

## **University students' perceptions and attitudes towards the use of mobile phones in libraries: a case of Makerere University Library (Maklib)**

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**Abstract:** Mobile technologies is one of the latest innovation that libraries are using to offer services and resources to users through internet enabled devices such as smart phones, e-book readers, laptops etc. This paper reports on a study which aimed at investigating students' perceptions and attitudes towards the use of mobile phones in Maklib. An interview was conducted among postgraduate and undergraduate students who were conveniently selected. This paper provides an overview of the mobile phones owned by students, discusses the mobile library services and resources preferred by Maklib students, and provides recommendations to make the provision of mobile library services a reality.

**Keywords:** Mobile library services, Academic libraries, Wireless, Information services, customer satisfaction.

### **1. Introduction**

Mobile technology has systematically changed and transformed the communication and information behavior of the people (Paterson & Low, 2011). The wide spread mobile internet services which enables free access to information has changed the information and knowledge environment among university students in particular (Smith & Caruso, 2010). Within this context, academic libraries need to provide library services that can be accessed by students regardless of their location (Paterson & Low, 2011 ; King & Brown, 2009). According to Lippincott (2010), 21st century libraries are addressing the changing needs of users innovatively through introducing services that are flexible, and more user-centered such as instant messaging, mobile catalogs, mobile collection, incorporating Web 2.0 tools for communication hence enhancing service delivery.

A survey conducted by EDUCAUSE showed that 85% of students from developing countries owned at least laptops, music/video devices, game device,

wireless hubs, PDAs, and smart phones indicating an increase in mobile penetration (Smith & Caruso, 2010). In Uganda, 14.7% of the population are internet users and mobile penetration is also expected to increase by 70.7% in 2014 (World Bank, 2012).

#### **Aim of the study**

Although users have access to services such as library opening hours, document delivery services, and the online catalogue through Maklib website, some of the content may not display on the mobile platform because it is not compatible with the mobile phones that students own. The main aim of this study was to investigate students' perceptions and attitudes towards the use of mobile phones in Maklib. In order to achieve the above aim, the following objectives were identified:

- a) Identify the mobile devices that students own so as to determine what services and resources to make mobile.
- b) To assess the perceptions and attitudes of library users towards mobile the use of mobile devices.
- c) Identify services that students wish to access through the mobile web.

## **2. Literature review**

### **2.1 Introduction**

Mobile technology is defined as a collective term used to describe the various cellular communication technologies such as Code Division Multiple Access (CDMA), Global System for Mobile Communication (GSM), Time Division Multiple Access (TDMA) etc. (B'Far, 2005). Kim, Mims & Holmes (2006:79) define mobile technology as "technology that uses radio frequency spectrum in any band to facilitate transmission of text data, voice, video, or multimedia services to mobile devices with freedom of time and location limitation". They further stated mobility and computing as aspects that constitute mobile technology. Mobile technologies facilitate information access through mobile devices that are enabled using Wireless Fidelity (Wi-Fi), Bluetooth, 3G, Global System for Mobile Communications (GSM) and General Packet Radio Services (GPRS) (Vandi & Djebbari, 2010).

### **2.2 Mobile applications in academic libraries**

Academic libraries are providing a wide range of mobile services in order to support teaching, learning and research (Lippincott, 2008). Some libraries are even taking a step forward to provide mobile devices that can be loaned to users for instance laptop loan programmes, cameras MP3 players iPod touch, e-and book readers. Princeton University introduced a Kindle loan programme in order to ascertain whether it can reduce the level of printing among students (Lippincott, 2010). These mobile services were reengineered to promote and improve reference services to suit all kinds of users, however, with all the different mobile devices in place, it is difficult to know which device and services will be appreciated by the users (Villa, Galvez & Campos, 2010).

An assessment study by Iwhiwu, Ruteyan & Eghwubare (2010) explored prospects of providing library services at the Delta State University in Nigeria revealed that mobile services could support “library-to-user online interaction, “user-to-library online” interaction, user-to-user online interaction and also attract users to the library. However, the provision of these services was challenged by lack of infrastructure, high telecommunication costs, interconnectivity problems, neglect by the library management to innovations. This view is shared by Nicholson (2011) and Maranto & Phang (2010) who state that limited bandwidth and power fluctuations (among other hindrances) can hinder mobile access to information among the library users.

