Use of Mobile Devices by Library and Information Science Students in Central Universities of Uttar Pradesh

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ABSTRACT

This paper provides an insight of actual use of mobile devices by into LIS students' in everyday life and their perceptions regarding the usefulness and effectiveness of mobile phones for academic purpose in Central universities in Uttar Pradesh state, India. The findings of the study reveal that most of the respondents use mobile devices daily for more than 3 hours. Smart phone is the most used mobile device. Respondents use productivity tools on their mobile device for creating documents. Gmail app, Whatsapp, google app, adobe reader and PDF viewer are the most frequently used mobile apps. Most of the respondents access Library Website through their mobile device and only 1.96% are accessing e-books from their mobile device. Major barriers found are: use of mobile devices for academic learning in the poor network coverage, high charging data plans, slow load time and lack of Internet speed. The findings of the study will not only guide LIS students in effective use of mobile devices for academic purposes, but will also help mobile manufactures, university authorities, librarians in exploring mobile devices adoption and usage among the respondents.

Keywords: Mobile devices, mobile learning, library and information science students, Uttar Pradesh

1. INTRODUCTION

A mobile device is a portable, wireless computing device that is small enough to be used while held in the hand. The mobile devices are reshaping students everyday lives in diverse ways, especially by delivering content in versatile forms. The developments in mobile technology have led to the use of mobile devices for educational purposes and the development of the concept of using mobile learning (M-Learning). Mobile learning in simple words is defined as the use of portable devices equipped with internet facility in the learning process. M-Learning facilitates the students to learn, collaborate, and share their ideas with each other in short time using internet and technology. As a result, 'many educational researchers are exploring the potential for mobile technologies to enhance student learning, with mobile learning becoming one of the fastest growing areas within the field of ICTs in education'[1]. If mobile technologies are to be effectively used for educational purpose, study and teaching, first and foremost question becomes how do we best use mobile technologies for teaching and learning? In addressing this, the first step is to find out how students are using mobile technologies to support their learning. The present study investigates the extent to which Library and Information Science (LIS) students currently have access to mobile technologies and whether they are using these to support their learning.

2. LITERATURE REVIEW

Mobile devices have become an indispensable tool in reshaping students' routine activities in diverse ways and deliver content in versatile forms. 'Mobile technologies enable learners to access relevant information anytime and anywhere. It facilitates easy and timely access to information. Moreover, mobile devices facilitate students to learn, collaborate, and share ideas among each other. Therefore, these devices are now used by students to support their study and learning too. Because, students use mobile phones to communicate with classmates, search for information, access learning materials, generate contents, record presentations and take notes[2] and easy, more accessible, faster and time-saving.

Students perceived that mobile devices are useful and convenient for instant access to various sources of information, for taking notes, sharing their research and ideas; despite some facilitator concerns that mobile devices are potentially distracting in face-to-face Problem Based Learning Tutorials[3]. The majority of students own smartphones and they rarely make use of the mobile devices for academic purposes[4] and communication purposes[5]. But, less popular is reading academic journals and e-books[6]. LIS students extensively use their smartphones for their daily needs to read casual literature like books, comics, magazines, etc.[6,7] and similar number of students engage themselves in listening to music while studying[8].

Laptops are the most often used mobile device for learning and study[9], whereas, Smartphones have recently become cheaper and more common among students in higher education[10] and have a positive attitude towards the academic use[11] for m-learning to improve their social interactions, mostly through Academic Social Networking Sites to search other research scholars. Sending emails,

accessing e-newspapers and searching the Web OPAC (Online Public Access Catalogue) is the most frequent activity[5]. On the other hand, a large number of students use smartphones, especially for communication purposes, as most of the apps on communication apps including Facebook, E-mail, Twitter, WhatsApp, YouTube, and Viber[12].

The use of mobile technology to enhance learning experience for m-learning[13] and related activities like discussing assignments, accessing resources, news from the course learning platform, checking course emails, etc'[14] and enhanced students' levels of learning language skills and sub-skills, including listening, reading, and vocabulary[15]. On the other hand, the lack of the mobile version website constitutes a significant barrier in m-learning[16] and cost related to the use of mobile devices in the classroom is associated with the Internet[15]. The idea of using mobile devices for providing library services is a new and innovative idea in India. Wang, Ke & Lu[17] said that libraries are adopting mobile technologies to provide new and innovative services, as well as introducing ways for users to incorporate library services into their daily lives.

