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IS LILONGWE TECHNICAL COLLEGE READY TO MANAGE AN E-LIBRARY?

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ABSTRACT

E-library is a relatively new concept in technical colleges in Malawi. Over the past three decades, Technical College libraries have been traditional in nature despite the world of information and communication is going through a period of supreme and accelerating transformations. To stay abreast with the latest changes in technologies, the Malawi's technical educational institutes have now started adopting agile services such as e-libraries to utilize on the internet technology to provide a variety of information resources and services to the scholarly community. The e-library initiative at Lilongwe Technical College was championed by African Development Bank (AfDB) under Higher Education and Science Technology (HEST) Project with an overall goal of fusing Information Communication Technologies (ICTS) in information service delivery, as a basic ingredient for information availability, accessibility and dissemination. Being a new development at the college, a quantitative survey was instituted with the aim of exploring the readiness of Lilongwe Technical College (LTC) in managing such a digital archive as the e-library. Among other aspects, the study closely looked at what are the contents of an e-library, benefits of e-library initiatives in technical colleges, anticipated challenges and suggested solutions in managing the electronic library at LTC. A questionnaire with closed ended questions was used to elicit responses from purposively selected 9 participants (Library staff and ICT instructors/Technicians). The data collected were later analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0. The frequencies (*f*) and percentages (%) which were created using SPSS were then exported to MS Excel to produce charts and MS. Word to produce tables. Our findings revealed that library staff and ICT instructors/Technicians had little knowledge on the contents of an electronic library as they only indicated e-books as the major contents of an e-library. Saving storage space and 24/7 access to the library resources among others were the perceived benefits of an e-library initiative at the college. Finally, managing an electronic library at LTC will be associated with the following major challenges: inadequate government funding, poor state of ICT infrastructural development at the college, lack of laws, policies and strategies to guide the selection and acquisitions of e-resources, problems with long term preservation and access to e-resources; and copyright and licensing issues are of a great concern in a virtual environment. The study has set out strategies to counter deal with these challenges in order to answer the question: "is Lilongwe Technical College ready to manage an e-library?"

Keywords: Electronic Library, Managing e-libraries, Technical Colleges, Lilongwe, Malawi

Introduction

In institutions of higher learning, the presence of a library forms a base on which the functions of teaching and learning process, including general research and enquiry processes rests upon. Libraries have always played a vibrant role as a social establishment and it serves as a physical structure where books, journals, magazines and the various kinds of information resources and services are made available to end users. Much of interest in 21st century librarianship is the upsurge of Information and Communication Technologies (ICTs) which have led the birth of information explosion era. The old ways of library transactions cannot stand the intense pressure in managing tremendous amount of information that is being produced and conveyed in every corner of the world in form of printed resources, research articles, lectures, presentations, video conferencing, technical reports, standards and patents among others (Esther, 2014).

The understanding is that before the birth of digital technologies, libraries consequently faced challenges, on how best to meet users' needs just in time beyond the walls of a physical library. With the development and application of ICTs, college libraries have shifted from being traditional to being hybrid libraries in nature to make information service delivery more effective. New concepts such as "electronic libraries", virtual library" or "digital libraries" which are used interchangeably were later coined in the field of Library and Information Science (LIS). An "electronic library", according to Daniel (2012), is a "collection of networked digital information resources and associated technical and managerial infrastructure" (p.1). Like a traditional library, an electronic library also acquires, processes, stores, evaluates and disseminates information via electronic means to the audience in need of information, that is both the students, academic staff and researchers at any educational institute.

