

USE OF MOBILE TECHNOLOGY BY SOCIAL SCIENCE PG STUDENTS OF CENTRAL UNIVERSITY OF HARYANA, MAHENDERGARH: A STUDY

Deepak Kumar

Assistant Professor

Department of Library & Information Science,
Central University of Haryana, Mahendergarh, India

Email: ias.ahlawat@gmail.com

Shakuntla

M. Lib. & I. Sc. Student

Department of Library & Information Science,
Central University of Haryana, Mahendergarh, India

Abstract

The main purpose of this study is to investigate the use of mobile technology by the Social Sciences post graduate (PG) students of Central University of Haryana, Mahendergarh. The survey found that students are using mobile devices since last 1-2 years and used mainly for communication purpose. WhatsApp, Google + and Facebook are the most used social media applications. Mobile devices are mainly used for educational apps, PDF files, E-mails, office word, etc. However, slow network connection and cost of data service are major reasons which prevent the use of mobile technology; while overall attitude towards mobile technology was found positive.

Keywords: Mobile Devices; Information Searching; Social Media; PG Students; Mobile Technology.

1.0 Introduction

Mobile devices as a part of digital information literacy plays a vital role in searching information and its use is growing rapidly. These devices helps a literate person to become an information literate. Therefore, mobile devices are not using for just calling to another one, these extents far away towards getting information in hand efficiently and effectively. The abundant nature of mobile devices, combine with latest upgraded operating system (OS) platform, WiFi and 3rd Generation (3G) and above it, 4th Generation Long Term Evolution (4G LTE) network technology, excellent speed of processor along with the standard applications for accessing internet quickly, make happened the every bit of information in hand. There are numbers of applications available that let the users do everything from accessing a dictionary to accessing the web and getting an experience of desired information in mobile environment, so why students go anywhere, if they get a vast experience of information searching through a handheld device? The only need is to make students literate regarding how they access the information by using their mobile devices. Laptops and PCs have become the past and overtake by the PDAs, tablets, fablets and mobile devices because the nature and curiosity of the users to seek information has been changed. This paper makes an attempt to know this curiosity of the social science PG students of Central University of Haryana that how they used their mobile devices for information searching, how much they know the various operations of these devices for getting information and for other purposes and about their skill levels in operating different educational functions to fulfill their information needs.

2.0 Review of Literature

There is lot of research on the use mobile technology and its use in verious aspect of information serching, although sevral found specifically related to this study. Cummings, Merrill, & Borrelli (2010) was conduct a study to measure whether people used the handheld devices to access the library services and found that 58.4

percent respondents were used web enabled handheld mobile devices to search the library OPAC of Washington State University and 21.8 percent respondents used library catalogue a couple of times a week. An another attempt was taken regarding the students' dependence on smart phones by Suki (2013) and found that 30 percent students used smart phones since more than last 2 year and 73.5 percent students said their smart phone application is easy to find and smartphone is reliable all the time for 72.5 percent students and above all near about 36 percent students used android operating system in their smart phones. Kumar (2014) studied the students' opinion regarding the success the mobile technology in JNU library and found that students are in favour of using mobile technology for better service and students were so addict of mobile as 82.25 percent students can survive without food but not a phone and all the students need help or assistance regarding use of library services on mobile. He further examined that 56.67 percent students used mobile to download e-books, e-articles and reviews. In the same regard Nowlan (2013) conduct a study to find out the interaction of the students of University of Regina with library on their mobile device and found that 75 percent students access internet from their mobile to access the library website and library catalogue was most popular accessed resource through mobile phone. Catharine (2013) found in his study regarding educational use of smartphone by undergraduate students that 76 percent of them use mobile applications to find out the academic information. The most frequently used application was social and communication Apps as 95.7 students said they used these 1-2 times daily or more followed by search engines (78.7 percent), tools and productivity (75 percent) while 11.3 percent students used dictionaries on mobile and 14.4 percent access online encyclopaedias and just 4.3 percent access the library database through mobile. He further said that students attempt an open ended inquiries regarding academic and ready reference (51.4 percent) and 40 percent regarding health and wellness information

