object. For this reason, every effort must be made to educate end-users about the inherent problems associated with digital medium due to the fact the hardware, software and network infrastructures change rapidly to the extent that it is often difficult to anticipate or forecast how the data of today will be viewed and accessed tomorrow.

In view of the importance of digitization, a special annual vote of financial allocation ought to be made for it. This is necessary, because it is not a one time activity. Libraries keep on acquiring materials, some of which have to be digitized. In Nigeria, ten percent of all financial allocations to the university are meant for the university library. Such practice should be extended to digitization exercise.

Orientation programs should be organized for the staff. This will enable them to understand the purpose and importance of the exercise. Those of them that lacked the required computer skills should be retrained. The services of appropriate technical personnel should be employed. This will reduce the flaws in the exercise. If there is inadequate fund for digitization, the library

authority can manage the available fund to create digital links with existing digital libraries. This will enable library users to access library resources in such digital libraries.

Digitization has to be treated as an emergency situation in libraries that are just starting the conversion of their library resources to digital form. Huge allocations of fund, time and personnel have to be devoted to the exercise, as it is very expensive, tedious and time consuming. Special policies and plans have to be formulated to guide the exercise. It is advisable to adopt the committee system for its execution, so as to guarantee efficiency. A committee ought to be assigned to each aspect of the exercise. There should also be a monitoring committee to monitor and evaluate performance.

The researchers interviewed the HOD, he said, that theses, dissertation paper are the only library resources being digitized at the moment. Digitization decision on other library resources such as journal articles will be taken into consideration. Newspapers, textbooks are yet to be taken upon restrictions of the copyright law on them. The HOD also revealed that criteria for selection were based on nature of materials, quality of paper, contents of the materials. While the software used for the digitization of the resources were D-space. Sometimes, theses and dissertations usually produced in soft copies in CDs usually do not contain complete bibliographic details; some could have only the title page without the rest relevant pages that should contain vital information's. The type of scanners purchased presently cannot perform a complete functions required in the digital section of the library. The library has no fundamental human right to completely scan intellectual content of any journal and publications of other people, what they can only do is to scan their own institution publications, theses and journals or dissertations to bring to the awareness the institutional repositories to the public.

Even though the staff received initial training, more training is required to continue to update and polish their professional skills from the interview conducted about the challenges faced in the unit.

Conclusion

This study attempted to evaluate the digitization section in the University of Ilorin library. Challenges faced in the process of digitization, the way forward and the latest advancement in the field of technology have compelled libraries to embrace automatic automation. Facilities provided by automated libraries go far beyond the activities of traditional libraries. Digitization has immensely enhanced the effectiveness of library service including efficient organization and retrieval of information resources.

Digitization has opened up new audiences and services for libraries, and it needs to be integrated into the plans and polices of any institution to maximize its effectiveness. Digitization

is a complex process with many crucial dependencies between different stages over time. The library's collection will also be open and made accessible to a much larger user-base within and outside the university community. In addition, users can easily find the required materials quickly and independently with less stress and without having to border the library staff. This ultimately may lead to enhanced usage of the library's collections and facilitate efficient and effective teaching and learning process.

It is not yet time to assess the impact of the digitization process at this stage as it is still at the early stage, but from the look of the progress being made so far, there is every possibility that by the time it get to an advance level, there will be a positive impact on the library operation and services in general in the university of Ilorin library.

Authors' Biography

Usman Ajisafe Saliu holds a (B.A) Library Science and Masters in Library and Information science and currently Head of Document Section, University of Ilorin Library. His research interest is in the field of information science. He enjoys reading and watching football.

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REFERENCE

Adams, A. & Blandford, A. (2002) Digital libraries in academia: challenges and changes. In E-P Lim, S. Foo, C. Khoo, H. Chen, E. Fox, S. Urs & T. Costantino (Eds.) *Digital Libraries: People, Knowledge , and Technology*. 392 - 403.

