AWARENESS OF DIGITAL RIGHTS MANAGEMENT IN ACADEMIC LIBRARIES: A SURVEY OF THREE SELECTED MALAWIAN UNIVERSITY/COLLEGE LIBRARIES

Apatsa SELEMANI [1], Austine PHIRI [2] and Winner CHAWINGA [3]

[1]Assistant Librarian, College of Medicine-University of Malawi
Email: aselemani@medcol.mw

[2]College Librarian, Saint John of God College of Health Sciences-Malawi.
Email: austine_phiri@yahoo.com

[3]Lecturer, Department of Library and Information Science, Mzuzu University-Malawi.
Email: winnchawinga@gmail.com

Abstract

The purpose of this study was to survey awareness of digital rights management at College of Medicine, St John of God College of Health Sciences and Mzuzu University in Malawi. Specifically, the study aimed at identifying the forms and sources of digital content the libraries offer, determined the level of knowledge of digital rights management, identifying perceived benefits and perceived negative impacts of rights management on library services, and establish challenges that can affect effective implementation of digital rights management. A cross-sectional survey was conducted which self-administered 24 questionnaires to all trained library staff in the three selected libraries. The study found that the libraries provide information resources in various forms including electronic thesis and dissertations, digitized and born digital books and manuals, digital audio content, e-mail among several others. The study found that sources of digital content were mostly local databases, online remote databases and DVDs/CDs. Despite identifying many perceived benefits of DRM, the study revealed that many respondents were not aware of digital rights management hence could not even establish properly how it negatively impacts on library services. However, lack of knowledge of DRM and training needs in DRM scored highly as challenges affecting implementation of DRM. The study therefore recommends raising awareness through in-house training and workshops, integrating DRM in educational training in schools of library and information science. It further recommends participation by LIS professionals in local and international discussions of DRM and need for research in DRM which is currently not available.

Keywords: Institutional Repositories; Digital Rights Management; Metadata; Academic Libraries; Copyright.

1. Introduction and Background

An overwhelming growing interest in creation of institutional repositories to share research data/data sets, and other electronic information resources has brought both challenges and opportunities for academic librarians.

One of the issues arising from this initiative is the management of rights associated with the digital content which is the backbone of institutional repositories, commercial and open access scholarly databases. The anxiety in digital libraries has shifted from how to digitize, store and distribute materials to how to manage rights along with the materials. Digital rights management is a collective name for technologies that prevent using a copyrighted digital work beyond the degree to which the copyright owner (or a publisher who may not actually hold a copyright) wishes to allow another person use it" (Godwin, 2006, p.1).Other names for the same concept are "automated rights management," "technical protection measures," or "content protection schemes." Digital rights management (DRM) is intended to enforce restrictions on the use of digital content after it has been delivered to its intended recipient (Sebes & Stamp, 2007, p.33). However, controlling access or operations on digital content has also posed challenges on fair use policy (Denise, 2002, p.20). ALA (2016) observes that major concerns for libraries about DRM technology arise not necessarily from the technology itself but rather from business models that are being used and enforced by commercial content providers. ALA therefore cautions that if not carefully balanced or used appropriately, DRM technology may limit libraries to serve information needs of its user community (ALA, 2016). DRM becomes essential as libraries own less of the content they support or distribute (Denise, 2002, p.21). Additionally, academic libraries are now becoming their own publishers as they are digitizing local content (Denise, 2002, p.21). Conventionally, libraries are familiar with the use of metadata to express rights of use and access to materials. Rights management metadata capture the permission of usage of an object and include the ownership, license information, restrictions on access, special permissions and methods of payment when applicable (Groenewald & Breytenbach, 2011, p.241). Academic libraries offer electronic resources in various media such as text, image, videos and audio. Digital libraries and institutional repositories provide these resources in different formats such as TIFFs, GIFs, PDFs and HTML pages. These resources are either local databases such as institutional repositories that include thesis and dissertations, and other local resources that have been digitized. It also includes providing access to scholarly online journals, e-books and online electronic databases.

2. Problem Statement

To ensure that violation of rights involving digital content (that may lead to some ramifications to both, an academic library and the researcher such as legal lawsuits), is minimized or avoided, developed countries such as Britain have taken a lead in raising awareness and training on management of digital rights through metadata training and scholarly publications. However, little is known about the status of digital rights management in economically developing countries such as Malawi where academic libraries are slowly but surely setting up institutional repositories, increasingly subscribing to commercial scholarly databases and embracing the concept of open access. The aim of this study therefore is to compare awareness of digital rights management by academic librarians in the three selected academic libraries.

