

# ADOPTION OF MOBILE TECHNOLOGIES IN MALAWIAN ACADEMIC LIBRARIES: THE CASE OF MZUZU UNIVERSITY LIBRARY

Sellina Khumbo KAPONDERA<sup>1</sup> and Emanuel NGALANDE<sup>2</sup>

<sup>1</sup>Lecturer, Mzuzu University, Malawi  
Email: skapondera@gmail.com

<sup>2</sup>Assistant Lecturer, Mzuzu University, Malawi  
Email: emmanuelngalande267@gmail.com

## Abstract

*The purpose of this study was to investigate the use of mobile technologies in Malawian academic libraries focusing on Mzuzu University Library. Specifically, the study aimed at determining: the extent to which mobile technologies are being applied in Malawian academic libraries; and the factors affecting the use of mobile technologies. Semi-structured questionnaire was used to collect data from 18 Mzuzu University Library staff through purposive sampling technique. The most common mobile technologies in the Library are smartphones and tablets. The study also reveals that almost all of its services have not gone mobile. The main factors leading to low application and use of mobile technologies in the Library include: higher prices of buying mobile technologies; poor institutional ICT Policy; lack of skills in using mobile technologies; lack of training and awareness of mobile technologies. The researchers recommend that working on these factors for example, training librarians on the use of mobile technologies and coming up with ICT policy that encourages the use of mobile technologies would increase the use of mobile technologies in the Library.*

## 1. Introduction

Developments in the fields of Information and Communication Technologies (ICTs) aiming at improving information sharing, communication and access, seem to be the order of the day. This has even led to the developments of mobile technologies. A mobile technology is any technology that is portable. It is a device that a person uses on the go (La Counte, vi 2013 as cited in Liu & Briggs, 2015, 124). Examples of mobile technologies include: smartphones laptops, netbooks, Personal Digital Assistants (PDAs), MP3 Players, tablets and iPod (Barile, 2011; Seeler, 2011; Liu & Briggs, 2015). Most of mobile technologies have web browser, audio and video applications. Due to these facilities, mobile technologies are used for several purposes. For example, a smartphone that has applications like web browser and video camera (Kim, Mims & Holmes, 2006), performs functions that could previously be done by cellular phones and computers like texting messages, emailing, video viewing, etc. (Little 2011). In general, mobile technologies can be used for communication, entertainment, playing games, checking weather, social networking, listening to music and watching videos (Little, 2011; Kovatcheva, 2011).

Based on the uses of mobile technologies, many organisations have adopted and are using them. This has not left out academic libraries which are hubs of and main source of information in academic institutions because the use of mobile technologies offers several benefits to academic libraries.

Among others, mobile technologies offer convenient access to the library services; and allow access to the library catalogue 24/7 (Kovatcheva, 2011). Despite all these benefits of mobile technologies to academic libraries, the researchers have observed that there is limited application of mobile technologies in many academic libraries in Malawi. However, limited research has been conducted to understand the reason why. Therefore, this study aimed at investigating the use of mobile technologies in Malawian academic libraries focusing on Mzuzu University Library. Specifically, the study aimed at determining: the extent to which mobile technologies are being applied in Malawian academic libraries; and the factors affecting the use of mobile technologies

## **2. Literature review**

### **2.1 The extent to which mobile technologies are being applied in academic libraries**

As stated above, owing to their facilities, several mobile technologies can be used in academic libraries and all academic libraries need to take advantage of this. If librarians are to continue with their role as information professionals they have to reach out to uses in their preferred method of communication (Griffey, 2010) which is use of mobile technologies because these mobile technologies are here to stay (Rios, 2006). This is why Witt and Turner as cited in Oxley (2011) state that nonuse of mobile technologies in academic libraries would make them be viewed as missing the boat. As such, some academic libraries have been using mobile technologies in their services. The following paragraphs give some examples:

**Mobile Website, Catalogues and Database:** Several academic libraries now have websites which have catalogues and databases that users can access on mobile devices like smartphone. Applications like ‘Library Anywhere’ which is a mobile catalog that can be used for any library to provide stand-alone mobile catalogues help in this (Barile, 2011). The North Carolina State University MobLiB and University of Johannesburg (UJ) websites in America and South Africa respectively are optimised for mobile devices like smartphones, offering information about availability of computers, library hours and other general information; and electronic databases like EBSCOhost that help students as well as researchers in accessing updated information (Vollmer, 2010).