Pazur[18] observed that library users are definitely interested in accessing library services and resources through small screen devices and that some of them are even aware of new directions in searching of information. Libraries can deliver the following services via mobile devices: Mobile OPAC, Training via mobile, Library databases delivered via mobile, Providing notification in the form of SMS (Short Message Service) via mobile[19,20]. Bicen & Kocakoyun[21] found that students checked their mobile devices on an average 31 times a day, but not very much for the educational purposes and for searching library catalogues or subscription databases[22]. Students are using mobile technology for meeting their everyday needs as well as the academic needs. It has been possible because of the benefits that these devices offer; from clicking photos to uploading and sharing them, to searching library resources without time and place constraints.

Portability is a great advantage of using a mobile device. Instant and quick access to a variety of resources via mobile was another benefit and availability of specially designed mobile applications[23,24]. Mobile devices can also serve as a powerful data collection tools and also facilitate the capture of user created content[25]. Some of the most obvious and direct benefits of mobile learning are equal-opportunity access, ubiquitous connectivity, multigenerational users and uses, expanded services for mobile workers and enhanced access to services for mobile learners[26]. There is no doubt that mobile devices offer innovative ways to students for learning and enhancing their learning experience through m-learning. Like any other technology, mobile devices are also prone to certain issues and technical difficulties, such as problematic Wi-Fi or Internet connectivity, slow processing of data,

short battery life, small screen, limited storage capacities and safety/security and consequences associated with a stolen or lost mobile device[23].

Dukic, Chiu & Lo[14] found the small size of the smartphone screen as a major barrier that makes it difficult to read academic papers and also to write and edit longer texts. Another barrier for many respondents is that web pages are not always formatted for smartphone. Slow load time also discourages to study. Course materials are rarely optimised for use on smartphones, and interacting with other students is often impractical using smart phones[7] and lack of teaching and learning models[27].The privacy, security[28] lack of Internet speed, authentication of e-resources, slow load time and small screen size to be prominent problems associated with the mobile device use[5].

3. STATEMENT OF PROBLEM

Advancement in mobile technology has given ubiquity and mobility to its users. Ubiquity is the ability to access technology by the computing devices 24x7 from anywhere, where mobility is the ability to access while on the go, such as smart phones, tablets, e-book readers, etc. LIS students are the future library professionals and it is very important for them to become techno-savvy, so that when they move to work environments they may better help to implement these in the library environment. The present research study investigates the extent to which LIS students have access to mobile technologies and whether they are using these mobile devices to support their learning. The main goal of the study is to provide an insight into LIS students' actual use of smart phones for learning and their perceptions regarding the usefulness and effectiveness of mobile devices. This study also explores how LIS students use their smart phone in everyday life and for learning purposes.

4. OBJECTIVES

The main objectives of the study are to:

(a) Identify the use of Mobile devices by library and Information Science (LIS) students for everyday communication, entertainment and information needs

(b) Know the use of Mobile devices by LIS students for learning purpose

(c) Ascertain the use of Mobile devices for accessing library resources and services, and

(d) Find out the risks and problems associated with Mobile devices.

The scope of the present study is restricted to students (BLIS, and MLIS,) and research scholars (MPhil and PhD) pursuing their Library and Information Science courses in the different Central Universities in Uttar Pradesh state, India. The study confined to three central universities, namely (i) Aligarh Muslim University (AMU), Aligarh (ii) Baba Sahib Bhimrao Ambedkar University

(BBAU), Lucknow, and (iii) Banaras Hindu University (BHU), Varanasi. The selection of the universities was done on the basis of existing LIS courses offered in regular mode in universities.

5.   METHODOLOGY

To solicit information about use of mobile devices, a structured questionnaire was designed, comprising of 20 different type of questions, such as dichotomous (yes/ no), multiple choice, and opinion questions, to elicit their experience. Questionnaires circulated personally among 250 LIS students in three Central Universities of Uttar Pradesh state, India during the survey period (March to April 2016) and received 153 filled-in questionnaires.The response rate was 61.2 per cent. The responses received from the respondents to 20 questions are presented in the form of tables and figures and analysed by using a simple mathematical calculations.