3. Specific objectives

- Identifying the forms and sources of digital content
- Determining awareness and benefits of digital rights management amongst library staff
- Exploring challenges affecting implementation of digital rights management

4. Review of related Literature

4.1 Forms and sources of digital content

Digital content manifests in various forms and comes from different sources. Erway (2010) identifies various forms of digital content available in libraries such as digital photographs, harvested web content, digital manuscripts, and electronic records. Green and Huang (2015) classified digital content based on context such as word processing, databases (e.g., OPACs), e-books, online newspapers and magazines, email, digital photography, digital audio, cell phones, digital radio, and digital television. To this list the authors add other digital-only modes of communication, including Internet telephony, wikis, blogs, webcasting, and podcasting. Other forms and sources of digital content include online music and video such as Apple's iTunes store, the Napster online music shop, the German Telecom's Music load online music store, Yahoo Music (Vasava, 2003). According to Salanje (2011), most libraries in Malawi have embarked on digitisation projects following a workshop of creating a digital repository using Greenstone held in 2007. For instance, Mzuzu University collects thesis and dissertations and local scientific papers whereas College of Medicine collects articles on HIV/AIDS and reproductive health (Salanje, 2002). In her study of building digital libraries in African universities which was sponsored by INASP, Rosenberg (2005) also found that Malawian university libraries offer access to several e-resources from e-journals and online databases such as African Journals Online (AJOL), HINARI, EBSCO Host and AGORA confirmed later in a study by Malemia (2014).

4.2 Types of DRM

Most often than not, what is referred to as types of DRM are the technical aspects of DRM (Chaudhuri, 2016). The following are different technical aspects of DRM: Encryption,· Public/private keys, Digital certificates, Watermarks, Access control, Authentication, Secure communication controls, Secure content storage, Rights specification language, Trust infrastructure (Chaudhuri, 2016). It is a combination of these technical aspects that enforce DRM.

4.3 Benefits of DRM

Despite the controversy associated with them, DRM schemes have valuable uses. Chaudhuri (2016) identifies five advantages of DRM including protection of digital content; secures e-book distribution; content authenticity; transaction non-repudiation; and market participant identification.Protection of digital content or copy protection can effectively curtail simple piracy attempts and ensure creators and publishers of digital content enjoy profits for their product (Kurth,2002). Content authenticity validates original information resources. For instance, libraries can make use of watermarking technology to verify originality of official documents and library identity cards. Content authentication may also enhance customer satisfaction by providing remote access to e-resources. Furthermore, DRM may enable collaboration with other libraries on content delivery and sharing of resources through authentication. Additionally, another advantage of DRM is the economic efficiency it can facilitate by charging users only what they are willing to pay and lowering down distribution costs (Kurth, 2002). Consumers not willing to pay the higher (monopoly) price for full access to content can just pay the per-use fee. For example, a researcher would no longer need to buy an entire book or journal to read one small section of it.

Conversely, if consumers wanted to keep the content indefinitely, or make copies from it, they might have to pay a higher price for that privilege than they pay today. Additionally, pay-per-use can support libraries in materials acquisitions and delivery by only providing on-demand titles equivalent to traditional print-on-demand service used by publishers (Denise, 2002). DRM technologies may also support integrating digital library materials into courseware or course reserves at educational institutions for teaching and learning (Denise, 2002). For instance, E-library product (http://elsevierelibrary.com/) marketed by Elsevier allows instructors/lecturer to integrate a course to e-books which makes use of DRM technologies to provide the service. Content creators can distribute their work immediately after production, with low fixed costs and cutting the distribution chain can reduce prices for consumers (Kurth, 2002). DRM may also support circulation of electronic resources such as e-books just as in traditional lending system by loaning them out for a specific period, and the e-book gets deactivated when loan period is over (Denise, 2002). DRM may also safeguard libraries from facing lawsuits by defining access and use rights of users. As libraries provide access to resources they do not own (even the locally developed databases), DRM will help express rights and control usage of such resources under intellectual property rights (Denise, 2002).

