

# UNMASKING THE POTENTIAL OF WEB 2.0 IN ACADEMIC LIBRARIES IN MALAWI: EMPIRICAL FINDINGS

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## Abstract

*It is now common knowledge that the Internet has effectively turned the world into a 'global village'. The metamorphosis of the Internet over the years has led to the emergence of Web 2.0 technologies that have attracted an appeal from the field of Library and Information Science. Noting that many questions remain unanswered about how academic libraries in Malawi are using Web 2.0 technologies in their service delivery to their clients, this study investigated the status on the adoption of Web 2.0 technologies in three academic libraries in Malawi. By administering a questionnaire, the study found that the library staff are aware of a plethora of Web 2.0 technologies; some of which they have adopted and are using them to share work related ideas with colleagues, to keep track with professional current trends and to collaborate with colleagues in other libraries, and to interact with users. The study found further that poor Internet bandwidths, perpetual electricity outages and restrictive organisational policies remain the key stumbling blocks against the adoption of Web 2.0 technologies by academic library staff in Malawi.*

**Keywords:** Academic library staff, Internet technologies, Malawi, university library, Web 2.0

## 1. Introduction

Over the years, the Internet along with a compendium of related technologies has redefined the way library clients seek information, communicate and collaborate and consequently, there has been growth in scope and depth of what library users are using emerging information and communication technologies (Miller 2006; Rothman 2006; Courtney 2007; Kwanya, Stilwell & Underwood 2012). To this end, Noh (2015,786) likens the nature of libraries to living organisms in that they are influenced by external pressures to constantly evolve by for example, adapting to changing information technology environments and a greater reliance on web-based services. Some popular Internet technologies that have made their inroads and reshaped the landscape of library and information are Web 2.0 technologies which are referred to as Library 2.0 to symbolise the delivery of library services by offering user-centric services anywhere, anytime, anyhow (Kwanya, Stilwell & Underwood 2012). In fact, Lwoga (2014) concludes that "Web 2.0 technologies provide potential benefits to academic libraries, and the role of librarians as facilitators of knowledge sharing, collaboration and communication is becoming significant in the Web 2.0 environment". Primarily, Web 2.0 refers to Web platforms that offer open, interactive, collaborative, and participatory possibilities on cyber space (Xu et al. 2009). By using Web 2.0 tools which are open source and free, university libraries can reach a greater clientele than is possible without using the tools (Kibugi 2013, 102). Such claims maybe adequate to suggest that Web 2.0 is becoming inevitable for the survival of academic libraries that aim at living up to the expectations of their users whose needs are becoming more complex, ever-changing and unpredictable.

Studies about Library 2.0 and Library 3.0 have been rigorously conducted in academic libraries in some developed and developing countries. For example, a study by Boateng (2014) found that there was an overwhelming implementation and usage of Web 2.0 applications (Facebook and Twitter, SNS) in the top 100 US academic libraries. Similar studies have been conducted in South Africa and Nigeria by Baro, Ebiagbe, and Godfrey (2013) who report that Facebook, Twitter, Blogs, IM, RSS feeds, Wikis and YouTube are used by academic librarians for various work purposes. However, it appears (according to the current literature) that none of such studies seem to have been conducted in Malawi. I, therefore, believe that it is more plausible to start with a study on Library 2.0 before descending into Library 3.0 whose concepts are poorly developed in Malawi. It is too early to dream of researching Web 4.0 because according to most recent literature (see Noh 2015, 787), much as substantial time has passed since the discussion of Web 4.0 started, it is not well conceptualised and developed.

## **2. Context of the study**

The study focuses on three university/college libraries in Malawi which include Mzuzu University (MZUNI), Lilongwe University of Agriculture and Natural Resources (LUANAR) and College of Medicine (CoM). Details of each library are briefly discussed below.

### **2.1 Mzuzu University**

Mzuzu University (MZUNI) was established in 1997 as a second national public university in Malawi with the mission to provide high quality education, training, research and complementary services to meet the technological, social and economic needs of individuals and communities in Malawi (Mzuzu University 2015, 2). To achieve its teaching, learning and research activities, the University has a Library with a collection of well above 45,000 information resources available in print and electronic formats. The library has two Internet access points where students access Internet at a subsidised fee with over 35 computers. All staff in the Library have computers/laptops connected to free Internet. Recently, the Library received some tablets (in form of donation) from one of the mobile network service providers in Malawi. Mzuzu University is located in the Northern Region of Malawi.