6.   RESULTS AND DISCUSSION

6.1. Demographic Details

Gender is a matter of consideration when we talk about use of mobile devices. Usage of mobile devices is significantly influenced by gender. Table 1 show that male respondents outnumber females in use of mobile devices. Kopackova & Bilkova[29] gave an 'interesting finding regarding the ownership of smartphones. More than 80% of students owned smartphone and male/female ratio was surprisingly balanced'.

Age plays a vital role in the use of mobile devices. The age of the respondents covered in the study has been grouped into 4 categories, viz., ≤20 years, 21-25 years, 26-30 years and ≥30 years (Table.1). Table 1 shows that majority of respondents with age between 21-25 years use mobile devices more, followed by those having age between 26–30 years (28.11%), and very few LIS students are under 20 years (1.96%) along with research scholars (0.65%) above 30 years of age.

Table 1. Demographics

Status	Number (%)
Gender	
Male	82 (53.59)
Female	71 (46.41)
Age distribution	
Below 20	01 (01.96)
21-25	106 (69.28)
26-30	43 (28.11)
Above 30	03 (0.65)
Course of study	
PhD	45 (29.41)
MPhil	05 (03.27)
MLIS	84 (54.90)
BLIS	19 (12.42)

Out of 153 respondents, 54.90% are from M.L.I.Sc., followed by PhD research scholars with 29.41 %, B.L.I.Sc., with 12.42% and MPhil 3.27%. It is clear from the figure that MLIS, students dominate in number, it is due to the reason that B.B.A.U. and B.H.U. do not offer BLIS, course.

6.2. Use of Mobile Devices

M-learning is a new concept and this concept has evolved because of the advancements in mobile technology that has given rise to so many different types and models of mobile devices with diverse features. Students use these devices for everyday information needs as well as for academic needs. They have become an indispensable part of human life.

Table 2 reveals that all the respondents are using mobile devices. While taking account of use of mobile devices, it is very important to find out what are the different types of mobile devices that the LIS students use for fulfilling their information needs. Smartphone is the most used mobile device (92.15%), followed by Laptop (61.44%) and Tablet (16.34%). It is clear from the e-book reader that Table is the most-less used mobile device. Similar findings had been reported by Farley[7], *et al.*, that less than 5% students either don't have access to smartphones or don't use them and smartphone is the most used mobile device. Hernandez, Vegas & Llamas[8] also stressed on this fact that 'smartphone are the most used mobile devices among university students'.

Period since using mobile devices is also an important factor when studying the use of mobile devices. Maximum percentage is of the students using the mobile devices for more than 3 years with 60.13%, thereafter using since 2-3 years with 18.30%, 1-2 years with 9.15%, less than 6 months with 7.19% and 7 months to a year with 5.23%.

It can be seen from Table 2 that 96.73% respondents daily use the mobile devices. The finding of the study in consistent with Bicen & Kocakoyun[21] reported that 'students check their mobile devices 31 times a day'. 52.94% respondents' use mobile device for more than 3 hours, 14.38% use it for one hour, 13.73% for 2 hours, 11.11% for less than an hour and 7.84% for 3 hours.

92.81% use mobile devices for daily information needs and entertainment, 69.93% use it for Academic Information and 30.07% use the mobile devices for research work. Balakrishnan & Raj[30] has also supported the finding as they mentioned that 'mobile phones are known to be very popular among the university students, increasing their social inclusion and connectedness as well as providing a sense of security as they can contact others in times of distress or emergency'.

The use of mobile devices for various purposes depends on the availability of the Internet on the mobile device. All students have Internet facility on their mobile devices.There are different ways to access the Internet through the mobile device. It varies from university

campus Wi-Fi to 3G connectivity to 2G connectivity to home Wi-Fi. Table 2 represents that 69.28% respondents are using the University campus Wi-Fi with and on the other hand, only 1.97% respondents are using the 4G connectivity.

