

Constraints Faced by Academic Libraries in Universities in Digitisation of Theses and Dissertations in a Few Selected African Countries

Kisemiire Christine Kagoro¹, F.E. Khayundi² and Akeem Adewale Oyelana^{3*}

¹*Department of Library and Information Science, University of Fort Hare, Alice, P.B. X1314, Eastern Cape, 5700, South Africa*

²*Department of Library and Information Science, University of Fort Hare, Alice, P.B. X1314, Eastern Cape, 5700, South Africa*

³*Department of Public Administration, University of Fort Hare, Alice, P.B. X1314, Eastern Cape, 5700, South Africa*

E-mail: ¹<201111485@ufh.ac.za>, ²<fkhayundi@ufh.ac.za>, ^{3}<201100592@ufh.ac.za>*

KEYWORDS Digitization Policies. Dissertations. Poor Network

ABSTRACT This paper examines the constraints faced by Academic Libraries in Universities in digitisation of theses and dissertations in some selected African countries. The objective of the paper was to investigate the challenges faced by Academic Libraries in Universities in digitisation of theses and dissertations. The study used a review of documents for data collection in order to debates, critics, reviews, reflects and discuss various constraints faced by some Academic Libraries in Universities in digitization of theses and dissertations. The finding shows that inadequate training of the library staffs, poor digitization policies, deterioration of digital media, copyright, shortage of cataloguers, poor network connectivity which affects work process were some of the identified constraints. It is pertinent that finding of this paper would be useful by various tertiary's institutions of learning across the globe in order to embark on digitization of theses and dissertations. The paper at long last proposed that lively and dynamic training projects, for example, seminars and workshops should be started by expert affiliations and universities administration to advance the idea of digitization among Library and Information Science (LIS) experts.

INTRODUCTION

As far back as the 1990s libraries have set out on digitization projects keeping in mind the end goal to give access to protected special data materials in their collections. Lopatin (2006) and Lee (2001b) named the 1990s as the many years of digitization and remembered it as "a reason for festivity". Raitt (2000) specified a significant vast number of digitization exercises embraced in European Countries. A wide range of libraries are energetically occupied with digitization exercises around the world. Hughes (2004) noticed that "a huge development of different national and global digitization projects in the most recent 10 years, as libraries and colleges all around the globe have established real activities to showcase their rich social, scientific heritage".

Theories and dissertations, for instance, are viewed as vital data to universities that is the reason they are exceedingly saved for other scholarly utilization. Early pioneers incorporate the Library of Congress in the USA, and the British Library. Libraries are taking part in extensive scale digitization activities predominantly by giving substance to be digitized. Seifi (2014) opined that "barrier is participating in scanning all their collections and making those texts searchable. However this requires specialized methods and human skills to be able to preserve their value and contents". Retiz (2007) highlighted that, the development of digitization which began with card catalogues, moved to Online Public Access Catalogue (OPAC).

On this aspect the researchers' try to indicate that Information Communication Technology (ICT) has transformed the way libraries operate, for example, the use of card catalogue most higher learning institution libraries in South Africa have shifted to OPAC, which has improved the access of sharing of knowledge among institutions. Digitization of library materials has

Address for correspondence:

Akeem Adewale Oyelana
University of Fort Hare, Alice, P.B. X1314,
Eastern Cape, 5700, South Africa
Cell: +27837286640,
E-mail: 201100592@ufh.ac.za

opened up opportunities for higher learning institutions in South Africa. The University of Fort Hare, for example, has put in place facilities of information sharing, timely access to information and improved collaboration. It is important to investigate the degree to which University library is keeping pace with the advanced time.

According to Chiware (2007), digitizing or digitization connotes a process of changing object, images, documents which are considered analogue to a state in which they become digital and easily legible in a computer. This is for the purpose of attaining a high degree of efficiency and effectiveness in any undertaking.