4.4 Negative impacts of DRM on Libraries

Despite the benefits listed above, DRM may also negatively impact on libraries. There are several key concerns that have been raised against DRM especially as related to library services. The most common complaints against DRM schemes are the infringements upon fair use (ALA, 2002). Fair use stipulates that certain uses of copyrighted material are legal and valid even without permission from the owner (Pucket, 2010) . As Kurth (2002) observes that in the past making backup copies or changing formats for preservation and archiving purposes used to be viewed as legitimate uses of copyrighted materials. DRM schemes can prevent these uses, or allow them only with the payment of a fee which could have ramifications on libraries (Kurth, 2002). Additionally, Chaudhuri (2016) and ALA (2016) report that DRM may have the following impact on libraries:

- Eliminating the “First sale” Doctrine: *the first-sale doctrine is the idea that once the copyright owner sells a particular copy, the buyer is allowed to resell or loan that copy without authorization from the copyright owner. This is what allows libraries to loan books to the public and through interlibrary loan.*
- Enforcing a “Pay-per-use”: *increases the digital divide because only resource-wealthy libraries are able to negotiate broader access*
- Restrictive to purchase certain devices from same vendor due to compatibility issues.
- The use of Shared Materials in Learning Environments
- Eliminating “Fair Use” which allows user to legally make use of the content without asking for permission from copyright holder in good faith.
- Preservation and Archiving: *DRM may restrict libraries in making back-up copies or changing digital content into new formats as old ones become obsolete.*

5. Methodology

The study used a cross-sectional survey design to collect quantitative data and also conducted some follow up interviews on a few respondents when collecting the questionnaires. Purposive sampling was used to select all those practicing librarianship to be participants. 24 questionnaires, containing predominantly close-ended questions and a few open ended questions were self-administered by the researchers.

5.1 Presentation and discussion of findings

The majority of study participants were male (21, 87.5%), and females were represented by 12.5% (3). According to educational level, 10 (41.7%) were certificate holders, 8(33.3%) were diploma holders, 1(4.2%) was a degree holder, 5(20.8%) master's degree holders.

5.2 Forms of Digital Content

On forms of digital content, electronic records and e-mail were major forms of digital content representing 79%. Other sources were born digital content (58%), digitized books (50%) and electronic newspapers (46%).

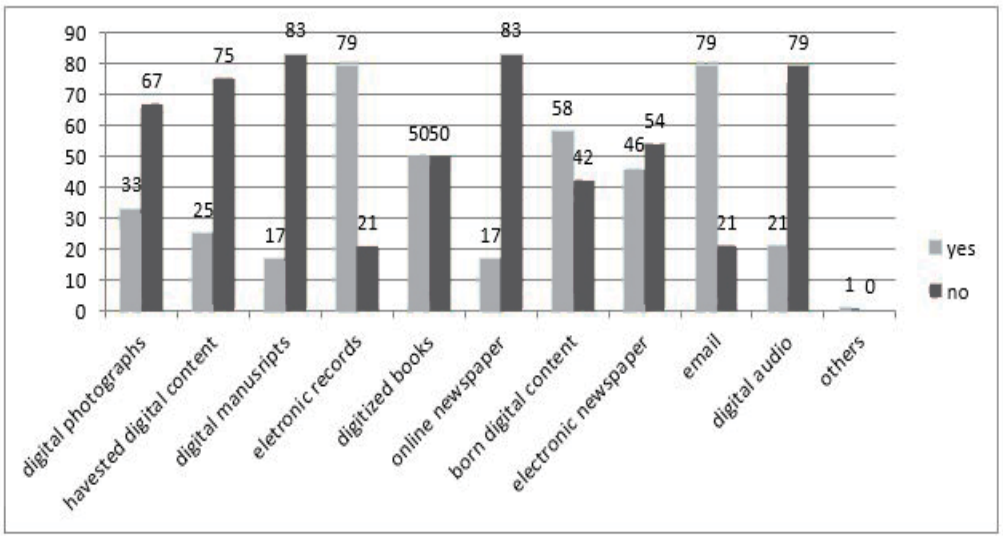

Figure 1: Forms of Digital Content in Libraries

5.3 Sources of Digital Content

The results also revealed that academic libraries provide access to a variety of sources of digital content. The major sources of digital content were online remote databases (100%), local databases (96%) and internet (92%) while the minor sources of digital content were still/video cameras (33%) and external hard drives (25%). The results reveal that the three academic institutional libraries offer access to online digital content (e.g. e-journal) from publishers and distributors that often use digital rights management to control access and usage of their resources.

Additionally, the results show that these three libraries are offering local digital content hence playing the role of publishers themselves. These results confirm findings by Rosenberg (2005) which found that University libraries in Malawi offer digital content from online databases and also confirm findings by Salanje (2011) that libraries in Malawi are building local databases. (Denise (2002) observes that DRM becomes essential as libraries own less of the content they support or distribute, and also as they are now becoming their own publishers by digitizing local content.