The main objective of academic libraries is to support the teaching, learning and research activities of the parent institution. There is a need for librarians to provide services that promote the use of library resources and services for instance through the use of Mobile and Web2.0 technologies. Librarians should therefore develop an attitude of being increasingly client- centered in order to provide these services (Lippincott, 2010).

According to Hahn (2008), mobile technology provides an opportunity to enhance traditional library services through mobile catalogues (MOPACs), Short Message Service (SMS) Notifications /text messaging, Quick response (QR), Mobile collection and databases ((Vila, Galvez & Campos, 2010), Mobile instruction and tours (Kroski, 2008), Mobile subject guides (Boruff & Bilodeau, 2012), and augmented reality (AR) (Nicholson, 2011).

#### **2.4 Mobile phones**

Mobile phones are telephone devices with access to a cellular radio system that enable use without physical network connection over a wide area. Mobile phones maybe classified as Smart phones and regular/feature phones.

**Smart phones** : are internet enabled and facilitate access to information like video and voice data, e-mail services, text messaging, database searching, internet browsing, accessing the learning management system, photography and videography, games and access GPS (Lippincott, 2010).

**Regular/feature phones:** incorporate features such as the ability to access the Internet and store and play music but lacks the advanced functionality of a smartphone.

### **3. Methodology**

This study applied a qualitative research approach. The rationale for using this approach was that the researcher wanted to investigate students’ perceptions and attitudes towards the use of mobile phones in Maklib. Face-to face interviews were used as a data collection tool.

#### **3.1 Pilot study**

The application of mobile technologies in academic libraries is a new innovation that has not been fully explored in Uganda. This study is the first of its kind to

address it in the context of academic libraries. The researcher therefore thought it necessary to involve a smaller population . In this way, this study was planned as a pilot study so as to provide informative results that can be used to determine the feasibility of the main study for the implementation of mobile library services at Makerere University Library.

The pilot study was limited to the main library of Makerere University in Uganda because, Makerere University is a large urban based public institution of higher learning. The library is one of the model academic libraries in Uganda (Musoke, 2012) and a central point where students from almost all the colleges of the university come to access the resources and services. The choice of the location therefore offers students from all the nine (9) colleges and one (1) school an equal chance of being part of the study thus standing a chance of getting views from all the university study fields.

### **3.2 Target population**

Undergraduate as well as postgraduate library users were part of the target population. The undergraduate students were selected because, most of the undergraduate students are between the age bracket of 18-23 who according to Lippincott (2010) are referred to as the Net generation. Postgraduate students were selected because, they were experienced library users and can advice on what services to implement.

### **3.2 Sampling**

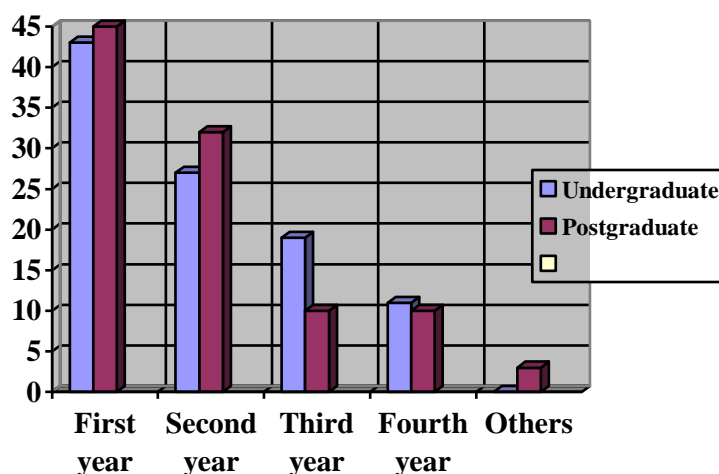
Convenience sampling strategy was used to select participants for the study. The total number of registered undergraduate students was 31,175 and postgraduate students were 1,672 (Makerere University Book of Facts, 2011/2012) out of which a sample size of 379 undergraduate and 310 postgraduates would be chosen for the main study. According to Lackey & Wingate (1998) and Hertzog (2008) using 10% of the final study size is acceptable for pilot studies. The researcher decided that using 10% of 379 undergraduate as well as 10% of 310 postgraduate students was appropriate therefore 37 undergraduate and 31 postgraduate students constituted the sample size giving a total of 68 participants. This sample size was determined through the sample size table by Krejcie & Morgan (1970). In this table, the sample size is calculated based on the population sizes.