### **2.2 LUANAR**

Following a reform in the higher education by the Malawi Government, Bunda College of Agriculture which for many years a constituent college of the University of Malawi, was detached to become the Lilongwe University of Agriculture and Natural Resources (LUANAR). The University has a library and “Currently, the Library has 55,000 volumes of books, over 25 computers and a seating capacity of 271 and it subscribes to over 1,700 e-journals” (Lilongwe University of Agriculture and Natural Resources 2016). Every library staff is provided with a computer or laptop and do access the Internet for free. LUANA is located in the Central Region of Malawi.

### **2.3 College of Medicine Library**

CoM is one of the three constituent colleges of the University of Malawi and it was established in 1991, with its major campus in Blantyre (College of Medicine 2016). The Library is open to registered staff and students, alumni, externals from affiliate health and medical institutions, and high school students wishing to enrol for various programmes. Currently, the Library has an

estimated 30,000 volumes of books and has made subscriptions to journal titles with access to over 20,000 full text electronic journal articles (College of Medicine 2016). Like other university libraries in Malawi, library staff have access to the College Internet which they mostly access via computer/laptops provided by the University. College of Medicine is located in the Southern Region of Malawi.

### 3. Statement of the problem

It is now common knowledge that there has been a proliferation of various Web 2.0 technologies such as Facebook, Twitter, Blogs, WhatsApp just to mention some. More importantly, mobile Internet enabled devices have flourished amongst many Malawians and possibly, academic librarians. Given the situation, it is possible to speculate that Web 2.0 technologies are used by academic librarians in their workplaces. However, prior studies (see Lwoga 2012; Boateng 2014) have shown that while Web 2.0 has the possibility to boost library services delivery, often at little to zero expense, many academic libraries still have reluctantly adopted Web 2.0. This study investigates the status of Web 2.0 in some academic libraries in Malawi. In particular, the study focusses on the general use of Web 2.0 technologies by academic libraries in their work spaces in Malawi. The following research questions are answered by the study:

- For what purposes do library staff use Web 2.0?
- What are the benefits that academic libraries accrue by applying Web 2.0?
- What factors constrain library staff's use of Web 2.0 tools?

### 4. Literature review

#### 4.1 The Concept of Web 2.0 and Library 2.0

The term Web 2.0 was introduced following a brain storm session between O'Reilly and MediaLive International at a 2005 conference (O'Reilly 2005). Primarily, the term was coined to better exploit the power of the Internet which had penetrated most parts of the developed world through the involvement of users to create, remix, share and use data or information from multiple sources. The birth of Web 2.0 in 2005, was actually hailed as an unparalleled landmark in the history of Internet revolution because according to Coombs (2007), Web 2.0 has transformed the static Web into a space that now allows anyone to create and share information online through collaboration, conversation, and interaction in a more highly dynamic, flexible, and adaptable fashion. Before the era of Web 2.0, users were seen as 'prisoners' of the Web because according to Kwanya, Stilwell, and Underwood (2012), there were two categories of people acting on the Web: creators or experts of knowledge who created and posted information on the non-interactive Web and end users who were mere consumers of the knowledge or information posted on the Web. The emergence of Web 2.0 was a game changer in the Internet spectrum as it led to the development and evolution of web-based communities, hosted services, and applications such as instant messaging, social networking sites, video-sharing sites, wikis, blogs, and RSS (Cromity 2008). There is however a warning worth taking heed of as observed by Boateng (2014) and Kwanya, Stilwell, and Underwood (2012): Web 2.0 does not refer to any specific improvements to any technical specifications of the Web but it has only changed the ways in which software developers and end users exploit the flexibility of the Web.

There are various forms of Web 2.0 technologies but some of the most popular ones include blogs, wikis, Really Simple Syndication (RSS) feeds, YouTube, Flickr, Facebook, Twitter, Skype, Podcasts, Google Apps and WhatsApp (Sandars & Schroter 2007; Armstrong & Franklin 2008; Al-Qirim 2010; Harinarayana & Raju 2010, 74; Luo 2009, 38; Makori 2011, 35; Hough & Neuland 2012; Huang et al. 2013, 57). Worth noting is that these technologies continue to emerge on a regular basis and the list provided in the preceding sentence may thus not be exhaustive.