The development of Electronic library (EL) in institutions of higher is accelerated with the advent of high-tech software and hardware systems, communication channels and expert application software, in short ICTs. As indicated by Anyim (2018), the of e-library concept cuts across various disciplines and branches of computer science including data management, information retrieval, library science, document management, information systems, the web, image processing, and artificial intelligence. Novel forms of ICTs as a matter of fact have come with an agile approach in managing scholarly information in colleges through such initiatives as digital archives, in particular e-libraries. The information users of 21st century times prefer to use the electronic library via internet as primary sources of information, often relying on paper as the last resort due to the issue of distance and time. At the same time, Ramos (2007) as cited in Shonhe (2017) clearly states that some of the principles guiding 21st century libraries are: library services access everywhere and anytime, library has no barriers, library invites participation- more active then passive, library uses flexible, best of breed systems

In Africa, particularly in Malawi, the e-library initiatives have only been vibrant in public universities, not in Technical Colleges, as such a bell of uncertainty rings on what constitutes the contents, users, services and benefits of e-libraries in a college setup. Despite this dire situation in technical colleges in Malawi, it is important to note that philosophy and rationale behind academic librarianship remains unchanged, that is to provide information resources in both print and electronic or online resources for staff and students in order to enhance educational development and provide educational resources for effective teaching, learning and research activities. As such to fulfil this library mandate, Salanje (2011) resonates that it is the responsibility of academic institutions in Malawi to be agile in the delivery of information services to the scholarly community by adopt

modern ways in library and information resources management; and resolve all management issues in relation to inadequacies of funding, unskilled9 librarians, poor ICT infrastructure and lack of proper policies to guide the selection and management of information resources. In quintessence, Igun (2010) cited Zhou (2005) explains that managing electronic libraries in colleges need librarians or information professions who are capable of:

- Selecting, acquiring, preserving, organizing and managing ICT/digital collection;
- Designing the technical architecture of ICT/digital library;
- Planning, implementing, and supporting ICT/digital services such as information navigation, consultation and transmit services;
- Establishing friendly user interface over network;
- Setting up relative standards and policies for the ICT/digital archives;
- Designing, maintaining and transmitting added-value information products;
- Protecting digital intellectual property in network environment; and
- Ensuring information security.

Context of the study

The establishment of Lilongwe Technical College (LTC) dates back in the colonial days of 1963 and it is located in the capital city Lilongwe, in a Southern African country of Malawi. The college is run under the Ministry of Labour, Youth and Manpower Development with the overall goal of training and supplying craftsmen and women to meet the never-ending industrial demands in Malawi. To meet this goal, LTC offers both commercial and technical or vocational courses with the view of making a productive civil and public service, fostering self-employment and enriching entrepreneurial mindset among the youthful populace in the country. The commercial courses at LTC include secretarial studies, book-keeping, business management, marketing, and accounting, while the technical or vocational courses include CISCO networking, bricklaying, carpentry and joinery, painting and decorating, plumbing, auto electrics, general fitting, electrical installation, vehicle body repairing, motor vehicle mechanics, and welding and fabrication. The college is only a teaching institution, as such it is affiliated to many examining bodies such as National Trade Test (NTT), Malawi Examination Board (MANEB), Association of Business Administrators and Managers (ABMA), Association of Business Executives (ABE), CISCO Networking Academy, Institute of Chartered Accountants in Malawi (ICAM), Technical, Entrepreneurial and Vocational Education and Training Authority (TEVETA), City and Guilds and many others.

To support the teaching and learning processes, including general research and enquiry, LTC has a library which serves the academic community with information resources such as books, journals, magazines and newspapers. The library has more than 10 thousands volumes of books and is serving a community of almost 2000 thousands users. Despite new technological revolutions, the library has been operating in a manual driven environment, until this year when the college management restructured most of the library services to incorporate ICTs in service delivery. Many technologically driven services have been lined up including the establishment of a modern e-library labs and computer labs to facilitate the library automation processes. An electronic library at LTC aims at providing information resources in an electronic format via the internet technology in supporting the teaching and learning processes, and research activities. The e-library initiative among its proposed benefits is expected to save the problem of storage space in a library through its digital

collections, and provide access to information resources in the library at the convenience of the users, anytime, to connect users to world libraries, websites and electronic databases for full texts e-journals access.