Table 2. Use of mobile devices

Particulars	No. of response (%)
Mobile Devices	
Yes	153 (100)
No	0
Type of Mobile Device	
Smartphone	141 (92.15)
Laptop	94 (61.44)
Tablet	25 (16.34)
E-book reader	05 (03.27)
Period of using	
More than 3 years	92 (60.13)
2-3 years	28 (18.30)
1-2 years	14 (09.15)
7 months to a year	08 (05.23)
Less than 6 months	11 (07.19)
Frequency	
Daily	148 (96.73)
Twice a week	03 (01.96)
Occasionally	02 (01.31)
Fortnightly	0
Monthly	0
Time spent daily	
More than 3 hours	81(85.94)
Three hours	12 (07.94)
Two hours	21 (13.72)
One hour	22 (14.38)
Less than an hour	17 (11.11)
Purpose	
For daily information needs and entertainment	142 (92.81)
For academic information	107 (69.93)
For research work	46 (30.06)
Availability of internet	
Yes	153 (100)
No	0
Internet connection	
2G	53 (34.64)
3G	90 (58.82)
4G	03 (01.97)
Personal Wi-Fi	32 (20.92)
University Wi-Fi	106 (69.28)

6.3. For Daily Information Needs

Mobiles are commonly used by students in their daily lives and information needs. These daily needs vary from communication to searching information on the web or from casual reading to playing games, movies or music on their mobile devices.

Figure 1 reveals that use of mobile devices in daily information needs is in communicating with family and friends with 92.81%, followed by 86.28% use it for social activities, 79.08% in using search engines, 76.47% for playing games; music; movies, TV series, etc., 67.32% for accessing reference materials are top five uses of mobile devices. As Madhusudhan[5] reported that 'majority (77.17%) of the respondents are using mobile devices for communication, which goes with our finding'.
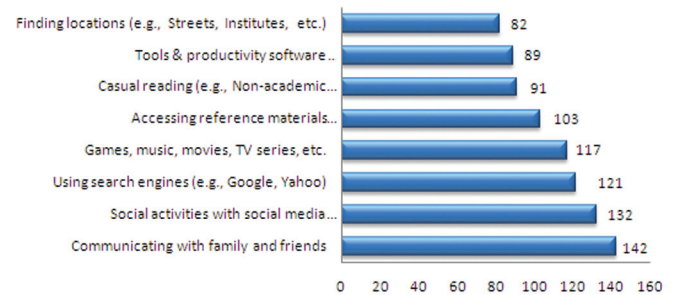

Figure 1. Use of mobile device for daily information needs.

6.4. For Academic Purposes

Mobile device use for academic purpose incorporates a detailed list of applications, for study and learning, browsing, reading, viewing, listening for learning and study, productivity tools for learning and study, recording for learning and study, mobile apps, library resources and services.

6.5. For Study and Learning

In today's communications media, mobile devices are playing an important role. Students are more interested to use the mobile devices to search the required information in their day-to-day life. The mobile devices provide a platform to use various mobile applications (apps) and features for easy and comfortable access to the user worldwide, particularly, for academic information, discussing with classmates for course materials, assignment etc, transport files, posting or commenting study related items to social networking sites and bookmarking sites, scanning Quick Response (QR) codes and using for Massive Open Online Courses (MOOCs) (Fig. 2).
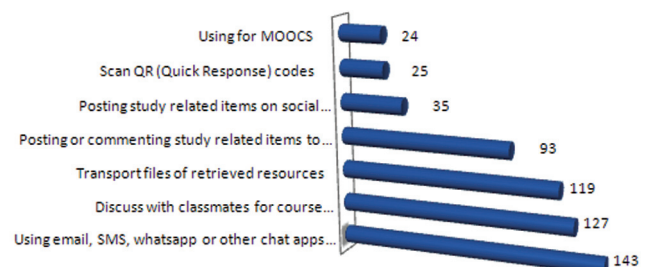

Figure 2. Use of mobile device for study and learning.

Figure 2 shows that 93.46% are using email, SMS, Whatsapp or other chat apps for academic information, 83% discuss with classmates for course materials, assignment etc, while 77.78% transport files, 60.79% use them for posting or commenting study related items to social networking sites and 22.88% for posting on bookmarking sites. Only 16.34% use mobile devices for scanning QR codes and 15.69% are using them for MOOCs. Kumar[31], *et al*. has stressed that, 'mobile devices are a perfect vehicle for making educational opportunities.'