Literature shows that in both, developed and developing worlds, Web 2.0 has over the years made inroads into libraries where according to Boateng (2014, 121), has “attracted the attention of libraries around the world as a means for promoting and extending their services”. Web 2.0 has been contextualised to mean Library 2.0, a term that is used to denote a “change in interaction between users and libraries in a new culture of participation catalysed by the social web technologies” (Holmberg et al. 2009). More precisely, Boateng (2014, 121) refers to Library 2.0 as “the integration of Web 2.0 features in library web-based services” and Kwanya, Stilwell and Underwood (2012) see it as all processes that involve the application of Web 2.0 tools to conceptualise the delivery of library services by offering user-centric services “anywhere, anytime, anyhow”. To this end, Library 2.0 is categorised as a deliberative of Web 2.0 technology (Birdsall 2007, Kwanya, Stilwell, & Underwood 2012; Boateng 2014, 121). Based on a thorough synthesis of the literature, the author sees Library 2.0 as an offshoot of Web 2.0 that implies the application of interactive web technologies that enable library staff and users to communicate, interact and collaborate without necessarily needing to meet physically or depending on the traditional means of communication. The communication, collaborative and interaction is essentially done in an instant fashion using technologies such as Twitter, Facebook, WhatsApp, Blogs just to mention some of the most notable ones.

#### **4.2 Purposes library staff use Web 2.0 tools for**

In the United States of America, Boateng (2014, 121) investigated the application of Web 2.0 in 100 top university websites by visiting those library websites. The study revealed that the most popular Web 2.0 technologies with a score of 100% included SNS, Facebook, Twitter and blogs. In their study that targeted academic libraries in Kenya, Kwanya, Stilwell and Underwood (2012) found that 71% of academic libraries had adopted Web 2.0 technologies.

The authors (Kwanya, Stilwell, & Underwood 2012) further report that the most adopted Web 2.0 tools include Facebook which is followed by Twitter, RSS, SlideShare, YouTube and Flickr and blogs. A study by a trio of researchers: Baro, Ebiagbe and Godfrey (2013) on the use of Web 2.0 in South Africa and Nigeria revealed that 86.1% of academic libraries in South Africa use Web 2.0 to announce or communicate library news or events to users while in Nigeria, only 28.1% of the librarians use the social media tools for similar purposes. In both countries, the most dominant Web 2.0 technologies included Facebook, Twitter, Blogs, IM, RSS feeds, Wikis and YouTube. “...librarians are also incorporating these applications [Web 2.0] in Information Literacy (IL) programmes” (Mabweazara 2014, 25). Indeed, Luo (2009) examined the use of social media in IL instruction and results showed that librarians used Web 2.0 technologies to facilitating the delivery of content to students and used certain features of various social media technologies to illustrate IL concepts. Similarly, Penzhorn (2013) demonstrated that using Web 2.0 applications such as Blogs, Wikis, social networking, RSS feeds, Flickr, and YouTube in the IL course, can be seen as a unique enhancement of the e-learning environment.

To sum up, a review of the literature (Lwoga 2012; Boateng 2014; Mabweazara 2014) reveals quite clear that library staff use Web 2.0 for various purposes as follows: to market library services; to offer reference services to users; to upload photos, share links and videos; to announce job opportunities and to conduct library orientation tours.

#### **4.3 Benefits of Web 2.0 in academic libraries**

Prior studies (see Chua & Goh 2010; Harinarayana & Raju 2010) have demonstrated that the adoption of Web 2.0 technologies by librarians come along with various benefits which principally, all revolve around improved delivery of library services. Prior studies have made attempts to demonstrate some notable benefits that come along with the use of Web 2.0 in academic libraries. Social media tools such as Blogs and Wikis allow librarians to go straight to the user with news and up to date information related to new services, materials or service developments (Mabweazara 2014). Kwanya, Stillwell and Underwood (2012) found that Kenyan librarians mentioned that social media tools enhance interactivity between users and librarians in the process facilitating seamless communication and feedback. The literature therefore seems to suggest that the deployment of Web 2.0 technologies in academic libraries has indisputably helped to improve collaboration and instant communication in addition to improved accessibility and integration of cataloguing resources for cataloguing departments. Likewise, in Tanzania, particularly at Muhimbili University of Health and Allied Sciences (MUHAS) Library, Lwoga (2014) finds that the adoption of Web 2.0 has improved the quality of library services by providing more interactive and user-oriented reference services and has increased access to print and digital resources through a search facility on its blog. Chua and Goh (2010) Harinarayana and Raju (2010), Lwoga (2012), Kwanya, Stilwell, and Underwood (2012) and Boateng (2014) provide some the most visible benefits of adopting Web 2.0 technologies in some academic libraries as follows: promote services and highlight resources to patrons, provides a wider access to information and knowledge; cut the costs of disseminating information; facilitate quick and ready access to information; enhance interactivity between users and librarians and in the process facilitating seamless communication and feedback loop; take the library services to where the user community is already hanging out; enrich the information services with multimedia experience; and facilitate the users to participate in the management of the libraries by making suggestions.

