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USE OF SMARTPHONES FOR ENHANCING DIGITAL INFORMATION LITERACY SKILLS: A STUDY OF LIBRARY AND INFORMATION SCIENCE STUDENTS, UNIVERSITY OF DELHI

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Abstract

Students utilise smartphones to access the Internet for information and knowledge. They gain knowledge through using their smartphone to access a multitude of material on the Internet; thus, knowing how to use smartphones for information access is critical. The study aims to find out the use of smartphones in accessing digital information resources among LIS students. According to the study's findings, the majority of students own and use a smartphone. Almost all the respondents use their smartphones for accessing digital information resources several times a day. The key concerns of smartphones like short battery life, inadequate memory, screen key size and risk of sudden obsolescence, but despite them, due to their ubiquity and immediate accessibility and had an enormous impact on LIS students access to information. The study found that smartphone is 24x7 availability, immediate access to information, and instant information sharing are the top three benefits accrued.

Keywords: *Digital Literacy, Smartphones, Library and Information Science, Students, University of Delhi, India.*

1. INTRODUCTION

Mobile technology is transforming the way we connect, study, and get information, and it has become ubiquitous in both personal and professional lives. They have opened new opportunities and give ubiquity and mobility. Smartphones are one of the mobile devices possess by many people. Smartphones have become the new information medium with their ability to provide the user with high-quality information. "Smartphones are no different than laptops, personal computers, or other devices. Smart devices consist of two parts that are complementary to each other. These are the hardware, a physical part responsive to touch, and the software as a programmatic device operator (operating system) to lead the hardware. Similar to Windows and Linux, the smartphone device will not work without an operating system"(Alwraikat, 2017). Because of the ubiquity and widespread availability of smartphones, it is necessary to understand how this technology is used to access information.

"Smartphones provides high quality performance and quick access to data and information management, mobile audio and audio-visual calls, mobile teleconferencing, sending and receiving emails and quick and easy internet access. They often appears in various sizes sleekly designed for work, learning and play by different IT companies"(Ebiye, 2015). Students in their academic life use smartphones to access digital information resources, which are available in many forms such as e-book, e-journal, e-databases, as they need to perform their academic activities. Not all students afford laptops, desktop but because of the cost affordability of smartphones, all students possess them.

2. REVIEW OF RELATED LITERATURE

Many studies exist on the subject. Few important studies on the subject are: "Smartphones paved a path to enhance e-learning as well as e-reading on small screens with easy routing and also increases the readability capacity of the students" (Nagar, 2018). In the market-wide range of smartphones are available, having innovative features used for imparting education. They help students performing various activities as they help in fulfilling information needs, social interaction, academic activities. Nowadays, smartphones are popular among students because of their network accessibility, information sharing, immediate access to information, and easy handling. "Science students at the selected private colleges prefer smartphones to other mobile devices" (Fasae & Adegbilero-Iwari, 2015).

Anyim (2020) investigated "mobile technologies for information access and retrieval in an emergency". He tried to give light to mobile technologies available for information access and retrieval. In the covid-19 pandemic, everyone could not access the libraries, so this paper investigated how mobile devices could access information. Azam et al. (2020) reveal that "students are prepared to adopt mobile learning since they constantly use smartphones to get information from online resources to meet formal learning needs".

Madhusudhan (2015) described the "educational use of mobile devices by research scholars and discovered how mobile devices improve and facilitate research by researchers. Mobile devices are more straightforward, more accessible, faster, save time, and can increase social interaction with m-learning".

Smartphones enhance students' digital information literacy skills as they can handle digital information through a digital device, not all students have laptops and desktops, but all single students have their smartphones. "Digital Information Literacy (DIL) is the ability to recognise the need for, to access, and to evaluate electronic information. The digitally literate can confidently use, manage, create, quote and share sources of digital information in an effective way " (Konappa, 2013).

To get in touch with digital information, at least one digital device, such as desktop, laptop, smartphone, is required. In recent times, mobiles devices have been very much used by people because of their handheld features. Cost affordability has made the smartphones popular among the students and makes easy for the student to access digital information present in various forms. Apostolov & Milenkova (2018) focus on "theoretical and practical efforts to develop various aspects of digital literacy and mobile learning at the university level and investigate its dimensions and predictions".