Problem Statement

Many libraries in the tertiary's institutions of learning in African countries have contributed immensely for building good recognition and goodwill to various institutions by providing quality education to many undergraduates and postgraduate students. Yet, there are some gaps that are needed to be filled in order to ensure that effective digitization of theses and dissertations are embarked on and adequately utilized efficiently by competent and specialised librarians at various universities in African countries. Some of the snags confronting most of the Academic Libraries in Universities include: digitization policies, deterioration of digital media, copyright, shortage of cataloguers, poor network connectivity which affects work process and inadequate training. This study would therefore make immense efforts to investigate and analyse the obstacles confronting the universities libraries in digitization of theses and dissertations and finally make suggestions to the stakeholders of the institutions on what should be done in order to embark on qualitative digitisation process.

Objective

- ♦ To investigate the challenges faced by Universities Libraries in digitisation of theses and dissertations in some selected African countries.

Research Question

- ♦ What are the challenges faced by Universities Libraries in digitization of theses and

dissertations in some selected African countries?

METHODOLOGY

This study used a review of literature from journals, books, dissertations and internet sources. Also, the researchers used their experience and knowledge in Library and Information Science (LIS) and Public Administration discourses on issues pertaining to the challenges faced by Universities Libraries in digitization of theses and dissertations in some selected African countries.

OBSERVATIONS AND DISCUSSION

Digitisation

There are various authors with different opinions about the term digitization. Digitization has been highlighted as the way toward changing over non-digitally born archives into advanced organization. This incorporates choice of accumulations/material, imaging or examining, translating, making increase and list, making metadata, preparing pictures, transferring to the web, safeguarding, and keeping up recorded media. Eke (2011) noted that digitisation "is the art of converting the contents of a document from hard copy into machine-readable format". Tsebe (2005) identified digitisation as the materials available electronically and improves wider access and collaboration of sharing information resources.

Theses and Dissertations

Electronic Theses and Dissertations (ETDs) are records arranged for submission as content based Adobe PDF compact report organized documents. Electronic Thesis and Dissertation (ETD) can contain non-content components that cannot be incorporated into outdated hard copy, mixed media, sound, video and hypertext connections can be incorporated to extend and develop the declaration of thoughts and the presentation of research (Bandra 2002).

Institutional Repositories

According to Lynch (2003), "an institutional repository is a University-based or a set of

services that a university offers to the members of its community for management and dissemination of digital materials created by the institution and its community members”.

Digital Librarian

There is no specific definition of a digital librarian. Marion (2001) felt that the definition of a digital librarian is not clear, as it “nests within the field of digital libraries that is rapidly evolving and inventing itself.” For the purpose of this study, digital librarian refers to librarians, whether subject librarians, metadata librarians, specialized staff and anyone involved with the digitizing processes in the digitization project of theses and dissertations.

Digital Libraries

According to Amollo (2011), “digital libraries are also known as electronic or virtual” libraries and are perceived to be libraries without walls since they contain online information that is not found in print. The authors reiterate further that, digital libraries contain information that is accessed via a computer network. Alhaji (2007) argued that though the meaning of computerized library concentrates on the report gathering, it ought to be noticed that digital libraries are significantly more than an irregular get together of advanced items, rather they hold a few characteristics of old-fashioned libraries, for example, a characterized group of clients, focused collections, long term accessibility, and the likelihood of selecting, sorting out, safeguarding and sharing assets. Furthermore, the Digital Library Federation (DLF) says that “Digital Libraries are organizations that provide the resources, including the specialised staff to select, structure, offer intellectual access to interpret, distribute, preserve the integrity of and ensure the persistence overtime of collections of digital works so that they are readily and economically available for use by a defined community or set of communities”

Digitization in Africa

Digitization of libraries in Africa has over the years been mostly associated with academic institutions, which are known for producing documents as a result of research and studies con-

ducted as a requirement of the academic process. The progression to other sectors which have information stored or generated as records that should be conserved for future reference or safe keeping, has seen more stakeholders getting involved in the development of policies and guidelines for effective information management. Digitization of information materials is therefore a subject that has attracted interest and much discussion from information professionals from all sectors. Libraries, archives and record centres in Africa have to contend with new technologies and trends for effective management of information