The Need for a Study

Libraries in academic institutions have always been dependable in making information resources and services of various types available to academic staff and students in order to support the core functions of teaching, learning and research activities. With the presence of e-libraries in institutions of higher learning, it is easy for librarians to deliver information services within the college and globally, that is making information accessible to multiple users, anywhere, anytime and at just a mouse click with the aid of computer and communication technologies. Issues of physical library space are no longer roadblocks to developing the library collection as libraries are now continually opting for electronic resources collection development to increase access, discovery and meet the users' needs just in time, everywhere around the world. Despite the enormous benefits presented by e-libraries in colleges, there are potential threats to sound management of e-libraries to ensure its sustainability in Malawian Technical Colleges since they are new initiatives. The life span of an electronic library can be doomed short at LTC, if issues of management such as lack of skilled librarians, poor state of ICT infrastructure, limited access to internet, lack of policies guiding the management of e-libraries, lack of strategies to ensure long-term preservation and access to e-resources, copyright and licensing issues, among other aspects are not taken into consideration. It is in light of these facts that the study seeks address key issues as regards to effective management of e-libraries in institutions of higher learning to ensure its sustainable use. To achieve this, the study is guided by following research objectives:

- To find out the contents of e-library accessible to users at Lilongwe Technical College

- To ascertain the benefits of having an electronic library at Lilongwe Technical College

- To identify anticipated challenges associated with managing an electronic library at Lilongwe Technical College

- To identify strategies for dealing electronic library management challenges and ensure its sustainable use at Lilongwe Technical College

LITERATURE REVIEW

E-library Contents, Benefits and Challenges

The essence of having an electronic library in institutions of higher learning is to make some or all of the library holdings available in electronic format, and also to make the services of the library remotely and frequently accessed via the Internet technology and across the large spectrum of users (Anyim, 2018; Onwuchekwa & Jegede, 2011). Generally, Hirsch (2014) informs that e-libraries in college or university settings serve the mission of providing both information services and resources that are capable of meeting the traditional functions of research, teaching and learning needs of the faculty and students.

As such, the contents of e-libraries include all electronic resources but not only limited to web sites, e-journals, e-books, theses/dissertations, electronic integrating resources, online databases, WIFI; search engines; online indexes, online Library catalogue; portals and physical carriers in all formats, whether free or fee-based, required to support research in the subject covered, and may be audio, visual, and/or text files (Asogwa and Eke, 2009; Ekere, Omekwu and Nwoha, 2016; Ugwu and Onyegiri, 2013). More significantly, Anyim (2018) stresses that the contents of e-libraries includes all electronic data accessed with the aid of computer or communication technologies in contemporary libraries.

An electronic library, serves the similar functions of a conventional library, as it also acquires, processes, stores, evaluates and disseminates information though via electronic means to the audience in need of information. Suffice to say, operating in a virtual environment brings more value addition and agility in the delivery of library services to users in the modern times librarianship. Elsevier Science Direct (2017) explains that today's watchwords for libraries are efficiency, discovery and access. Now, to accommodate changing scholarly habits, as well as new roles for the physical library space itself, librarians are exploring — or already undertaking — the transition from print resources to electronic. In the digital age, the greatest factor influencing the decision for universities or colleges to move to an electronic library, is "reducing or eliminating library space." As Said Peter Kupersmith, Library Director at Delaware Valley College in Pennsylvania, "Space saving is one of the major benefits of transitioning to an electronic library." He also cited convenience and off-campus access as additional advantages. In addition to this, various scholars agree that in institutions of higher learning, e-libraries provide 24/7 around the clock access to library contents, meet users' needs just in time, multiple or concurrent access to contents (Elsevier ScienceDirect, 2017; Gani and Magoi, 2014; Trivedi, 2010,), and more to say, Akçayol et.al (2005) states that e-libraries does not need a number of workers and tools necessary for a traditional library and this decreases the cost of managing e-libraries.