## **4. Findings**

This chapter focuses on the analysis and presentation of results obtained from the study. The findings are presented in percentages, frequencies, charts and text. Data was analyzed using Google forms and following the format of the interview schedule.

#### 4.1. Demographic information

Figure 1: Showing the demographic distribution of the participants



The students' demographic information is important because it assists the researcher to understand the characteristics of the students so as to understand the different user needs. In this study, out of the 37 undergraduate students, 16 (43%) were in their first year, 10 (27%) in second year, 7 (19%) in third year and 4 (11%) in fourth year. Out of the 31 postgraduate students, 14 (45%) were in their first year, 10 (32%) in second year, 3 (10%) in third year, 3 (10%) in fourth year and 1 (3%) in their sixth year of study. These figures reflect that the majority of the postgraduate and undergraduate participants were first year students.

#### 4.2 Mobile phones

In this section, findings were analyzed in the context of; Ownership of mobile phone, type of mobile phone, access to the internet, what the respondents used their mobile phones for.

##### 4.2.1 Ownership of mobile phones

Out of the 68 participants, 34 (96%) undergraduate students owned mobile phones. Only 3 (4%) did not own a mobile phone. 31(100%) of the postgraduate participants owned mobile phones.

#### 4.2.2 Type of mobile phones

Type of phone	Postgraduate (freq.)	Undergraduate (freq.)
Smart phone	14	4
Regular phone	10	30
Both	7	0

From the statistics above, both undergraduate and postgraduate students owned at least one type of mobile phone. These statistics are in agreement with the ITU (2011) which stated that mobile penetration has increased by 76% in lower-middle-income countries like Uganda.

#### 4.2.3 Access to the internet through mobile phone

The participants were further asked whether they had access to the internet through their mobile phone. Out of the 65 (96%) participants who owned mobile phones, 37 (56%) indicated that they had access to the internet. The high response can be attributed to the fast growing internet and cellular penetration. 31 (44%) of library users surveyed had no form of internet access through their mobile phones.

It is worth noting that the 3 (4%) of the undergraduate participants who didn't own any mobile phone and the 31 (44%) participants who had no form of internet access through their phones, when asked whether they planned to acquire an internet enabled mobile phone, 5 (0.0014%) which is so insignificant indicated "No". However, they supported their decisions with the following responses;

*"I have access to the internet while in office....."*

*"I can't afford the device....."*

*"I don't have to buy a phone but just get internet settings"*

Of the 29 (85%) who plan to acquire internet mobile phones, supported their answers by stating the following reasons;

*"I want to have access to online information that is up to date so as to support my research while doing course works and assignments"*

*"I want to access social media sites like Twitter, Facebook"*

*"Sharing information with colleagues"*

*"I want to catch up with technological advancements"*

#### 4.2.4 What the respondents used their mobile devices for?

Participants with internet enabled mobile phones were asked what they used their devices for, their responses included;

*“Receiving and making voice calls to relatives and friends”*

*“I Browse the internet especially Google for news, emails, research articles, Wikipedia etc.”*

*“Reading downloaded documents”*

*“Sending and receiving text messages”*

*“Downloading and storing data for research purposes*

*“Listening to news through local radio stations”*

From the above responses, it appears that the reasons for owning mobile phones were highly influenced by a complex mix of benefits which ranged from academic to personal reasons.

### **4.3 Mobile preference**

This section provides findings on the perceptions towards the use of mobile phones for library services and resources. Respondents were asked whether they would want to access library services and resources using their mobile phones. They were also asked to mention all the applicable services and resources they wanted to access. As a result of this, the number of responses exceeded that of participants since more than one service or/and resource was preferred.

Out of a total of 37 (54%) undergraduate participants, 36(97%) indicated that they wanted to access library services. Only 1 (3%) indicated “No” to the same question. The participant who declined stated the following reasons;

*“ It is costly for developing countries like Uganda which could lead to increment in tuition fees”*

*“I can access same services using desktops.....”*

*“ Mobile devices would strain my eye because they have small screens”*

On the hand, out of the 31(46%) postgraduate participants, 30(97%) answered in affirmative to the above question. Only 1(3%) said No. The participant who responded No to the question stated that she/he “*was a librarian and didn’t need to access mobile library services*”.