Bakele, S. (2002) the role and impact of the digital library on capacity building in the developing world-a case study of the OSSREA Digital Library, *international Information and Library Review,* 34, 129-137, Retrieved December 12, 2006 from http://www.idealibrary.com

Broncolini, K. (2000) Selecting research collections for digitization: applying the Harvard model. *Library Trend, 48, 783-98.*

British Library (2007)Early printed collections: digitization projects, London.
Cornell University Library/Research Departments. (2000). *Moving theory into practice: digital Image for libraries and archives.* Research Libraries Group. Available at http://www.library.cornell.edu/preservation/tutorial.

Besser, H. (1999). Implications in digitizing special collections materials: the institution, scholarship, interoperability, longebility. Retrieved from: http://sunsite.berkeley.ed/imaging/Database/conservation/RBMS99/ppframe.html

Curry, Sally (2000) HERON: a progress report. SCONUL Newsletter, 2000, No. 20 (Summer/Autumn), pp. 1519.

Chepesuik, R. (1997). The future is here: America's libraries go digital. American library, 2(1), 47-49.

Digital Library Federation. (2001). Registry of Digitized Books and Serial Publication, Available at http://www.digilib.org/collections.

Ding, Choo. Ming. (2000), access to Digital Information: Some Breakthrough and Obstacles, Journal of Librarianship and Information Science, Vol. 32 No. 1http://www.wipo.int/copyright/en

Hahsler, Michael, (2003), "Integrating Digital Document Acquisition into a University Library: A Case Study of Social and Organizational Challenges" Journal of Digital Information Management 1(4), December 2003.

Hughes, L.M (2004). *Digitizing collections: strategic issues for the information managers.* London: Facet Publishing.

Reitz, J. (2007) "*Digital library" ODLIS Online Dictionary for library and Information Science, Retrieved 21st May, 2012 from* http://wwu.com/odlisd.cfm

Graham, P.S. (1995b). *Long-term Intellectual Preservation.* URL: http://aultnis.rutgers.edu/texts/dps/html

Dorcas, I.I. (2012) challenges & prospects of Digitations of library Resources in Nigerian university: The experience of Kashim Ibrahim library, European Journal of Globalization, no.1, pp.287-300.

Ian, H. Witten & David, Brainbridge. (2003), *How to Build a Digital Library,* London: Morgan

Kaufman Publishers.

Jagboro, K. O. (2006). HOL summative report (Submitted to Carnegie Corporation of New York. Library, Obafemi Awolowo University, Ile-Ife, Nigeria. Ife journal of Educational Studies Vol. 11, No. 1.

McCray, A.T., & Gallagher, M.E. (2001). Principles for digital library development. Communications of the ACM, 44(5), 49-54.

Memoriae Mundi Series, Bohemica 1998 (1998) Digitization of rare library materials: Storage and access to data (CD-ROM) by Adolf Knoll. Prague: National Library of the Czech Republic pp. 115-125.

Pinfield, S. (2001). Beyond eLib: Lessons from Phase 3 of the Electronic Libraries Programme. http://www.ukoln.ac.uk/services/elib/papers/other/pinfield-elib/elibreport.html

Rusbridge C. (1998). Towards the hybrid library. D-Lib Magazine, July/August 1998.

Sofronijevi, Adam and Mitrovi, Jelena (2012), "Europeana libraries project: fostering digitization across Europe" Available at https://www.academia.edu/12042235/ (Accessed April 23, 2015)

Taye, A. O. (2008) "*strategies for Establishment of sustainable supply of internet Access".* A paper presented at the Nigerian Library Association National Conference and Workshop held in Ilorin, Kwara State on 27th October, 2008.

World Intellectual Property Organization (WIPO) (2009). Copyright and related matters. Accessed 08/08/09.

Wynne, P., Edwards, C., & Jackson, M. (2001). Hylife: Ten steps to success. Ariadne 27, March 2001.

Zulu, S.F.C (1994) Africa's Survival Plan for Meeting the Challenges of information Technology in the 1990s and Beyond. Libri 44(1), 63-76.