While the benefits of e-libraries are overwhelming, managing these libraries in institutions of higher learning is an area of a great concern. Colleges or universities face a lot of challenges when it comes to the sound management of digital archives such as e-libraries. Some of these challenges relates to poor ICT infrastructure development, inadequacies of government funding, lack of policies guiding the selection of electronic resources, poor ICT skills among librarians, intermittent power supply, limited access to internet services, poor and insufficient bandwidth, etc. (Abdulsalami, 2012; Baro, Eze and Nkanu, 2011; Fabunmi, 2009; Igun, 2006). In Malawi, Salanje (2011) and Mapulanga (2013) similarly reported that managing digital archives such as electronic libraries is equally hampered by lack of technical skills among librarians, lack of strategies to ensure long-term preservation and access to e-resources, copyright and licensing issues, including all issues that relates directly to the poor state of ICT sector in the country.

Research design and methodology

Data for this research were collected from library personnel and ICT Instructors/Technicians at Lilongwe Technical College. Non-probability sampling methods, particularly purposive sampling was used to recruit participants based on the researchers' judgments (Shkedi, 2003). The study adopted a quantitative research approach, with a questionnaire only containing closed ended questions as a tool for data collection. The researchers, administered a total of 9 questionnaires to

library staff and ICT personnel. The data collected were analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0. The frequencies (*f*) and percentages (%) which were created using SPSS were later exported to MS Excel to produce charts and MS Word to produce tables. The study was aimed at exploring the readiness of Lilongwe Technical College in managing the e-library in the face of adversity.

Results and Discussion

The researchers distributed a total of 9 questionnaires to both the library staff and ICT personnel at LTC. Of the 9 questionnaires distributed, only 7 questionnaires were returned, denoting a response rate of 77%. Out of seven respondents, 4 (57%) were library staff and 3 (43%) were ICT instructors/Technicians. Among the library staff, two (28%) were holders of a bachelor's degree in Library and Information Science (LIS) working as Librarians while the other two (28%) had a Malawi School Certificate of Education (M.S.C.E) working as library attendants. All the three (43%) ICT instructors/Technicians had advanced certificates in Information Technology (IT). The study registered 3 (43%) females and 4 (57%) males. The study only targeted the library staff and ICT personnel because they are key participants in the facilitating the use of an electronic library at Lilongwe Technical College. Discussions of the findings of this study is guided by the following research questions:

- What contents of e-libraries are available at Lilongwe Technical College?
- What are the perceived benefits of an e-library initiative at Lilongwe Technical College?
- What are anticipated challenges in managing an e-library at Lilongwe Technical College?
- What strategies are put in place to enhance E-library Management challenges and ensure its sustainable use at Lilongwe Technical College?

Contents available in an electronic library at Lilongwe Technical College.

An e-library is just a replica of a traditional library, the only difference noticeable is that the former has the contents that are accessible to users with the aid of ICT tools, electronically via the internet technology. While the latter, traditional library has its contents that require the physical presence of the user in the library building to access them. Various scholars have indicated that in digital archives such as e-libraries, the contents includes but not only limited to e-books, e-journals, theses/dissertations, search engines, online library catalogues, online databases, websites, CD-ROMs, DVDs, audio cassettes among others (Ekere, Omekwu and Nwoha, 2016; Ugwu and Onyegiri, 2013). When asked what contents do you want you users to access in Lilongwe Technical College e-library, respondents indicated on the many options that provided to them by the researchers. The findings are illustrated in Table 1 below:

Table 1: Available contents in an electronic Library (N=7)

_____

S/N	Contents of an e-library	Frequency	%
1	e-books	7	100
2	Search engines i.e. Google	5	71.4
3	Websites	4	57.1
4	CD-ROMs, DVDs, and audio cassettes	2	28.5
4	e-journals	1	14.2
6	Online databases	1	14.2
7	Online Library Catalogue	1	14.2
8	Theses/dissertations	0	0