**Circulation:** Some academic libraries are incorporating mobile technologies in circulation services such that they are acquiring e-books and e-readers which are lent to their users. At Stellenbosch University in South Africa for example, e-books are loaded onto iPad and loaned out to students. Some libraries like Nova Southeastern University Health Professions Division Library also allow users with Internet capable handheld devices [like Smartphones and laptops] to check the availability of equipment and even reserve one for later use, offer beepers to alert waiting students when a room is open and check the status online, (Seeler, 2011). Ability to check online reduces frustrations and stresses in students that come with going to the library to check.

**User instructions:** These services are used to help library users to timely find information as it involves teaching users how to find information in the library. With the aid of mobile technologies, academic libraries offer podcasts and videos on information literacy library instructions which are accessible through devices like MP3 players. For example, University of Arizona State in America and University of Tennessee Library have a program called iPod Investigation program for user instructions (Seeler, 2011; Lippincott, 2010).

**Library tours:** Mobile technologies can also be used in library tours offered to user especially new ones so that they should get familiar with libraries. Mobile technologies with multimedia content i.e. video and audio applications, like tablets and MP3 players are being used in some academic libraries like University of Arizona State to offer this service (Seeler, 2011). Some libraries like University of Bath Library in UK create maps and put them on the websites which are then pulled into users' smartphones which have QR codes applications. East Carolina University also offers a series of podcats called 'Research First Aid' for libraries (Vollmer 2010). This enables users to navigate the library at their convenient time and removes the stress that comes with going through the library to familiarize oneself with it.

**Reference Services:** The emerging of mobile technologies has made libraries to incorporate in providing answers to user's queries. University of Nevada for example, uses mobile phone applications like Short Message Service and "text-librarian" service to respond to user's queries through gadgets like smartphones. This means that users can even get answers to their queries from home.

**Marketing and current awareness:** Academic libraries market their services and resources so that they are used by many users. Mobile technologies have also been applied in this service. Lafayette College for example, uses QR codes to market events on posters and flyers (Seeler 2011). The College also prints QR codes on brochures which are then scanned by students into their mobile phones for further investigation thereby promoting library usage. Some libraries like UJ Library and Duke University Libraries use web 2.0 tools like Facebook and twitter respectively to offer current awareness services using mobile technologies.

## **2.2 Factors affecting adoption of mobile technologies in academic libraries**

Most academic libraries have not successfully implemented mobile technologies. However, this could be attributed to several factors. In order to use mobile technologies, academic library staff ought to have skills for using them. One of the ways of ensuring this is to train library staff in the use of mobile technologies. Lack of staff training is identified as one of the factors affecting the use of mobile technologies in academic libraries (Iwhiwhu, Ruteyan & Eghwubare, 2010). Lack of training leads to lack of expertise in using mobile devices hence most of them are not implemented in academic libraries (Liu & Briggs, 2015, 144).

New mobile technologies keep on being introduced day by day. The mobile technologies that were there in early 2000s are not the ones which are popular today (Rempel & Bridges, 2013). Academic libraries are expected to move with development as the use of mobile technologies will continue to grow (Liu & Bridges 2015). However, coping up with the trend seems to be a difficult task for academic libraries because they take time to make a decision on how to develop a mobile technology application and sometimes they end up developing it when the technology has lost its value (Jacobs. 2009).

Age is another factor that affects the use of mobile technologies in academic libraries. Age is associated with willingness to learn how to use mobile technologies. Those who are younger are more willing to learn than the elderly ones (Mtshali, 2011).