3.0 Objectives of the Study

The following objectives have been kept in mind in this study:

1. To find out that how much time is spent normally on mobile devices by students for information searching.
2. To know which type of information and its related activities are being sought from mobile devices.
3. To find out frequently used social media apps and educational based features on mobile device.
4. To explore the main purposes of using mobile technology.
5. To find out information activities done by using mobile technology.
6. To explore the problems/reasons which prevent the use of mobile technology

4.0 About Central university of Haryana

Central university was established through an act of parliament 2009 situated in Jant-Pali village of district Mahendergarh in South Haryana which covers 483 Acres of total area. University has 29 Departments in different disciplines where 25 post graduate programs, 6 M. Phil. Programs, 13 PhD programs and 3 UG programs is running successfully. At present university has an enrolment of more than 60 research scholars and 3500 PG and UG students and has more than 250 dynamic faculty members.

It provides all IT facilities and has collection of 23856 volumes and above 8500 high quality electronic journals being made available through E-ShodhShindhu in various subject of knowledge. For maintaining academic and research ethics, PG, M.Phil and Ph.D, Researchers are required to undergo plagiarism check of their thesis and dissertations through plagiarism software named "Urkund".

5.0 Methodology

The study was conducted on 50 post graduate students of social sciences in Central University of Haryana by using survey method. In total 80 questionnaires were distributed, out of which 50 filled in questionnaires were received back with 62.5 percent response rate. The survey was conducted during April 2017. Statistical Package for Social Science (SPSS) was used for data analysis and then data was imported to Microsoft© Excel 2013 to ensure the validity and accuracy and to present the data with the help of tables and graphs. The analysed data has been presented in the tables.

6.0 Limitations

There have been some limitations to this study which was faced by the researcher. These are as follows:

1. The sample size is very small due to less number of social science student’s registration in the university and unavailability of respondents at the time of survey.
2. The unwillingness of the respondents was also a constraint in the research.
3. The social sciences students were unaware of the technological terms hence there could be ambiguity in the research.

7.0 Data analysis and discussion

Table 1 Demographic status of Respondents

Age Group	Male	Female
Below 22	5	9
22-25	16	19
25-29	1	0
Total	22	28

During the analysis, it was found out that, 56% of the respondents were Females and the rest 44% were males. Due to the convenient sampling most of the respondents chosen were females.

The respondents were from various departments. The data was collected from 8 departments. Department of commerce and Geography had the maximum respondents with each 20% of the total. They were followed by Department of economics, Sociology and History with 18%, 12% and 10% respectively. Department of Psychology and Education each had 8% of share.