Mansour (2016) reveals that "the students find smartphones helpful in having information at their disposal most of the time". Also, the students feel that the barriers to learning through smartphones are a lack of awareness and training. Sharma & Madhusudhan (2017) discovered "significant impediments are the usage of mobile devices for academic learning in areas with inadequate network coverage, high charged data plans, delayed load time, and a lack of Internet speed". Rath (2015) identified "how frequently respondents use their mobile phones, which e-resources they access, anywhere, any place, at any time, 24x7 availability was a significant advantage, and the risk of sudden obsolesce, screen size, bad memory are significant disadvantages".

3. STATEMENT OF THE PROBLEM

A smartphone is a practical and versatile mobile device that can help people in their daily and professional activities. Students use smartphones to access information and knowledge from

the Internet. They expand know-how through gaining access to a wealth of know-how on the Internet with their smartphones. Therefore, smartphones can be seen as promoting education. The main objective of the present study is to know how smartphones usages among Library and Information Science (LIS) students enhancing their digital information skills and their perception regarding the use of smartphones. This study also looks forward to exploring the utilization of smartphones in everyday life, accessing digital information resources and for learning purposes.

4. OBJECTIVES OF THE STUDY

The main objectives of the present study are:
i) To know the years and proficiency of LIS students in using smartphones in addition to their general-purpose use;
ii) To find out the use of smartphones for accessing digital information resources;
iii) To identify the most accessed LIS databases through a smartphone;
iv) To identify the method of searching information on the Internet;
v) To identify the significant advantage and limitations of smartphones;
vi) To suggest effective use of smartphones for accessing digital information.

The current research is limited to students in the Department of Library and Information Science's Bachelor of Library and Information Science (BLISc) and Master of Library and Information Science (MLISc) programmes, University of Delhi, and smartphones' use in accessing digital information resources only.

5. METHODOLOGY

A structured questionnaire was designed as a data collection tool, keeping in view the stated objectives and scope consisting of close-ended and few open-ended questions. The questionnaire was made through the google form and circulated virtually among the LIS students of Bachelor and Master. The study was conducted on a sample of 107 students (47 BLISc and 60 MLISc students) and received 90 duly filled-in questionnaires, eliciting 84.3 per cent, and all questionnaires were included in the analysis of data. The answers to 20 questions are presented in the form of tables and figures.

6 RESULT AND DICUSSION

6.1 Demographic details

Gender is a pertinent criterion to analyse a given set of data. It gives a wholesome idea about the usage of smartphones by different genders in our society. Data related to gender was sought from the received responses for the BLISc and MLISc students. Table 1 shows that the number of male respondents is more than the number of female respondents.

Students age plays a vital role in using smartphones and giving us helpful information for other sections. In this study, respondents ages have been categorised into four categories: <22 years, 23-25 years, 26-28 years and >28 years. Table 1 shows that the maximum number of respondents are between 23 and 25 years. This accounts for 50 per cent of the responses between 26 and 28 years, showing 33.3 per cent of the total population. The next is below 22

years population, which accounts for 11.1 per cent, and the least number of respondents are above 28 years which is only 5.6 per cent.

Further, out of 90 respondents, more respondents belong to the MLISc course with 56.7 per cent, and BLISc has 43.3 per cent of respondents. Table 1 indicates that MLISc students are dominating the list due to more enrollment than BLISc.

Table 1 : Demographic details of Respondents (n=90)

Particulars	No. of Respondents (%)
Gender	
Male	48(53.3%)
Female	42(46.7%)
Age-wise Distribution	
Below 22 years	10 (11.1%)
23-25 years	45 (50%)
26-28 years	30 (33.3%)
Above 28 years	05 (5.6%)
Course-wise	
BLISc.	39 (43.3%)
MLISc.	51 (56.7%)

6.2 Use of smartphones

Smartphones are mainly used by all students and are available with different operating systems. Table 2 shows that all respondents use smartphones, and the number of respondents who have been using smartphones for more than five years is more significant than those who have used them for less than five years. Smartphones have their operating systems, and Android and iOS are the two powerful smartphones OS in the market. Table 2 also indicates that most respondents have android smartphones, representing 93.3 per cent of respondents, while only 6.7 per cent have iOS smartphones.