Application of mobile technologies requires money. However, the challenge is that most of mobile technologies are expensive for most academic libraries to afford (Zinn & Langdown, 2011; Liu & Briggs, 2015). In a research study conducted in South Africa by (Zinn & Langdown, 2011) for example, it was discovered that many libraries have failed to implement mobile technologies like e-readers because are expensive.

### **3. Research methodology**

#### **3.1 Sample and data collection**

The researchers collected data using the questionnaire because it enabled them collect large amount of data from a large group of respondents within a short period of time (Connaway & Powell, 2010, 145). The study targeted all Mzuzu University Library staff. There are 22 library personnel (Abdullah, 2015). All these were targeted respondents. Purposive sampling techniques was used in the study as those who were included as respondents are the ones that the researchers deemed to have information on the topic under study (Palys, 2008). For example, library commissioners and cleaners were not part of the study.

#### **3.2 Ethical consideration**

The researchers, in writing, got permission to conduct the study at from the Director of Research, Mzuzu University. In line with the ethical guidelines set by the Office of the Research Director at Mzuzu University, the researchers maintained confidentiality and anonymity of records identifying respondents. Respondents were not allowed to indicate their names or anything that would make them be identified on the questionnaire.

#### **3.3 Data analysis**

Quantitative data were analyzed using Microsoft Excel. As indicate above, the questionnaire contained some sections that obtained qualitative data. The qualitative data were analysed using thematic analysis process by identifying the themes in the data (Braun & Clarke, 2006).

### **4. Finding and discussion**

This section analyses and discusses data that were collected to achieve the objectives stated above. Therefore, the arrangement of the data in the section is based on the objectives of the study as stated in Introduction above. Firstly, the section gives demographic details of respondents based on age, gender and highest qualification. Then it gives data collected on the objectives. As stated above, Mzuzu University library has 21 personnel. The aim was to distribute to all the 21 people. However, during data collection period, some library personnel could not be reached. The researcher distributed questionnaires to 19 people. Out of these, 18 people responded making up 94.7% response rate. This section therefore analyses and discusses data obtained from the 18 respondents.

#### **4.1 Demographic Characteristics of Respondents**

##### **4.1.1 Age and gender of respondents**

Respondents were asked to indicate the age category group in which they fall because some studies show that age is one of factors that affect the adoption and use of mobile technologies (Mtshali, 2011). Table 1 above shows age of respondents. From the Table, majority, 10 (55.6%) are in 25-35 years age group. This shows most of Mzuzu University Library staff are young.

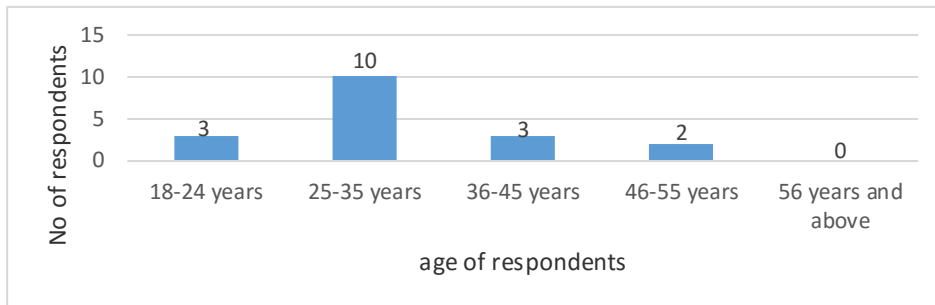


Figure 1 Age of respondents N=18

Sixteen (16) responded to a question on gender. The study shows that majority, 10 (55.5%) were males. This might be attributed to the fact that librarianship is a male dominated profession in Malawi. However, one can also argue that the difference is minimal and that Mzuzu University Library is doing a commendable job on balancing gender.