Singh et al. (2007) bought up that University and different foundations began to construct train based accumulations of data assets in computerized shape. Access to these accumulations was given through neighbourhood and wide zone systems. The rise and improvement of the Web permitted engineers to give widespread access to advanced libraries. Singh et al. (2007) bought up that University and different foundations began to build discipline-based collections of data assets in computerized shape. Access to these collections was given through native and wide zone systems. The rise and improvement of the Web permitted engineers to give widespread access to advanced libraries.

Limb (2005) stated that “journal publications have seen the most effective and popular developments” in the digitization of information materials in Africa. He cites the escalating price of scientific and technical journals, which remain the bedrock of research, as having contributed significantly to the educational crisis in Africa. According to Hughes (2004), in Nigeria, the Kenneth Dike Library, at the University of Ibadan has set up computerized joins with the digital collections of the accompanying: Access to Global Online Research in Agriculture (AGORA) Health Inter Network Access to Research Initiative (HINARI), and the Essential Electronic Agricultural Library (LANTEEAL).

Developing nations are additionally setting out on digitization. Kalra (2001) examined the status of digitization and advanced library activities in Africa and considered that libraries need to develop a dynamic initiative and combine stray endeavors. This requires setting down criteria at national, state and local levels for distinguishing uncommon archives to be digitized, address protected innovation rights issues,

adjusting print and digital collections, outlining and enhancing library administrations taking into account computerized collections, and displaying great costing and economic practices of data generation and dispersal in the computerized environment (Kalra 2001). Alhaji (2007) uncovered that two Nigerian Universities were included in digitization of theories and one in digitization of past question papers. With reference to Ezeani (2009) in the digitization exercises of the University of Nigeria, he said that the library as of December 2008 checked 23477 theories, 8106 productions, and 3121 proposition and class papers. The University has transferred 13139 documents and 12130 records have been connected through library site.

Ghosh (2009) studied nine African Institutional repositories of theses and dissertations. The researchers look at the current state of deployment of ETD archives in the scholastic part and talks about the subject scope, number of things, access policy, browse/search option, and value added services. The overview uncovers that computerized protection of theses and dissertations is as of now in advance, however some of them are still in a preparatory stage.

Digitization in South Africa

According to Ubogu (2001) in 1998, Rhodes University is the first institution in African to digitize their theses and dissertations on the World Wide Web. The University made it compulsory for students to submit digital files of their theses and dissertations. The Rhodes University (RU) Master's and Doctoral proposals and expositions are digitized and made available on the Rhodes Digital Commons. The RU theses and dissertations gathering incorporate a few postulations originating before the introduction of Rhodes University in 1951. The most established theses at present held within the repository is dated 1928. The archive holds in overabundance of 5000 Rhodes propositions and all new theses and dissertations submitted for degree reasons for existing are consistently added to the collection (Rhodes University Library 2014: RU theories gathering). To date, the Rhodes theses collection has more than 5501 theses in its database.

The submission of Master's and Doctoral theses and dissertations is compulsory. As indicated by the University of Pretoria library (2003), the University of Pretoria electronic Thesis and Dissertation (UPeTD) activity was propelled in

July 2000 with the goal to make the fundamental base and assets to permit present post-graduate students to publish their theses or dissertations on the Internet in a very much oversaw environment which will make it open to the global research group. The University of South Africa (UNISA) Electronic Theses and Dissertations (ETDs) is an open access digital repository of electronic versions of the University of South Africa theses and dissertations since 2003. The repository includes theses completed by UNISA staff at other academic institutions (University of South Africa library 2011).