#### **4.4. Challenges affecting the adoption of Web 2.0 in academic libraries**

A study carried out in India by Thanuskodi (2012) revealed that some of the main factors that hindered academic librarians from using Web 2.0 technologies in their work places included lack of proper training and awareness of on the appropriate use of these applications, poor technological equipment and infrastructure (computers and the Internet) and lack of staff commitment and cooperation. Generally, according to Makori (2011), there is low uptake of Web 2.0 technologies by most academic libraries in Sub Saharan Africa and on the African Continent in general for various reasons as compared to developed world where according to Lwoga (2012), are steadily offering online resources and services by integrating Web 2.0 technologies. Lack of awareness and poor internet have also been reported in Nigeria. A study by Ezeani and Igwesi (2012) revealed that academic librarians in Nigeria were not using Web 2.0 technologies for work related activities because they were not aware of the value of Web 2.0. According to Ezeani and Igwesi, poor Internet bandwidths also discouraged librarians from actively participating in online interactions. Challenges reported in Kenya according to Kwanya, Stilwell, and Underwood (2012) include inadequate ICT infrastructure; inadequate and unstable

bandwidth, lack of technical skills amongst the librarians and library users to make the best use of the tools, conservative culture and natural lag in adopting new technology; ignorance or lack of appreciation of the potential value of Web 2.0 tools especially amongst the older users; lack of supportive policies, strategies and plans, and perceived low credibility of Web 2.0 content. Still in Kenya, Kibugi (2013, 116) adds that “Unstable power source is a common problem for residents of Kenya who experience frequent power disruptions and long rationing hours due to over reliance on hydro-generated electric power which is vulnerable during droughts”.

According to Lwoga (2014), challenges faced at a Tanzanian library include inadequate number of computers and unstable Internet connectivity and electricity, inadequate awareness and Internet skills and lack of supportive policy/guidelines. Other challenges include inadequate knowledge and skills among information professionals, inadequate support from the management (Makori 2011), lack of time by librarians to use social media, and lack of interest among librarians who prefer to do things the way they have always been done (Banda 2011). With the openness of Web 2.0 application coupled with little or no privacy control measures, Mutula (2012) highlights that some people may not use these resources because of issues to do with their privacy, confidentiality, safety, harassment, pornography, fraud, and security.

## **5. Methodology**

This comparative study adopted a predominantly quantitative approach. Quantitative approach is defined by O’Leary (2004, 115) as a numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect. Usually, quantitative approach uses closed ended questions which ultimately, required respondents to indicate a choice amongst a number of given answers. This aspect in a way guides the respondents on the kind of answers to be provided. In this study, the questionnaire was mostly dominated with closed ended questions. Using a Google Drive form which is freely available online, a questionnaire was created. This was the best option because the other two university libraries are geographically located from the location of the researcher. Apart from background information, the questionnaire had three sections with the following themes: purpose library staff use Web 2.0 for, benefits of Web 2.0 in academic libraries and the challenges faced in the application of Web 2.0 technologies.

Prior to the commencement of the study, permission was sought from and granted by the Management of the three libraries to conduct this study. To make sure that participation was voluntary, before answering the questionnaire, respondents were asked to read the following statement: “I understand that my participation is voluntary and I am free to withdraw at any time without giving any reason”. Respondents were not asked to indicate their names implying they remained anonymous.