Figure 1 Department of Respondents

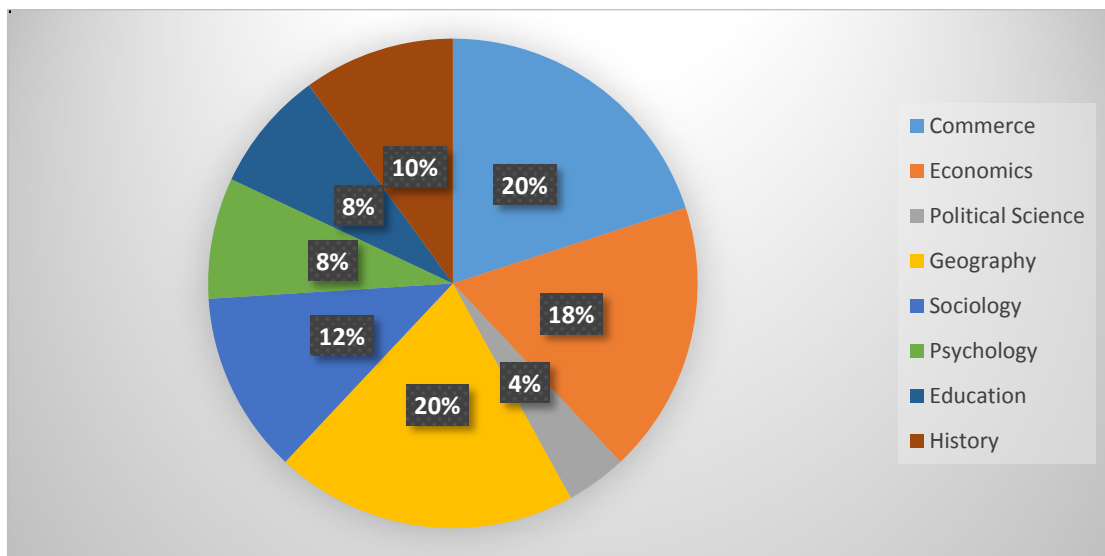


Table 2 Use of Mobile Device

How long they have been using mobile device	No. of Respondents	Percentage
Less than one year	5	10%
1-2 Years	15	30%
3-4 Years	14	28%
More than 4 years	16	32%

During the study it was found out that the maximum number of respondents had been using mobile devices for more than 4 years. 28% of the respondents had been using mobile devices for 1-2 years. 28% had been using them mobile devices for 3-4 years.

Table 3 Operating system used in Mobile Device

Sr. No.	Operating System	No. of Respondents	Percentage
1.	Android	47	94%
2.	Windows OS	2	4%
3.	Apple iOS	1	2%

When asked about the OS of the mobile device, a staggering 94% of the respondents responded by saying Android OS, while 4% were using Windows OS and remaining 2% were using Apple iOS based mobile devices.

Table 4 Type of Internet Connection used in Mobile Devices

Sr. No.	Internet connection type	No. of Respondents	Percentage
1.	Wi-Fi	27	54%
2.	4G LTE	15	30%
3.	GSM	5	10%
4.	WCDMA (3G)	3	6%

When asked from the respondents about how they connect to the internet for searching information over their mobile devices, 54% said that they use Wi-Fi to connect to the internet. 30% used 4G LTE, while 10% used GSM to connect to the internet. Only 6% of the respondents used 3G to access the internet to search information online. This shows technological advancement in the mobile technologies.

Table 5 Daily Hours spend on Using Mobile

Sr. No.	Hours Spent	No. of Respondents	Percentage
1.	Less than 1 Hours	10	20%
2.	1-2 Years	23	46%
3.	3-4 Hours	12	24%
4.	5-6 Hours	4	8%
5.	More than 6 Hours	1	2%

During the study it was found out that 46% of the respondents spend 1-2 Hours every day to search information and browse the internet. 24% respondents used internet 3-4 hours daily, while 20% used the internet less than an hour.

Table 6 Opinion about Internet use

Sr. No.	Opinion	No. of Respondents	Percentage
1.	Very Often	5	10%
2.	Often	32	64%
3.	Seldom	11	22%
4.	Very Seldom	2	4%
5.	Never	0	0%

The respondents said they would often use a mobile even if network laptop/desktop is available, a majority of respondents with 64% said so. 22% said they would seldom prefer mobile over a laptop/desktop if there is option. 10% responded by saying very often.

So it could be said that majority of respondents would use a mobile device even if a network ready laptop/desktop is available.

Table 7 Main Purpose of using Mobile Phone

Sr. No.	Main purposes	No. of Respondents	Percentage
1.	Communication purpose	17	34%
2.	Educational Purpose	15	30%
3.	Informational Purpose	10	20%
4.	Entertainment Purpose	8	16%

When asked from the respondents to tell the main purpose behind using a mobile phone, they responded as follows:

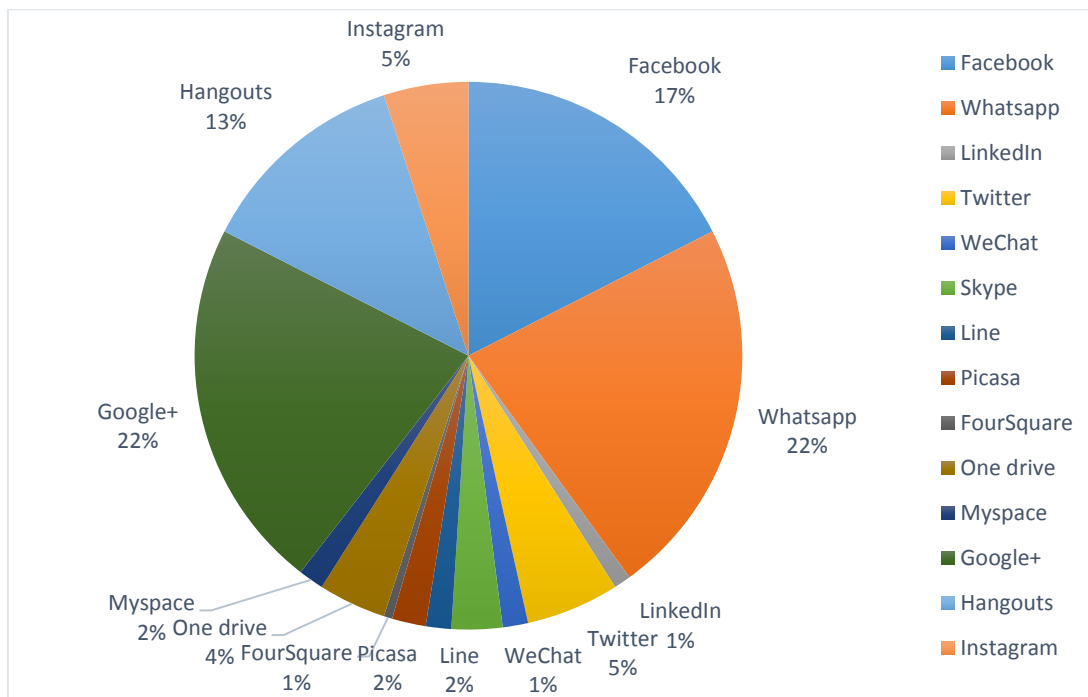
For communication purpose: 34%

For Educational Purpose: 30%

For Informational Purpose: 20%

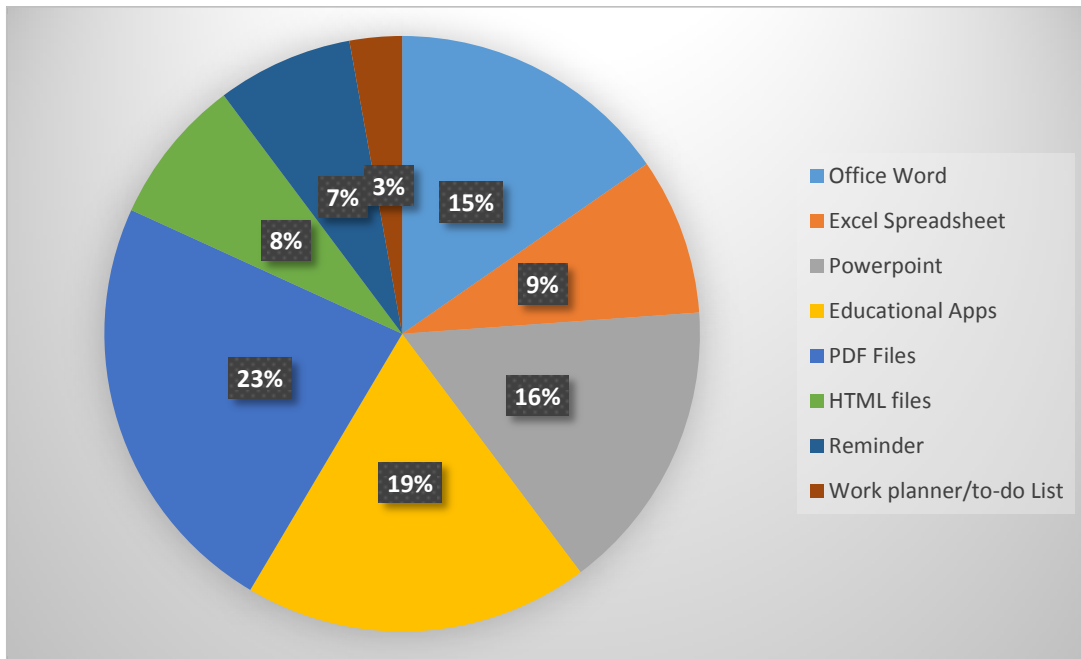
For Entertainment Purpose: 16%

Figure 2: Social Media App Usage on Mobile Devices



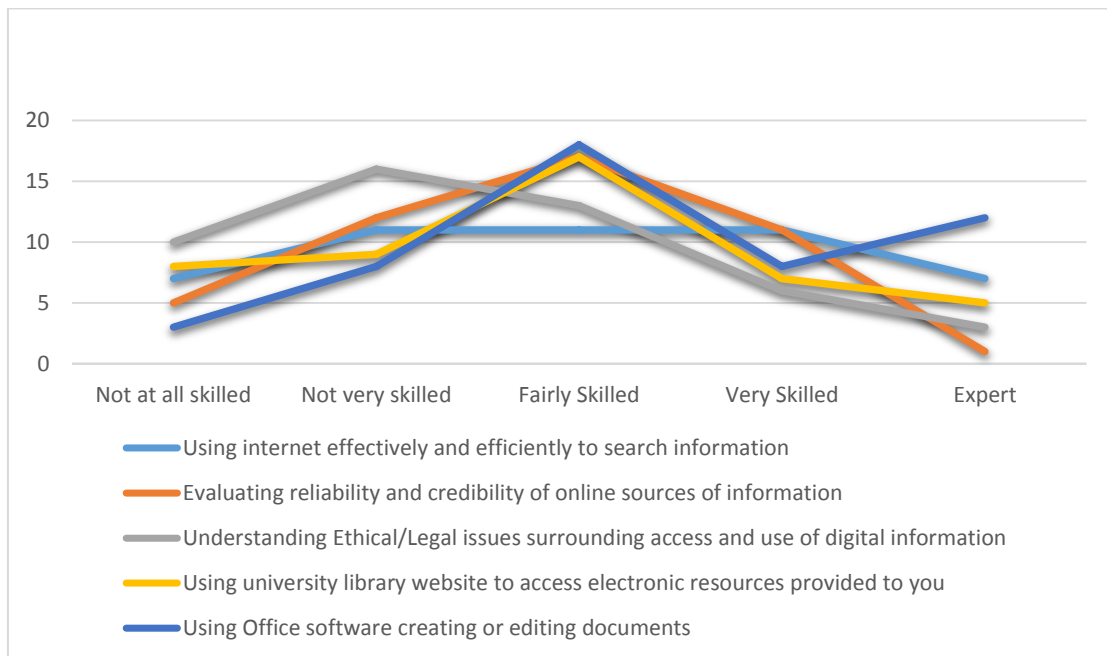
According to our study, WhatsApp triumphs the race of the social media apps closely followed by Google+, both with 22% of the share. Facebook and Hangouts hold the fort with 16% and 14% respectively. Twitter and Instagram are there in the picture with formidable share of 5% each. One Drive, Skype and Myspace also hold some share.

Figure 3: Educational Features Used on Mobile Devices



The respondents when asked about the features used for educational purpose in their mobile devices, they responded as PDF Files (23%), Educational Apps (19%), Power Point (16%), Office Word (15%), Excel Spreadsheet (9%), HTML Files (8%), Reminder (7%) and Work planner/To-do List (3%)

Figure 4: Skill Level of using Mobile Devices



The skill level of the respondents show that they were fairly skilled at all the tasks such as using internet effectively and efficiently to search information, evaluating reliability and credibility of online sources of information, understanding ethical/legal issues surrounding access and use of digital information, using university library website to access electronic resources provided to them, and using office software for creating and editing documents.

In using the office software for creating or editing documents second largest respondents were under the expert category, and hence the skill set was good in it. While skill set was below average when it came to understanding ethical/legal issues surrounding access and use of digital information.