#### 4.1.2 Highest qualification of respondents

Figure 2 below depicts the results on highest educational levels of respondents. From the Figure, the majority (8, 44%) have Bachelor's Degree in Library and Information Science. This is seconded by 6 (33%) followed by 3 (17%) who have Malawi Library Association Certificate and Diploma in Library and Information Science respectively. The fact that there are a few people who have higher qualifications, 1 with Master's Degree and nobody (0) with PhD is implies that Mzuzu University Library is not doing much in sending its staff for further studies.

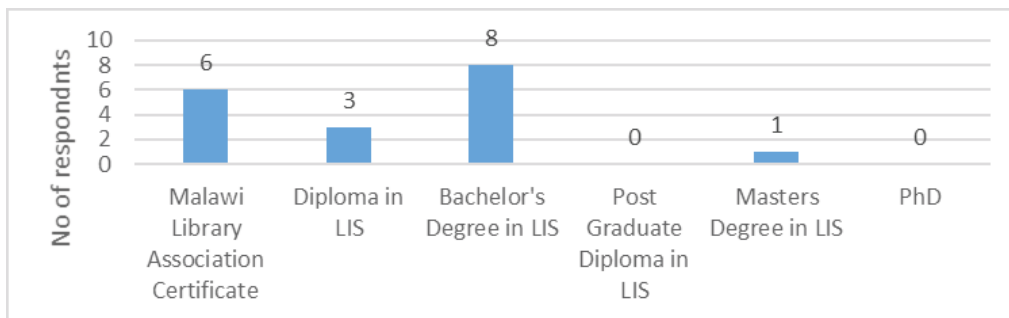


Figure 2 Highest qualification of respondents N=18

#### 4.2 The extent to which mobile technologies are being applied in Malawian Mzuzu University Library

To determine the extent to which mobile technologies are being applied in Mzuzu University Library, two questions were asked: the types of mobile technologies available in Mzuzu University Library; and the types of mobile services in the Library.

**4.2.1 Types of mobile technologies in Mzuzu University Library**

Table 1 below shows the types of mobile technologies that Mzuzu University Library has. From the Table, one can easily conclude that the most popular mobile technologies in the Library are smartphones (10, 44%) and Tablets 7(39%). The popularity may be attributed to the fact that these devices are devices that librarians maybe buy on their own and not necessarily the library buying for the purposes of being used in the Library. The following comment form one of the respondents in an open ended question lend support to this argument:

*“Actually I have never seen any mobile technologies provided by the library and if there are any, then staff buy on their own for personal use. But if the library can provide.” QR7*

1	E-book readers	3
2	MP3 players	3
3	PDA's	1
4	Smartphones	10
5	Tablets	7
6	Others (specify)	0

*Table 1 Types of mobile technologies in Mzuzu University Library N-18*

**4.2.2 Mobile Services in Mzuzu University Library**

Table 2 below depicts the results on the types of mobile services that Mzuzu University Library provides. From the Table, responses on every service is below half of the respondents. The Table also indicates that reference services e.g. providing answers to users through texts has the highest number of respondents (7, 38.9%). This may be attributed to the fact that as indicated in Table 1 above, the most common mobile devices in the Library are smartphones (10, 55.6% ) which are used to send texts. The lowest response is on library tours (0). The findings in this study differ from the findings of other studies (for example, Liu & Briggs 2015). The results in this study give an impression that Mzuzu University still has a long way to go in adopting mobile technologies.

1	Library tours	0
2	User instruction e.g. podcasts and videos on information literacy library accessible through MP3 players	2
3	Mobile database	6
4	Mobile website	6
5	Library catalogue ie. Catalogue being accessed on users mobile devices	5
6	Circulation e.g. texting library users on their phones informing them that the books they borrowed are due	4
7	Reference services e.g. providing answers to users through texts	7
8	Marketing and current awareness	5

*Table 2 Mobile Services in Mzuzu University Library N=18*

### 4.3 Factors affecting the use of mobile technologies in Mzuzu University Library

The respondents were asked to indicate the factors that affect the adoption of mobile technologies in Mzuzu University Library. The results are depicted in Table 3 below.