Constraints Faced by the Universities Libraries in Digitization of Theses and Dissertations

Observably, the main challenges faced by most of the Universities Libraries in digitization system in some developing countries such Kenya, Nigeria, Ghana, South Africa, et cetera were lack of skilled or qualified cataloguer, poor network connectivity that hinders work processing, at times it is often detects that the hard copies are not identical with the soft copies, faulty discs submitted to the library cannot be open, inadequate trained staff in the area of digitisation, inadequate budget allocated to the process of digitisation, infrastructure like scanners, and leadership in the project. Therefore, these challenges have resulted in the process being slow/ taking longer, due to downtime and other errors as highlighted. Amollo (2011) identified lack of funding as one of the common obstacles for library digitization projects. Also, Kipaan (2012) ascertained that one of the challenges besetting the digitization projects is managerial and financial constraints. These constraints sometimes result in the digitization projects not being fully implemented (Kippan 2012). This is on the grounds that digitization is not cheap and numerous libraries rely on upon stipends for backing of their digitization ventures (Chepesiuk 2001).

In another study conducted in the 26 libraries in Kenya, Amollo (2011) discovered that the majority of libraries failed to digitize their materials, due to cost and inadequate funding. Alhaji (2007) indicated that 95 percent of the respondents in the digitization of past papers, dissertations and theses conducted in the 30 Nigerian university libraries cited inadequate funding as

a major constraint for digitization projects. Insufficient staff has been identified as one of the obstacles to digitization projects. According to Lampert and Vaughan (2009), out of the 36 respondents in a University of Nevada, Las Vegas (UNLV), Library Digitization Survey, 18 respondents raised the lack of staff as one of the major issues for digitization. In this study the researchers observed that the 3 staff on the digitization project are too few a number considering this is a labour intensive venture.

Eke (2011) pointed out that, with all the new technologies emerging in the libraries, training for librarians on a regular basis and other staff involved in digitization project is necessary. Ezeani (2009) agreed that technical skills can only be achieved through continuing education. Ezeani (2009) added that digitization is highly dependent on technology and library staff members need to be trained in the latest developments and use of technology. Regardless of the fact that regular training for digitization is a necessity, Ezeani (2009) raised the point that training requires funding and “most African universities hardly have extra money for overseas training”, which is a challenge, since staff loses out on training opportunities. Jagboro et al. (2012) felt that even though there are a number of training workshops conducted on digitization, “only few librarians get sponsored to attend while most could not.

Digitization Policies

Liu (2004) stated that lack of policies pertaining to digitization poses a huge challenge to most libraries in USA. He further contends that although most libraries in the USA are involved in digitization processes, most of them still lack guiding policies regarding the processes and procedures. Alhaji (2007), for instance, cited lack of institutional policy as one of the challenges of the digitization projects in Nigerian universities.

Deterioration of Digital Media

Disintegration of digital media is in charge of the vanishing of, or unavailability of computerized data in the long run. This is on account of media break down or rots inside couple of years after digitization. Another challenge is that computerized media get harmed amid catastrophe or

infection assaults. The motivation behind why re-digitization is inescapable is the probability that electronic assets made in earlier years utilising more established advancements may not be open or perfect with the new innovations.

Copyright

According to Asogwa and Ezema (2012), copyright has been cited as one of the major issues affecting the digitization of library materials. Hirwade (2011), for example, indicated that, in a study conducted in India, the 17 academic institutions studied all cited copyright issue as the biggest problem in developing ETDs. According to Kanyengo (2009), copyright is a “complex process that libraries should study and teach to their particular constituencies” so that it can be used to their own benefit. Kanyengo (2009) stated that, unlike the hard copy of the library materials, where it is clear how the photocopying of the hard copy material is used, with the electronic copy it is a different case, since the copyright law is interpreted according to the “agreed terms with the publisher or vendor, and this depends on the licensing agreement.” Asogwa and Ezema (2012) indicated the importance of having a clear understanding of the copyright law and rights of ownership before deciding on materials to digitize. Liu (2004) remarks that “before beginning the digitization process, librarians have to consider whether or not the digitized material will violate copyright and intellectual property laws.” Liu (2004) pointed out that libraries face copyright issues in different ways, varying from one institution to the other, mainly because international rules and regulations are not standardized. Therefore, libraries must consult with a copyright attorney before starting on a digitization project. Furthermore, Yiotis (2008) also said that most libraries in the USA raised ownership of property rights as one of the issues of concern. The University of Kentucky, for instance, raised the issue on “how ETDs relate to intellectual property rights lost to publishers, plagiarism issues, costs of software and hardware infrastructure, and long-term preservation issues” (Smith 2002).