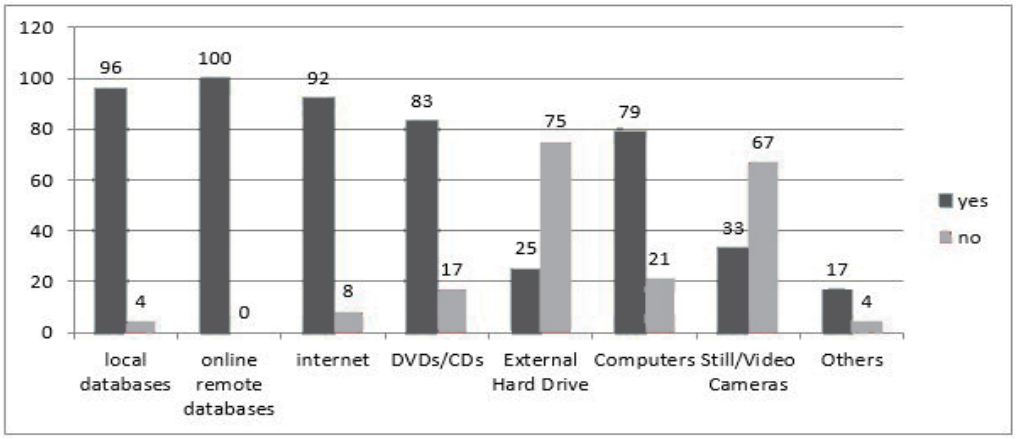

Figure 2: Sources of Digital Content in Libraries

5.4 Level of Awareness of Digital Rights Management

The present study also endeavors to explore the level of awareness of digital rights management among library staff in academic libraries. The findings revealed that majority of library staff were mostly aware of encryption (67%), metadata (63%), digital signatures (58%) and finger printing (54%) as types of digital rights management. However, they were least aware of enterprise product keys (29%) and watermarking (42%) as types of digital rights management. Additionally, on follow up interviews some respondents commented that they just see the technologies but had no idea that it is about digital rights management. Furthermore, some respondents commented that they have heard or seen the technology being used but cannot explain exactly how it works.

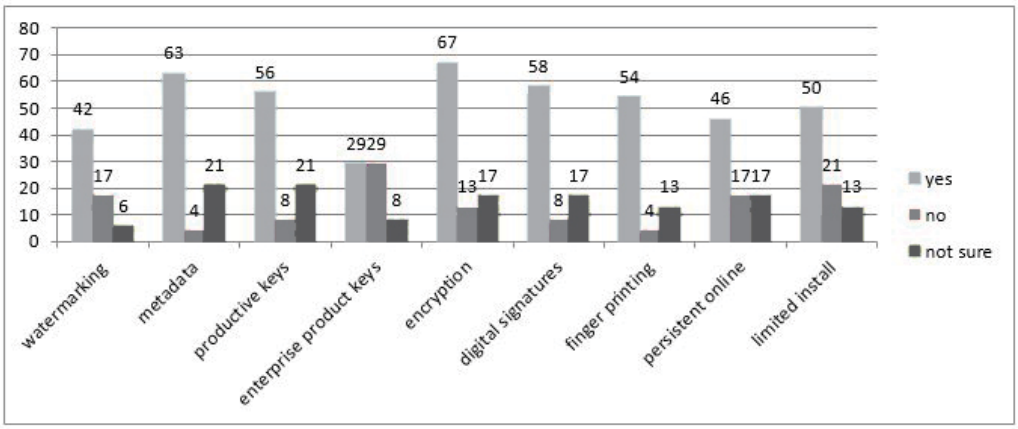

Figure 3: Awareness of Digital Rights Management

5.5 Benefits of Digital Rights Management

The study also explored the benefits of digital rights management in libraries. The major benefits of digital rights management were copy protection (88%), enhance intellectual creativity (79%), safeguard libraries from facing lawsuits (67%) and lastly, content authenticity (67%). The respondents were not sure of the importance of digital rights management in enhancing customer satisfaction (17%), integrating digital library materials into course work for teaching and learning (21%) and enhancing collaboration with other libraries (25%). The authors suggest that respondent could not identify many benefits of DRM because they are not aware about it and how it works.