6.6. For Browsing, Reading, Viewing, Listening for Learning and Study

Mobile devices have been used for browsing various information sources for learning and study. Figure 3 reveals that most of the LIS students and research scholars use mobile devices for browsing or reading posts on social networking sites (e.g. Facebook, Whatsapp) with 79.74%, and 79.08% use them for browsing through Websites, blogs, wikis, micro-blogs, etc., while 66.01% for viewing video clips (from YouTube, TED talks or similar), and 63.39% for reading e-books, with 55.56% for reading articles from open access professional journals and magazines. Very few LIS students and scholars use mobile devices for listening to podcasts with 30.07% and 23.53% access other learning stuff (for learning foreign languages, XML, etc.). Farley[7], *et. al*. reported that 'the use of social media, particularly Facebook, on mobile technologies for learning purposes, is a theme that emerged spontaneously during the initial focus group discussions. The majority of students reported that they belonged to one or more course-related facebook groups set up by fellow students and used these groups actively. Students viewed Facebook, not only as a social tool for staying connected with friends and family, but as an essential tool for communicating and collaborating with peers in their courses.' Lampe, *et. al*.,[32] also comes up with similar conclusions. Furthermore, Madhusudhan[5] also reported that 'research scholars are most frequently using mobile apps for checking social networking sites (79.34%)'.
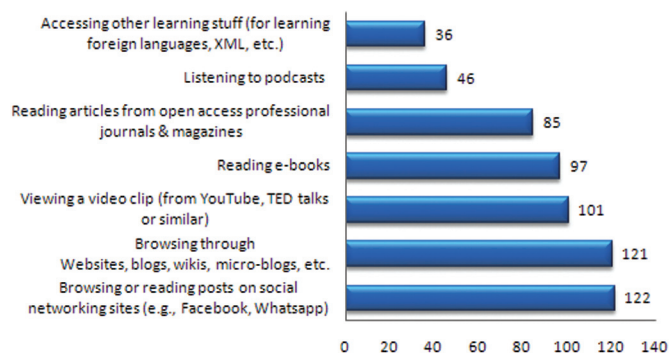
Figure 3. For browsing, reading, viewing, listening for learning and study.

6.7. Use of Productivity Tools for Learning and Study

Students use productivity tools on mobile devices for learning and study. These include creating documents,

planning or checking a personal schedule, making notes with note taking tools or memo tools (Fig. 4).

71.89% use mobile device for creating documents, 52.28% use it for planning or checking a personal schedule and only 37.25% use it for making notes with note taking tools or memo tools. On the contrary, Dukic, Chiu, & Lo[14] reported that 'more than half of LIS students use smartphones for planning their personal schedules and organising daily and weekly activities, and a little less than half use note-taking tools and only 21% create documents with their smartphones.'
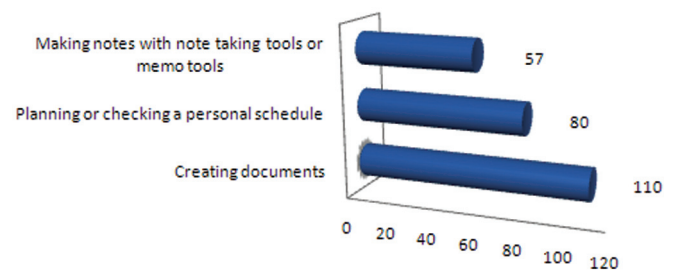
Figure 4. Use of productivity tools on mobile device for learning and study.

6.8. For Making a Recording for Learning and Study

Mobile devices have the feature of recording. Through this feature one can take photos to record learning material, formal interview or recording a seminar or other presentation by a speaker, creating videos and audios for study purposes (e.g., presentations, assignments).