CONCLUSION

This problem is compounded by the fact that the University library lack appropriate infrastruc-

ture like scanners which understandably stems from underfunding. Based on existing literature, digitization has been said to need specialised skills to handle and maintain the technological infrastructure needed. To this end the researchers found out that the participants underwent short training courses. Although these may enable them to do their work, available literature unquestionably showed that digitization processes need continuous training as technology is ever changing and rendering obsolete what was new. Poor internet connectivity is among the problems cited by the participants. Submitted faulty discs that fail to open, carelessness on the part of the students that submit hard copies that differ from the soft copies all accentuate the drag and slow process encountered in the digitization process. This indicated to the researchers that there is lack of a streamlined procedure in the handling of the submitted theses.

RECOMMENDATIONS

- ◆ The Library should spend a proportion of their regular budgets to initiate digitisation activities as they cannot wait for external funding to start digitisation activities. However, at a later stage libraries should showcase their projects to get funds from external resources like government departments, donors, and national and international foundations.
- ◆ Active program of lectures, seminars, workshops, etc. should be initiated by professional associations and library schools to promote the concept of digitization among LIS professionals of the country.

ACKNOWLEDGEMENTS

First and foremost, the researchers would like to give thanks to Almighty God. It would not have been possible to complete the study without His guidance and protection. The researchers would like to thank the University of Fort Hare. This research would not be possible without her funding.

REFERENCES

- Alhaji I 2007. Digitization of past question papers, dissertations and theses: A case study of 30 Nigerian university libraries. *The International Information & Library Review*, 39(3): 228-246.
- Amollo BA 2011. Digitization for Libraries in Kenya. *Paper presented at the 2nd International Conference on African Digital Libraries and Archives (ICADLA-2)*, University of Witwatersrand, Johannesburg, South Africa, 14th – 18th November.
- Asogwa BE, Ezema IJ 2012. The challenges of preservation of archives and records in the electronic age. *Pacific Northwest Library Association (PNLA) Quarterly*, 76(3): 115-125.
- Bandra S 2002. Digitization of Theses: Possible International Collaboration - A Discussion Paper. From <<http://dspace.mona.uwi.edu/bitstream/123456789/349/1/Digitization%20of%20Theses.brief.pdf/>> (Retrieved on 10 October 2016).
- Chepesiuk R 2001. Digitizing rare materials: Special collections go global. *American Libraries*, 32(5): 54-56.
- Chiwere ERT 2007. Training Librarians for the Digital Age in African University. From <<http://archive.ifla.org/IV/ifla73/papers/Sat1-Chiwere-en.pdf> /> (Retrieved on 2 April 2015).
- Eke H 2011. Digitizing resources for University of Nigeria repository: Process and challenges. *Webology*, 8(1): 1-19.
- Ezeani CN 2009. Digitizing projects in developing countries: The case of the University of Nigeria. *Library Hi Tech News*, 26(5/6): 14-15.
- Ghosh M 2009. E-theses and Indian academia: A case study of nine ETD digital libraries and formulation of policies for a national service. *The International Information & Library Review*, 41(1): 21-33.
- Hirwade MA 2011. Digitization of Theses and Dissertations: Status Quo India. *Proceedings of the 14th International Symposium on Electronic Theses and Dissertations*, Cape Town, 13-17 September 2011.
- Hughes LM 2004. *Digitizing Collections: Strategic Issues for the Information Manager*. London: Facet.
- Jagboro KO, Omatayo BO, Aboyade WA 2012. Digitization of library collection in developing countries: The Hezekiah Oluwasanmi library experience. *Library Philosophy and Practice (e-Journal)*, 823: 1-18.
- Kalra HPS 2001. Efforts towards digitization of libraries in India: Problems and prospects. *The International Information & Library Review*, 33: 197-204.
- Kanyengo CW 2009. Managing digital information resources in Africa: Preserving the integrity of scholarship. *The International Information & Library Review*, 41: 34-43.
- Kipaan L 2012. Digitization Best Practices in a Financially Challenged University Library. *Paper presented at Rizal Library 5th International Conference*, 25 – 26 October, Ateneo de Manila University, Quezon City, Philippines.
- Lampert C, Vaughan J 2009. Success factors and strategic planning: Rebuilding an academic library digitization program. *Information Technology and Libraries*, 28(3): 136-166.
- Lee SD 2001b. *Digital Imaging: A Practical Handbook*. London: Library Association Publishing.
- Limb P 2005. The digitization of Africa. *Africa Today*, 52(2): 3-19.
- Liu YQ 2004. Best practices, standards and techniques for digitizing library materials: A snapshot of library digitization practices in the USA. *Online Information Review*, 28(5): 338-345.