Table 8: Attitude towards use of Mobile Device

Statement	SA	A	N	D	SD
I get more actively involved in course that use mobile device	7	32	4	5	2
The use of mobile device in my course improves my learning	12	26	6	5	1
Mobile device makes my course more convenient	8	19	14	6	3
I skip classes when materials from course lectures are available online through mobile or any other way	3	19	7	16	5
By the time I post graduate, the mobile device I have used in my course will have adequately prepared me for the workplace	4	26	9	4	7
While I'm in class, I regularly use my mobile device for course activity (texting, internet, etc.)	2	10	12	8	18
While I'm in class, I regularly use my mobile device for non-course activity (texting, internet access, playing games etc.)	3	11	14	10	12
Professors should have the authority to forbid the use of mobile device for any type of activity during the class.	9	16	13	7	5
In the next three years, I expect to do many things on a mobile device that I currently do in a laptop or desktop	13	17	9	6	5

When asked from the respondents whether they get more actively involved in course that use mobile devices, they responded positively with 64% agreeing with it. While online a few disagreed.

Majority of the respondents agreed that the use of mobile device in the course improves the learning, 52% agreed with it. 24% strongly agreed while just a small fraction of respondents disagreed with it.

38% of the respondents agreed that using mobile device would make their course more convenient, while 16% strongly agreed with it.

The verdict was divided when asked if they would skip classes if materials from course lectures are made available online through mobiles.

52% agreed with the statement that by the time they would post graduate, the mobile device they were using during their course would have adequately prepared them for the workplace.

Majority of the respondents disagreed on the statement that when they are in class, they use mobile device for course activities.

The verdict was divided on the statement that when they are in class, they use mobile device for non-course activities.

Table 9: Opinion regarding Future Usage of Mobile Devices

Sr. No.	Response	No. of respondents	Percentage
1.	Greatly Increase	16	32%
2.	Increase	26	52%
3.	Stay the same	6	12%
4.	Decrease	1	2%

The respondents when asked if in the next three years, the use of internet and information searching from mobile device would increase or decrease. They responded as follows:

1. Increase: 52%
2. Greatly increase: 32%
3. Stay the same: 12%
4. Decrease: 2%
5. Greatly Decrease: 2%

Table 10: Problems faced in Using Mobile Device

Sr. No.	Problems	No. of Respondents	Percentage
1.	Cost of data service	9	18%
2.	Inadequate battery life	9	18%
3.	Network connection too slow	8	17%
4.	Cost of mobile device	6	11%
5.	Plenty of other ways to access internet	5	10%
6.	Others	13	26%

The main reasons as what prevented the respondents in searching information or using internet on mobile device or using it more often is the cost of data service (18%), Inadequate battery life (18%), network connection too slow (17%), cost of mobile device (11%) and plenty of other ways to access the internet (10%). The other reasons least common were limited access to internet, concern about security/privacy and lack of useful apps.

8.0 Findings, Suggestions & Conclusions

8.1 Major Findings

1. The respondents have been using mobile devices since a long time.
2. The Android operating system triumphs, with a staggering 94% of total OS share among the respondents.
3. Wi-Fi was the most used way of connection to internet among the respondents.
4. Around 70% of the respondents use internet for 1-4 Hours.
5. Very often the respondents would use mobile phone for internet and information searching even if an internet capable laptop/desktop is available.
6. The internet through mobile devices is used for diverse tasks such as Reading newspaper, entertainment, downloading e-books, paying bills, online shopping, checking weather and many more.
7. Many information activities are done in mobile phones such as E-mail (which is also most popular among others), Text messaging, video calling, webcasts, YouTube, Downloading videos and audios, social networking websites, Instant messaging etc.
8. The main purpose for which mobile phone were used, which came out of the study was Communication purpose, followed by Educational purpose and. Some use it for entertainment purpose also.
9. The popularity of WhatsApp and google plus was highlighted in the study, with Facebook and Hangouts as close competitors when talking of the social media apps.
10. The people used Mobile phones for educational purposes as in reading PDF files, using Educational apps, PowerPoint, Office word, Excel Spreadsheet, and HTML files.
11. People were fairly skilled when it came in using internet effectively and efficiently to search information.
12. While evaluating the reliability and credibility of online sources of digital information people are fairly skilled, while just very few were good at it or expert.
13. People had little understanding of ethical/legal issues surrounding the access and use of digital information.
14. People were moderately skilled when it came to using university library website to access electronic resources provided.
15. People were good at using the productivity tools such as office software for creating or editing documents.
16. Majority of people agreed that they got actively involved in course that use mobile device.
17. People believed that using mobile device during their course study improves their learning.
18. Mobile devices are believed to make the course more convenient.