Figure 5 depicts that 81.69% take photos to record learning materials (e.g., book pages, slides), 50.98% use mobile device to record a seminar or other presentation by a speaker, and 50.33% use it for creating videos for study purposes, and very few use it for recording voice (37.25%) and only 31.37% for recording a formal interview (as a part of research). Dukic, Chiu, & Lo[14] found that 'smartphone functionality of taking photos is often performed by 45% of respondents, while audio recording is performed only by 28% of respondents. Video recording with smartphone is very rarely used for learning and study purposes'.
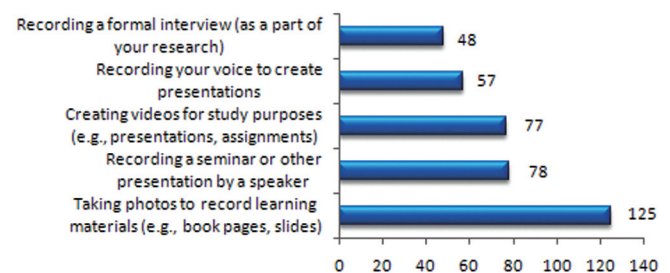
Figure 5. Use of mobile device for making a recording for learning and study.

6.9. Most Frequently used Apps

Now-a-days, mobile devices have come up with numerous mobile Apps that provide a link to an optimise library website and enhanced for mobile use with library

services. These applications assist everyone in using mobile devices more efficiently and effectively (Fig. 6).
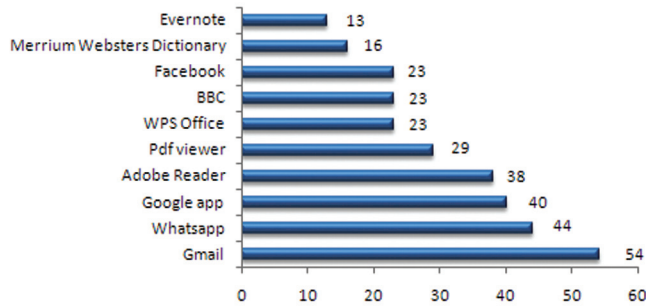

Figure 6. Most frequently used apps.

Presently top 5, most frequently used apps by LIS students and research scholars are: Gmail app, whatsapp, google app, adobe reader, and PDF viewer that assist them in both daily lives and for study and learning. Bicen & Kocakoyun[21] reported that '41.7% of students use applications for communication purposes, 26.4% because of being popular, 20.8% because of curiosity. Interestingly, 22.2% respondents used for educational purposes'. Farley[7], et al. found that 'over half of the students surveyed at the University of Southern Queensland used apps for learning purposes. International students and students studying foreign languages other than English frequently use dictionary or language apps on their mobile devices, during class and informal study times to assist them with translating or understanding English vocabulary.' Madhusudhan[5] reported that 'research scholars are using mobile apps for checking social networking sites (79.34%), e-mail and chatting (73.91%), information searching (70.10%), and cloud-based office applications (36.95%), On contrary, he mentioned that mobile devices are less used for finding books using web apps (25%), references (23.91%), online citation tools (11.04%), and productivity (such as Ever-note, Dropbox, Pages, Keynote, and Notes) (5.97%)'.

5.10. Use of Mobile Devices for Library Services

In the present era, mobile devices are used for providing library services. Therefore, it has become a challenge for academic libraries to keep pace with dynamic growth of mobile technology and provide services for the mobile users. Bomhold[33] surveyed 53 academic library mobile apps and mobile web sites and determined the variety of discovery functions available. Bhue & Bhoi[34] discussed certain services libraries can offer through mobile devices, including information alert service, mobile apps, mobile websites, Ask to Librarian, Service virtual/audio tour to library e-resources with mobile interface, QR codes on mobiles to integration of mobile number with library automation software (Fig. 7).

Maximum respondents used mobile devices to access the Library website with 83.66%, 45.75% check library hours, library map, 41.83% access institutional repository, and 39.87% to contact a librarian. Very few respondents use mobile devices to access the Web OPAC constituting
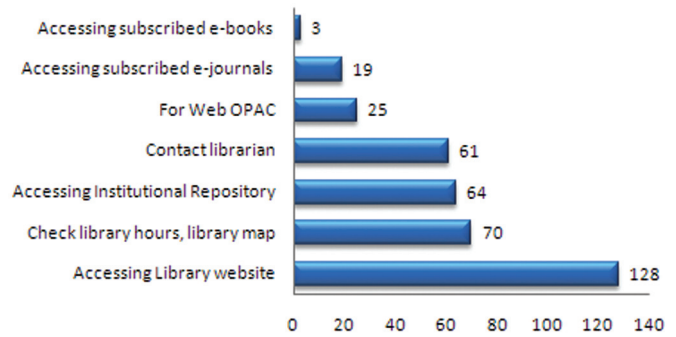

Figure 7. Use of mobile devices for library services.