From Table 1 above, all respondents (100%) agrees that it is a must to have e-books in electronic libraries, as so it is the case at LTC e-library. Further findings from respondents reveal that the contents of electronic libraries includes search engines as indicated by 5 (71.4%), websites selected by 4 (57.1%) respondents, CD-ROMs, DVDs and Audio Cassettes were indicated by 2 (28.5%) respondents, while e-journals, online databases and online library are only seen as the contents of an e-library to one respondent (14.2%) each. From the findings of the study, it can be said that Lilongwe Technical College e-library mainly hosts e-books, search engines and websites for user to access while in the library. These findings are somehow a mismatch to what are the contents of an e-library at an institution of higher learning. While it is universally accepted that all e-libraries must have e-books (Anyim, 2018), it has to be noted that an electronic library houses all those materials available in electronic format (Aina, 2004) and the contents a well-established electronic library includes the following electronic Journals, online databases, Online Public Access Catalogue, wireless network, search engines, electronic books, Local Area Network (LAN), the World Wide Web (www) and online newspapers CD-ROMs and online indexes and abstracts (Bhattacharjee & Gautam, 2016; Dhanavandan &Tamizhchelvan, 2012). The results of the current study depicts that most of the library staff and ICT personnel at Lilongwe Technical College lack knowledge about the contents of an e-library, to them what it means to be the most likely contents of an e-library are e-books only overlooking all other e-resources. This can be attributed to the fact that e-library concept is a relatively new phenomenon in Technical College libraries in Malawi. However, the above findings agree with a study conducted by Anonubi and Okoye (2008) in Nigeria that despite the availability of ICTs in Nigerian libraries, to enhance the access to e-library resources; some librarians are not sure of the existence of some e-resources.

Perceived benefits of electronic libraries in Technical Colleges

As earlier put, a library at any education institute be it a conventional one or an e-library serves to provide information resources to students, academic staff and researchers that facilitates the core functions of teaching and learning process, including supporting the general research process. Librarians and ICT Technicians were asked to indicate whether the e-library initiative at LTC will be of a great deal in the provision of information resources and services to the world of academia. The key findings are as presented in Figure 1 below:
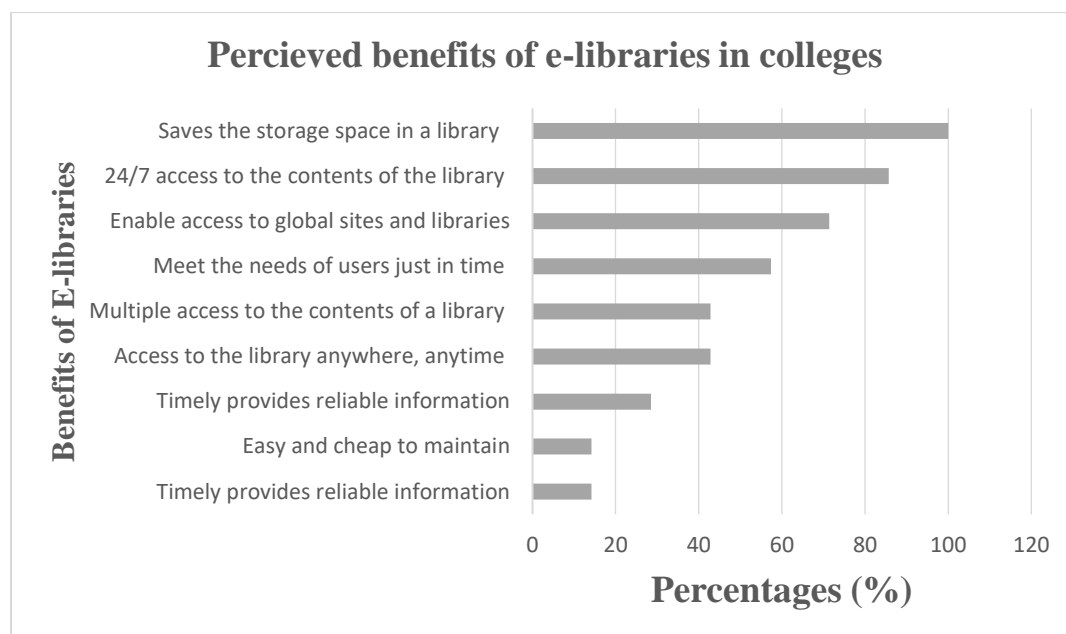
Figure 1: Perceived benefits of an electronic library at Lilongwe Technical College