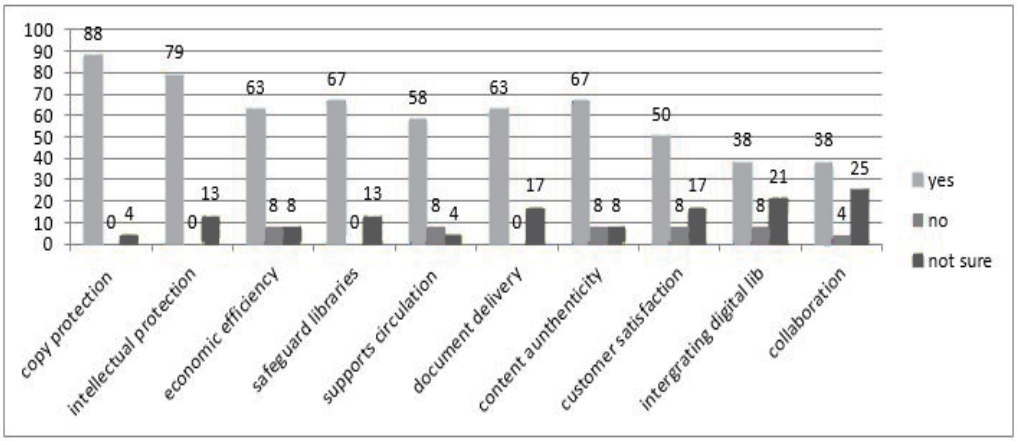

Figure 4: Benefits of Digital Rights Management

5.6 Negative Impacts of Digital Rights Management

The respondents also identified several negative impacts of digital rights management on library services. The major impacts of DRM on library services were pay-per-use policy (83%) and elimination of public domain (71%). On the other hand, the respondents disagreed with the fact that DRM may infringe users' privacy (29%). The findings also reveal that most respondents were not sure about other negative impacts of DRM on libraries as suggested by literature, the reason which the authors suggest may be lack of knowledge about DRM.

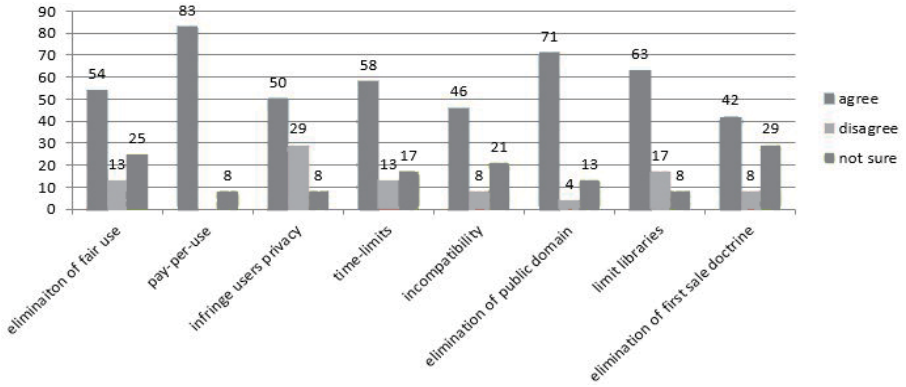

Figure 5: Negative Impact of Digital Rights Management on Library Services

6. Challenges Affecting Implementation of Digital Rights Management

Lastly, the study also sought to identify challenges affecting implementation of digital rights management in most academic libraries in Malawi. The major challenges hindering the effective implementation of DRM in academic libraries is lack of training on digital rights management (92%) and increased cost of subscribing to or using digital resources (83%). Seemingly, findings by Mapulanga (2013) on challenges affecting development of digital libraries in University of Malawi may also have an impact on implementation of DRM as these two are closely related. Some of the major challenges were lack of skilled personnel and financial resources to support the project.