19. If material related to course lectures is available online few would skip classes.
20. The mobile device would adequately prepare the post graduate students for workplace.
21. The use of mobile in class rooms for course activity was very rare.
22. The use of mobile in class rooms for non-course activities was high.
23. Professors shall have the authority to forbid the use of mobile device for any type of activity during class.
24. In coming years a mobile device would be capable of doing many things which a laptop/desktop could do.
25. The use of mobile device for information searching and internet using would increase.
26. The main reasons which prevent the respondents in searching information or using internet on mobile device or using it more often were cost of data service (18%), inadequate battery life, network connection too slow, cost of mobile device and plenty of other ways to access the internet.
27. The other reasons least common were limited access to internet, concern about security/privacy and lack of useful apps.

8.2 Suggestions

- The universities should incorporate the use of mobile technologies when developing the curriculum activities.
- The awareness about the ethical/legal issues and surrounding use of digital information should be generated.
- The mobile device should be engaged into course work more often as it increases the learning.
- More use of mobile device must be encouraged which increases convenience for the students.
- Use of mobile phone in class should be usually for non-course related activities.
- The professor/teacher shall have the authority to stop the usage of mobile devices in class.
- The usage of mobile devices for information searching and internet have been increasing, and hence problems associated with them such as cost of data service, cost of the mobile device and insufficient battery life must be dealt with.
- There is lack of adequate learning apps, and the cost of learning apps is also high, so adequate apps with less cost should be developed.
- The lectures and study materials should be made available online.
- Low cost mobile devices with good functionality and low cost mobile data should be made available to the students.
- There should be some control over university Wi-Fi to restrict usage of entertainment activities during lecture periods.
- The workshops should be organized to increase awareness about ethical/legal issues concerning use and download of online information material.

8.3 Conclusions

Mobile technology, especially broadband technology, is reshaping the different aspects of social, economic, and political life. Through invention and innovation, new products and services are transforming education, health care, and governance. Patients are being empowered to take responsibility for their own health, and students have tools with which they can learn 24/7. However, it is important for countries to reap the benefits of mobile technology by investing in wireless infrastructure and promoting innovation. Creating a strong ecosystem for innovation and invention should be a top priority for leaders in every country.

9.0 References

1. Catharine, R. B. (2013). Educational use of smart phone technology: A survey of mobile phone application use by undergraduate university students. *Program: electronic library and information systems*, 47(4), 424-436. doi:10.1108/PROG-01-2013-0003
2. Cummings, J., Merrill, A., & Borrelli, S. (2010). The use of handheld mobile devices: their impact and implications for library services. *Library Hi Tech*, 28(1), 22-40. doi:10.1108/07378831011026670

3. Kumar, A. (2014). Students opinion about the success of mobile technology in libraries: A case study of Jawaharlal Nehru University (JNU), New Delhi. *New Library World*, 115(9/10), 471-481. doi:10.1108/NLW-10-2013-0075
4. Nowlan, G. (2013). Going mobile: creating a mobile presence for your library. *New Library World*, 114(3/4), 142-150. doi:10.1108/03074801311304050
5. Suki, N. M. (2013). Students' dependence on smart phones: The influence of social needs, social influences and convenience. *Campus-Wide Information Systems*, 30(2), 124-134. doi:10.1108/10650741311306309