16.34%, accessing e-journals 12.42% and e-books 1.96%. 'Many studies on mobile learning also report that a very low percentage of students search library resources with smartphones'[3,22].

6.11. Benefits of using Mobile Devices

Students use mobile technology to meet their information needs. These portable devices have an impact on teaching, learning, and on the connections between formal and informal learning, work and leisure. It is evident that use of mobile technology among students in Universities across different countries has increased. These benefits run from being these devices easy to use or providing easy and anytime access to learning resources, or portability to easy communication (Fig. 8).
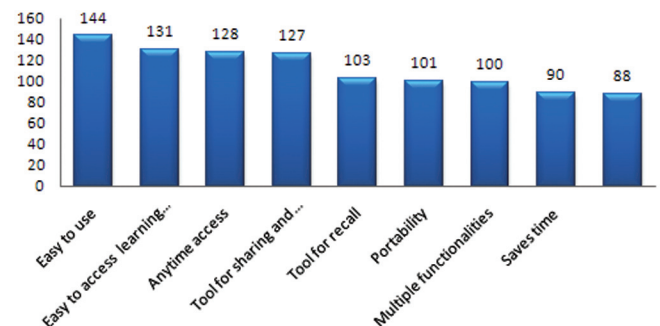

Figure 8. Benefits of using mobile devices.

The majority 94.11% respondents feel that the major benefit to use mobile devices in their everyday, followed by easy access to learning resources (85.62%) and anytime access (83%). Other benefits range from 57-68% includes, tool for recall (67.32%), portability (66.01%), multiple functionalities (65.35%), saves time (58.82%) and foster collaboration and easy communication (57.52%). Similar findings in varying degrees are reported by: Mi[23], et al., Brown & Metcalf[25], Dashtestani[4], Wanger[26], Chen & Denoyelles[24], Alzaza & Yaakub[37], Kukulska-Hulme[38], et al.

6.12. Common Barriers in the free use of Mobile Devices

There are many barriers associated with using mobile devices like any other technology. These risks vary from poor network coverage to high charging plans, slow load time to small screen size (Fig. 9).

Figure 9 illustrates that most of the students feel poor network coverage to be the biggest barrier in using a mobile device with 66.01% and high charging data plans to be second in place with 64.71%. These findings are supported by Fasae & Idowu[39], who found that 'the students using mobile devices for academic practices have poor Internet connectivity (81.25%) and high cost of data subscription (53.75%)'. Madhusudhan[5] 'poor network coverage is perhaps the biggest barrier that interrupts the enjoyment of using 3G services with (53.26%), and high charging data plans (50%)'.
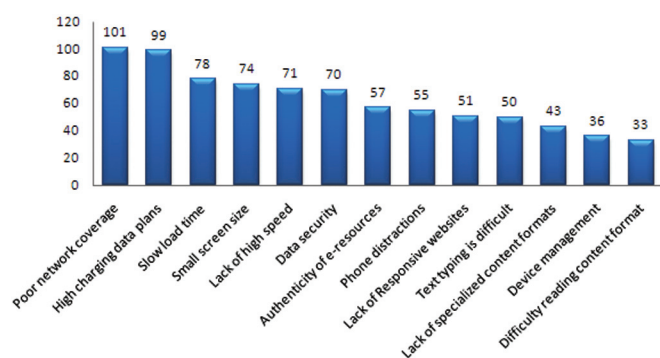

Figure 9. Risks and problems associated using mobile devices.