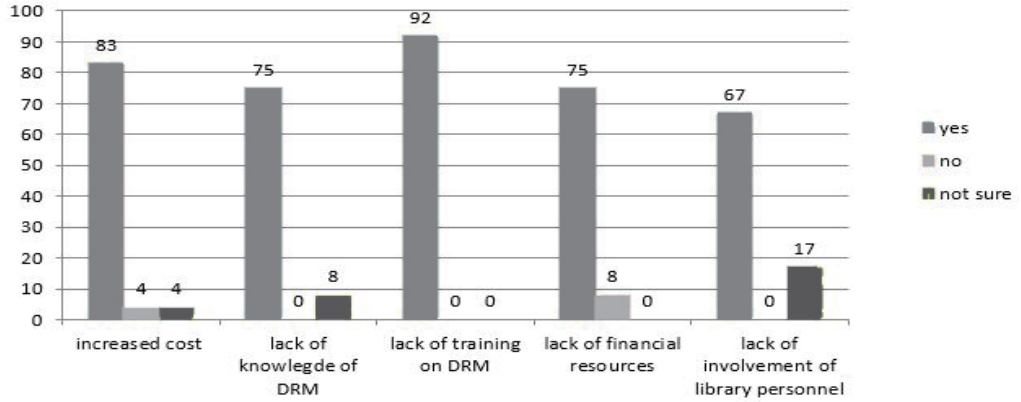

Figure 6: Challenges affecting Implementation of Digital Rights Management

7. Summary of findings, Conclusions and Recommendations

The study therefore found that the three academic libraries offer digital content in various forms and from various sources both locally and remotely accessed. The study also revealed lack of awareness about DRM among library staff from the three institutions which made it difficult for them to clearly identify many benefits and negative impacts of DRM on library services. Additionally, the study identified challenges affecting implementation of DRM in the three libraries which included lack of awareness and training of DRM, and lack of financial resources to support implementation of DRM. The study therefore recommends that libraries should widen access to forms and sources of digital content for the benefit library users. It also recommends raising awareness of DRM through in-house training and workshops, integrating DRM in educational training in schools of library and information science. It further recommends participation by LIS professionals in local and international discussions of DRM and need for research in DRM which is currently not available.

References

Chaudhuri, S. K. (2016). *Digital Rights Management –a Technological Measure for Copyright Protection and its Possible Impacts on Libraries*. http://www.ala.org/ala/ washoff/WOissues/ copyrightb/digitalrights/digitalrightsmanagement.htm. (accessed 8th February, 2016.)

Denise M. D. Lafferty, T.(2002). Digital rights management: implications for libraries. *The Bottom Line*, 15(1)18 – 23. DOI:http://dx.doi.org/10.1108/08880450210415725

Erway, R. (2016). *Defining "Born Digital"*. http://www.oclc.org/research/activities/hiddencollections/bornditgital.pdf. retrieved 11th January, 2016.

Godwin, M. (2010). *Digital Rights Management: A Guide for Librarians*. American Library Association.

Groenewald, R., & Breytenbach, A. (2011) The use of metadata and preservation methods for continuous access to digital data, *The Electronic Library*, 29(2)236–248. DOI: http://dx.doi.org/10.1108/02640471111125195

Malik, M. & Sighn, S. (2004). Digital Rights Management and Libraries.*2nd Convention PLANNER* - 2004, Manipur Uni., Imphal, 4-5 November, INFLIBNET Centre, Ahmedabad.

Malemia, L. (2014). The Use of Electronic Journal Articles by Academics at Mzuzu University, Malawi. *Library Philosophy and Practice*. Paper 1097. http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2820&context=libphilprac

Mapulanga, P. (2013). Digitising library resources and building digital repositories in the University of Malawi Libraries. *The Electronic Library*,31(5), 635 – 647,DOI: http://dx.doi.org/10.1108/EL-02-2012-0019

Puckett, J. (2010). Digital rights management as information access barrier.*Progressive Librarian, 34/35*, 11-24. http://www.progressivelibrariansguild.org /PL_Jnl/pdf/PL34_35_fallwinter2010.pdf. (accessed 11th January, 2016.)

Rosenberg, D. (2005). *Towards the digital library: findings of an investigation to establish the current status of university libraries in Africa*. .http://www.inasp.info/uploads/filer_public/2013/04/29/ towards_the_digital_library_full.pdf.

Salanje,G.F. (2011) *Creating Digital Library Collections: Prospects and Challenges for Libraries in Malawi.* Presented at the 2nd International Conference on African Digital Libraries and Archives (ICADLA- 2), University of Witwatersrand, Johannesburg, South Africa, 14th – 18th November, 2011. http://wiredspace.wits.ac.za/bitstream/handle/10539/11531/Salanje%20-%20Creating%20digital%20library%20collections.pdf?sequence=1

Sharat,M.A. (2016). *Digital Rights Management: Top Mistakes, Challenges and Learning.* http://www.cisoplatform.com/profiles/blogs/drm-digital-rights-management-top-mistakes-challenges-and-learning. (accessed 16th February, 2016.)

Vaseva, L. (2003). Digital Rights Management. *INDICARE Monitor*, 2(9). http://www.indicare.org. (Accessed on 8th February, 2016.)