1	Lack of skills in using mobile technologies	10
2	Mobile technologies are difficult to use	3
3	It is not beneficial to use mobile technologies in the Library	0
4	Higher prices of buying mobile technologies	11
5	Poor institutional ICT Policy	10
6	Difficult to manage mobile technologies	4
7	The top management does not consider it important to use mobile technologies in the library	6
9	I am too old to be using mobile technologies in the library	0
8	Other (specify)	1

Table 3 Factors affecting adoption of mobile technologies in Mzuzu University Library N=18

From the Table above, the main factors that are hindering the use of mobile technologies in Mzuzu University Library include: higher prices of buying mobile technologies (11); poor institutional ICT Policy (10); and lack of skills in using mobile technologies (10). It is also interesting to note that nobody (0, 0%) indicated that *'it is not beneficial to use mobile technologies in the Library'*. This implies that all librarians consider it important to adopt and use mobile technologies. The results also show that nobody (0) considers age as factor hindering the adoption of mobile technologies. The results on age are contrary to literature which shows that age affects the adoption of mobile technologies (Mtshali, 2011). This might be attributed to the fact that as indicated in Figure 1, many librarians (13, 72.2%) are aged between 18 and 35 years and would not say they are too old to use the mobile technologies.

Awareness important and training are important	<p>QR2 There is need for awareness trainings for the application of mobile technologies to increase</p> <p>QR 16 current awareness should be employed in the library, user education as well as more technologies should be deployed</p> <p>QR 17 There should be enough training for staff to implement mobile technologies in the library. This will then make mobile technologies to be user friendly to both the staff and library users. There should also be current awareness in terms of the mobile technologies to library staff.</p>
Internet is important for mobile library services	QR5 There should be free wifi that students should access using their phones
More funds are needed	QR6 Need for more funds to be allocated in the library so that they purchase the mobile technologies

ICT institutional policy necessary	QR7 They should also have policy which will help in bringing open the benefits of using the ICT facilities
Staff need to know benefits of mobile technologies	QR8 the benefits must be emphasized

Table 4 what respondents think should be done to increase application and use of mobile technologies in Mzuzu University Library

When respondents were asked to indicate whether Mzuzu University Library has fully applied mobile technologies, all (18, 100%) of the respondents indicated that the library has not fully applied mobile technologies in its services. These results are not surprising as they draw support from Table 1 and Table 2 above. These respondents were then asked in an open ended question what they think should be done to increase the application and use of mobile technologies in the Library. The results from those who responded are presented in Table 4 above. To a large extent, these agree with the ones obtained in a closed question presented in Table 3 above. In this section as well, the respondents think that poor institutional ICT policy, inadequate funds to purchase mobile technologies and lack of training affect the use of mobile technologies. Furthermore, respondents are of the view that there should be free WiFi for users to easily access mobile services; and that informing librarians of the benefits of using mobile technologies would increase the use of mobile technologies.

## 5. Conclusions and recommendations

The study aimed at investigating the use of mobile technologies in Malawian academic libraries focusing on Mzuzu University Library. As stated above, it specifically aimed at determining: the extent to which mobile technologies are being applied in Mzuzu University Library; and the factors affecting the use of mobile technologies. It can be concluded that the Mzuzu University Library is way much behind in applying mobile technologies as the most common mobile technologies in the Library are smartphones and tablets; and that almost all of its services have not gone mobile. It can also be concluded higher prices of buying mobile technologies; poor institutional ICT Policy; lack of skills in using mobile technologies; lack of training and awareness of mobile technologies are the main factors that affect the application and use of mobile technologies in the Library. Based on the findings, the researchers recommend: the Library management should be training librarians on the use of mobile technologies; the Library management should come up with ICT policy that encourages the use of mobile technologies would; and that the Library management conducting workshops that would increase awareness and knowledge of mobile technologies.

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