- Lopatin L 2006. Library digitization projects, issues and guidelines: A survey of the literature. *Library Hi Tech*, 24(2): 273-289.
- Lynch C 2003. Digital Collections, Digital Libraries and the Digitization of Cultural Heritage Information [Electronic Version]. From </http://firstmonday.org/> (Retrieved on 11 October 2016).
- Marion L 2001. Digital Librarian, Cybrarian, or Librarian with Specialized Skills: Who will Staff Digital Libraries? *Paper presented in Crossing the Divide: Proceedings of the Tenth National Conference of the Association of College and Research Libraries*. Chicago, IL: American Library Association, pp. 143-149.
- Raitt D 2000. Digital library initiatives across Europe. [Electronic Version]. *Computers in Libraries*, 20(10): 26-34.
- Reitz J 2007. Digital Library ODLIS: Online Dictionary for Library and Information Science. From <http://www.iu.com/odlisd.cfm/> (Retrieved on 21 January 2016).
- Seifi 2014. *Digitization and Digital Preservation of the Heritage Collection in Select Libraries in India and Iran: A Comparative Study*. PhD Thesis, Unpublished. Mysore: University of Mysore.
- Singh G, Mittal R, Ahmad M 2007. A bibliometric study of literature on digital libraries. *The Electronic Library*, 25(3): 342-348.
- Smith A 2002. Electronic theses and dissertations (ETDs): A report on the current issues and trends among academic institutions. *The Library Context, Journal of Education for Library and Information Science*, 42: 27-41.
- Tsebe J 2005. Networking Cultural Heritage: Africa. *World Library and Information Congress: 71th IFLA General Conference and Council, Libraries - A Voyage of Discovery*, 14th to 18th August, Oslo, Norway.
- University of Pretoria Library 2003. *Upetd Celebrates 10 Years of Success*. Pretoria: University of Pretoria.
- University of South Africa 2011. Finding Theses and Dissertations. UNISA Library. From </:http://webcache.googleusercontent.com/search?q=cache:uoc1EsPTcNQJ:www.unisa.ac.za/contents/library/docs/New%2520ones/FINDING%2520THESES%2520AND%2520DISSERTATIONS.pdf+&cd=3&hl=en&ct=clnk&gl=za> (Retrieved on 11 October 2016).
- Ubogu FN 2001. Spreading the ETD gospel: A Southern Africa perspective. *The International Information & Library Review*, 33(2-3): 249-259.
- Yiotis K 2008. Electronic theses and dissertation (ETD) repositories: What are they? Where do they come from? How do they work? *OCLC Systems & Services: International Digital Library Perspectives*, 24(2): 101-115.

Paper received for publication on July 2016
Paper accepted for publication on October 2016