50.98% feel slow load time, 48.36% small screen size, 46.41% lack of high speed and 45.47% data security are problems associated with using mobile devices. Since less people are aware of e-resources and responsive websites, so it has corresponded to a lower percentage show with only 37.25% feeling authenticity of e-resources as a barrier while, 35.95% feel distractions from phone, lack of responsive sites with 33.33%, difficulty in typing text with 32.68%, lack of specialised content formats with 28.10%, difficult device management with 23.53% and difficulty in reading content format with 21.57%. Similar problems, in varying degrees, have been pointed out by other researchers: Madhusudhan[5], Dukic, Chiu & Lo[14], Farley[7], *et al.*, Handal, MacNish & Petocz[40], Mtega[41], *et al.*, Fujimoto[15], Alzaza & Yaakub[37], Kukulska-Hulme[38], *et al.* and Parsons[42].

7. SUGGESTIONS FOR EFFECTIVE USE OF MOBILE DEVICES

7.1. Suggestions for the Universities and LIS Departments

(a) University authorities should lay down certain policy towards the use of mobile devices and to develop new tools/mobile apps for delivering library services through mobile devices

(b) LIS Departments should stress for provision of Wi-Fi facility to all the students round the clock

(c) LIS Departments may incorporate topics related to mobile Apps in the existing syllabus at MLIS, course. It is necessary to create awareness and educate the students on all library resources/e-journals available over the Smartphone to enhance its usage

(d) Subject teachers should encourage students in class to use mobile devices for academic information like searching meaning to different words

(e) Research supervisors should also encourage their scholars to make use of mobile devices in their work.

7.2. Suggestions for University Libraries

(a) Libraries should provide Wi-Fi facility to library users

(b) Libraries should design library apps for android and windows based smart phones and other mobile devices

(c) Libraries should develop mobile library websites/ redesign existing website into responsive website that would be more responsive, dynamic, interactive and compatible with mobile devices

(d) Library should take a step forward to connect their OPAC to mobile devices and create MOPAC

(e) Libraries should start services like sending instant messages regarding new arrivals to the users' on mobile devices

(f) Libraries should adapt to delivering services by mobile devices, so that users find it easy to contact the librarian and other library staff for their query

(g) Libraries should send regular flash message broadcasting for latest notification, CAS, etc so that users can get quick information

(h) University librarian may develop an Information Literacy Programme on effective use of mobile devices for library resources and services.

7.3. Suggestions for Students and Research Scholars

(a) LIS students and research scholars should use mobile applications like Gmail app, Whatsapp, etc., for effective information communication and dissemination as part of their studies and/or research work

(b) LIS students and research scholars should use different productivity tools for creating documents to write quick notes to click photos and record videos for the purpose of their studies and/or research work

(c) LIS students and research scholars should search Google or other search engines on their mobile devices for getting their relevant information than running to desktops

(d) LIS students and research scholars may create and join groups on mobile apps like Whatsapp or Facebook particular to their field and invite their colleagues and peers to join these groups, so that more people related to same field may interact, comment and share information that in turn may facilitate students in their studies and research scholars in their research.

6. CONCLUSIONS

The results of this study demonstrate that LIS students studying in Central Universities are frequent users of mobile devices and they extensively use mobile devices for their daily information needs, entertainment, leisure, and communication purposes. Students and scholars even make use of these mobile devices to take photos to record learning materials. However, they seldom use the devices for reading academic resources such as academic journals and e-books. Therefore, it can be concluded that LIS students are less inclined to read longer and more complex materials with their mobile devices. It may be because of small screen size of these devices. It was further observed that many students are using the mobile devices for discussing with classmates for course material, assignment and study related issues. So, it enhances the opportunities for collaborative learning. When it comes to accessing library resources and services through mobile devices, it is surprising that LIS students under use these, although they most of the time access library website or check library hours. However, they very seldom access subscribed e-journals and e-books from their mobile device.

Benefits of using mobile devices as mentioned by LIS students include anytime access to learning resources, saves time and foster collaboration and easy communication. On the other hand, major barriers are poor network coverage, high charging data plans, slow load time, small screen size, lack of high speed and data security. In particular an in-depth study should be conducted to understand the impact of the use of mobile devices by students followed by a detailed study on smartphone addiction to students and benefits as well. We hope that the present study has succeeded in providing a starting point in studying mobile devices and mobile learning adaption investigation.

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