## **6. Results and discussion**

In all, a questionnaire was sent to 60 library staff in the three university libraries and 36 responded representing a 60% response rate. Thirty 83.3% were males and six (16%) were females. The results suggest that the LIS profession in Malawi is dominated by males. In terms of qualification, the study found that 14 (38.9) were certificate holders issued by the Malawi Library Association, 11 (30.6) were Bachelors holders, 6 (16.7) were Diploma holders and only one (2.8) % had a PhD.

### 6.1. Purposes library staff use Web 2.0 for

When asked about the common Web 2.0 technologies that they knew or aware of, 34 (94.4%), 32 (88.9%), 31 (86.1%), 31 (86.1%), 29 (80.6%), 29 (80.6%) and 29 (80.6%) respondents were aware of Facebook, YouTube, Wikipedia, WhatsApp, Google Apps, Twitter and Skype respectively. The results suggest that respondents are aware of a plethora of Web 2.0 technologies that are commonly used for various purposes in academic libraries. A follow-up question required library staff to indicate the work activities that they implemented using the Web 2.0 technologies they were aware of. Results are depicted in Table 1 where it is clear that the majority of respondents with a scores of between 20 (57.1%) and 30 (85.7%) use Web 2.0 technologies to share work related ideas with colleagues, to keep track with professional current trends, to collaborate with colleagues in other libraries and to interact with users. These purposes are similar to those reported elsewhere by Boateng (2014 121), Kwanya, Stilwell and Underwood (2012), Penzhorn (2013) and Mabweazara (2014 25).

Purpose of Web 2.0	<i>f</i>	Percent
Sharing work related ideas with colleagues	30	85.7
Keeping track with professional current trends	23	65.7
Collaborating with colleagues in other libraries	21	60.0
Interacting with users	20	57.1
Announcing library news and events	15	42.9
Communicating with faculty staff	14	40.0
Delivery of Information Literacy Programmes	9	25.7
Delivery of Reference Services	9	25.7

Table 1 Purpose of Web 2.0 by library staff (n=36)

### 6.2. Benefits of Web 2.0

Since literature (Chua & Goh 2010; Harinarayana & Raju 2010; Boateng 2014) reveals that librarians that use Web 2.0 technologies in their work activities realise several benefits, this study also found out the benefits of incorporating Web 2.0 technologies in their work activities. According to the findings, 33 (91.7%) library staff said these technologies facilitated users' quick and ready access to information, 32 (88.9%) indicated that these technologies enabled users to have a wider access to information and knowledge, 30 (83.3%) said Web 2.0 helped to cut costs for dissemination information to users and fellow library staff and 22 (61.1%) were of the view that these technologies helped libraries to take the library services to where the user community is already hanging.

### 6.3. Challenges

Much as it was discussed in the previous section that librarians accrue a number of benefits by incorporating Web 2.0 in their work activities, there are several challenges that stagnate the smooth adoption of these technologies. According to the finding depicted in Table 2, it is clear that the major two challenges that frustrate the respondents from adopting these technologies are poor Internet bandwidth and Electricity outages which had affected 34 (94.4%) and 29 (80.6%) library staff. These challenges are not to unique to academic libraries in Malawi because poor Internet bandwidths and electricity outages have been reported before by Lwoga (2012) and Kibugi (2013).

Challenges	<i>f</i>	Percent
Absence of Web 2.0 policies	11	30.6
Restrictive organisational policies	13	36.1
Tools are not useful for work purposes	2	5.6
Tools are not easy to use	3	8.3
Poor Internet bandwidth	34	94.4
Lack of interest from patrons and colleagues to use these tools	14	38.9
Lack of equipment and infrastructure (computers)	8	22.2
Lack of personal knowledge and skills	12	33.3
Lack of Management support	5	13.9
Electricity outages	29	80.6
Low acceptance of some of the social media platforms	13	36.1

Table 2. Challenges that affect the adoption of Web 2.0 by academic library staff (n=36)

## 7. Conclusion

The study has provided a picture about the adoption and use of Web 2.0 technologies by academic library staff in three universities in Malawi. From the findings, the library staff are aware of various Web 2.0 technologies, some of which they have already adopted and using in their work places. The library staff use these technologies for various purposes such as sharing work related ideas with colleagues, keeping track with professional current trends and collaborating with colleagues in other libraries and interacting with users. Much as library staff indicated that the use of these technologies in work places come along with various benefits, efforts to maximise their use are thwarted by factors such as poor Internet bandwidths, perpetual electricity outages and restrictive organisational policies.

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