All respondents agreed that e-libraries in colleges save the storage space in the physical library building. Some respondents 87.5% indicated that an e-library enables users to have access to the contents of the library 24/7 around the clock access to the library. While 71% of the total respondents said an e-library helps library patrons to have access to the global sites and libraries, with 57% of these key informants indicating on meeting the needs of users just in time to be the benefit of e-libraries. These findings of the study tally well with those of Elsevier Science Direct (2017) in Tec validate survey of 146 users of Science Direct Books, where it was also highlighted that e-libraries are associated with the benefits of space saving. Convenience and off-campus access were also cited as additional advantages. From the survey, many echoed the same benefits to be gained from the transition to an electronic library: easy multi-user and remote access, reduced space requirements, the ability to do full-text searching, 24x7 content availability, expanded range of topics and more current contents similarly purported by Bhattacharjee & Gautam (2016) and Gansi & Magoi (2014).

Anticipated challenges in managing an electronic library at Lilongwe Technical College

An electronic library if properly managed can offer many advantages to libraries as well as their users. They are capable of handling and overcoming deficiencies and challenges faced by the conventional libraries such as issues of storage space among others. Gani (2016) explains that managing the e-library in institutions of higher learning can be seen as a new role for librarians in the developing world, as such they are expected to meet a lot of obstacles relating directly to managing digital archives. At Lilongwe Technical College, the study reveals that 6 (85.7%) respondents highlighting on inadequate government funding, poor ICT skills among librarians, poor internet connectivity and insufficient bandwidth and intermittent power supply, as the challenges that LTC library management may likely face in managing and e-library. These findings are not surprising in as far as managing e-libraries is concerned in Africa. Many authors have previously recorded similar challenges, for instance, it is clear to say that managing e-libraries introduces the challenges of inadequate funding, fluctuating of network, power failure, poor ICT infrastructure and lack of skilled librarians to manage digital collections (Abdulsalami, 2012;Baro, Eze and Nkanu, 2011; Emwanta ,2012; Fabunmi, 2009; Gani, 2014). Again five respondents (71%) indicated that Lilongwe Technical College may likely face the challenges due to lack of laws and policies guiding the selection of electronic resources, lack of strategies to ensure long term preservation and access to e-resources and copyright and licensing issues especially in a virtual environment. Generally, these findings somehow differ from the recommendations of Aina (2008) who mentioned that the best way to manage an e-library is to have accommodative laws, policies and procedures that guides on selection, storage and long term accessibility of e-library resources and enabling copyright and licensing policies that allows libraries work in a virtual environment.

Strategies of enhancing E-library Management challenges to ensure its sustainable use at Lilongwe Technical College

Across the globe, e-libraries offer new ways and dimensions of efficiently acquiring, organizing, storing and disseminating of information resources and services in institutions of higher learning to support teaching and learning processes, including general scholarship activities. To counter deal with e-library management challenges at LTC, 85% of respondents indicated that there should be funds available within the library budget to resolve financial constraints in managing e-libraries, generators for power backups in case of power outages and should have a well-established ICT infrastructure to deal with problems that reflects on poor state of ICT infrastructure development at the college. Others scored on the need for the college to train librarians to acquaint themselves with ICT skills and develop digital competencies for managing e-libraries, and should also have an e-library collection development policy, strategies for dealing with copyrights and licensing in virtual environment should also be put in place. In case of poor ICTs skills among managers of e-libraries, the respondents recommend formal training or training through such initiatives as Continuing Professional Development (CPD) at the College. The findings of the current study collaborates well with those of Batool and Ameen (2010), King and Montgomery (2002) and Umaru, Aghadiumo and Mamo (2018) who said that strategies of dealing with e-library management challenges include:

- Managing an electronic library at an academic institution requires all season availability of funds to ease the problems of buying online materials and also in running the day to day activities of the library. Therefore, library administrators should collaborate with

their parent institutions or establishing authorities to gain some sort of financial assistance and any other form of assistance to help them in running the e-library. This might as well include reducing overdependence on government funding, instead library managers should be soliciting grants from financial institutions like banks, NGOs and other foundations.

- Librarians working in an electronic library must be computer literate, and must also employ well learned and trained individuals that are grounded in ICT application, to ensure easy running of the library. Human capacity determines the effectiveness of the e-libraries hence, is the need to train and re-train system librarians and analysts who are the main staff working in the e-libraries understudy so as to meet up with current trends in information services delivery in the e-library environment.

- Formulating an e-library collection development policy, laws that will handle issues in relation to copyrights and licensing in a virtual environment, and devising strategies for long term preservation and access to digital collections.

- Electronic libraries demands the use of steady power of supply, so constant power supply should be made available. Institutions should have a standby generator in the case where power fails, and also the use of (uninterrupted power supply) UPS, to maintain power in case of power outage

- Heavy investments in ICT infrastructure is a prerequisite in institutions of higher learning for sound management of an electronic library. Good ICT infrastructure development takes away the problems of limited internet access, poor internet connectivity and insufficient bandwidth.

Conclusion and Suggestions

In Malawian technical colleges, electronic libraries will have an enormous impact to both the librarians and scholarly community as it resolves problems of space, meeting the information needs of the user just in time, and at a mouse click anywhere on the campus in supporting the general research, teaching and learning services. The value of an electronic library is worth exploring because the benefits of such libraries are numerous and far reaching across the academia world. And for a librarian of the 21st century, it is an obligation to move with the sea change of technology by adopting and incorporating ICT driven services to meet the modern practice of librarianship. In particular, the study surveyed on readiness of Lilongwe Technical College in managing the e-library initiative. In as much as the library personnel are aware of the benefits of e-libraries in technical colleges, they have little knowledge of the electronic resources commonly available in libraries. Many are the anticipated challenges which can reduce the posterity of an e-library initiative at LTC. These challenges include: inadequate government funding, poor ICT development infrastructure, lack of digital skills and competencies among librarians, absence of laws, policies and strategies that guides the selection of e-resources, storage, long term preservation and access to the contents of an e-library. A lot needs to be done at LTC to address these challenges and provide a ready answer to the question **"Is Lilongwe Technical College ready to manage an e-library?"** However, in light of these findings, and for the sake of sound management of an e-library initiative at Lilongwe Technical College, the researchers suggests that:

- Librarians should go for formal training to acquire more ICT skills and digital competencies in managing e-libraries and accrue more knowledge and expertise in areas

such as database searching, using different search engines, skills in using social media, knowledge of relevant websites, and the use of e-resources among other aspects.

- The library management should develop laws and policies that will guide the selection of e-resources, long term preservation and access to e-resources and laws that will deal directly with copyrights and licensing issues in a virtual environment.
- Since an electronic library operates in a virtual environment, it is suggested that the college should heavily invest in ICT infrastructural development to address issues of poor internet connections and power failure, in case with the latter there should be a backup generator
- The study also calls for managers of an electronic library at Lilongwe Technical College look for other sources of funding including soliciting grants from financial institutions like banks, NGOs and other foundations of a similar cause, instead of only depending on government funding for buying and subscribing to online information resources and websites.

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