Both undergraduate and postgraduate students who responded in affirmative supported their responses with the following reasons;

*“I don’t have to visit the library to find out about the availability of a book”*

*“It will save my time”*

*“There is no struggle for computers”*

*“I can access resources from anywhere”*

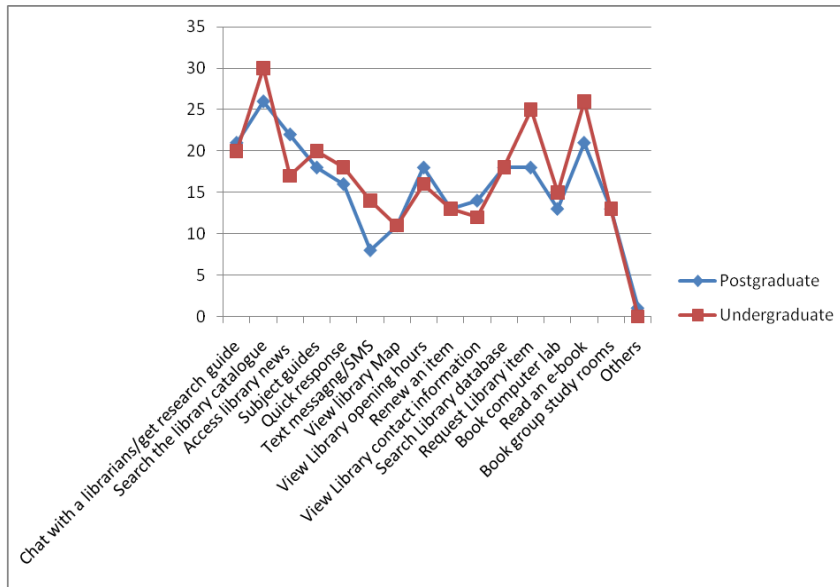
*“its portable”*

*“It is convenient”*

From the responses above, the participants were aware of the advantages of using mobile phone for information access and only a few had not yet ventured into this service. It is therefore an opportunity for the library to market and create awareness among students who are not familiar with the technology.

**4.3.1 Preferred Library services**

**Fig. 2: Comparison of preferred library services among Undergraduate and Postgraduate students.**



The figure above shows that there is disparity in the preference of the services, indicating high preference for some services; this offers Maklib an opportunity to identify the user needs and give priority to the most preferred service.

**5. Conclusion and recommendations**

As academic libraries choose to introduce mobile services, incorporating a marketing plan is one of the most important strategies that can be used to promote and make known the introduced services (Munro et al, 2011). There is need for Maklib to develop a marketing strategy through the different student forums, user education and other library programmes. In this way, the importance of mobile library services will be further explained to students.

It is therefore important to note that the popularity of mobile technologies and the ownership of internet enabled mobile phones have lead to increased mobile information access hence providing an opportunity for Maklib to innovatively develop services and resources that can be accessed through these platforms.

As technologies continue to evolve, it is the role of the librarians to assess the mobility and flexibility of users towards new developments. Librarians should equip users with the skills to use and access information using mobile phones (Munro et al, 2011). Although library users are technologically literate and can



operate mobile phones, Maklib still needs to enact information literacy skills through frequent end-user programmes.

Library mobile web that are compatible with the mobile phones that students own should be developed by Maklib.

In addition, more funding should be given to MakLib to establish and sustain a mobile infrastructure so as to support the implementation of mobile library services. The existing infrastructure for instance Wi-Fi has to be surveyed to assess its functionality and coverage.

The Maklib should embrace social networks in order to improve communication with its users since they indicated using their mobile phones to access social networks like Facebook and Twitter.

All in all, developments in Information and Communication Technologies are rapidly changing social and economic circumstances worldwide. The cost of ICTs is continually falling and yet their capabilities are continually enhanced. This study revealed that ownership of mobile phones is wide-spread among university students which has facilitated access to different kinds of information. This offers Maklib an opportunity to integrate mobile library services thus enhancing service delivery.

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