Table 2: Use of Smartphones by Respondents (n=90)

Particulars	No. of Respondents
Smartphones	
Yes	90(100%)
No	0
Period of using Smartphone	
Less than five years	16 (17.8%)
More than five years	74 (82.2%)
Type of Smartphone	
Smartphone with Android OS	84 (93.3%)
Smartphone with iOS (iPhone)	06 (6.7%)

6.3 Proficiency in using Smartphone

In the 21st century, all of us know how to use a smartphone but how proficient you are, plays a vital role in determining an individual's usage of their smartphones. Figure 1 indicates that most of the respondents consider themselves to be advanced in using a smartphone. The data shows that 45.6 per cent are advanced, 28.9 per cent are intermediate, then 20 per cent are experts, while the least is the beginners with 5.6 per cent.
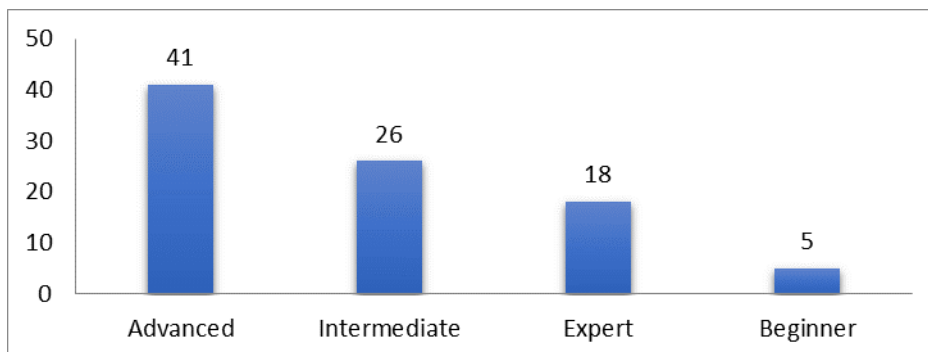

Figure 1:Proficiency in using Smartphones (n=90)

6.4 General purposes of using Smartphone

Students use their smartphones for multiple purposes as per their needs. Figure 2 reveals that respondents mostly use smartphones for attending course classes 95.6 per cent, followed by browsing the Internet for various causes 93.3 per cent. Then, the purpose is for accessing emails 90 per cent and then for social interaction 88.9 per cent. Browsing websites 82.2 per cent, downloading articles 81.1 per cent, reading e-books 70 per cent and watching OTT 54.4 per cent.
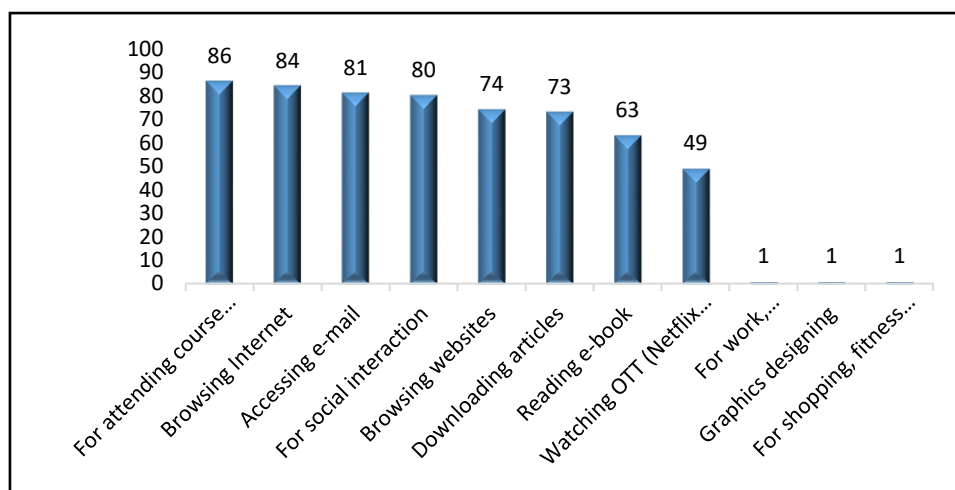
Figure 2: General purposes of using the Smartphone (*Multiple Answers were allowed*)

6.5 Use of Smartphone for accessing Digital Information Resources

Students use their smartphones very frequently in day-to-day life. Those students do not have laptops or desktops, and they use more smartphones to access digital information resources. In this Covid pandemic situation, students want information around the clock, so digital information fulfils this need. Digital information can be accessed in the form of e-books, e-journals, e-databases. Table 3 highlights that 98.9% of the respondents use their smartphones to access digital information resources while 1.1 per cent do not, and most students use their smartphones several times a day to access digital information resources. 58.9% of the respondents, followed by 27.8%, use several times a week, 20% use once in a day, 10% use once in a week and 10% use occasionally. Websites are the leading digital information resources accessed by 87.8% of respondents, followed by e-books (67.8%), e-newspapers (65.6%), e-journals (56.7%), and e-databases (52.2%).

Table 3: Use of Smartphone for accessing Digital Information Resources

Particulars	No. of Respondents (%)
Using Smartphone	
Yes	89 (98.9%)
No	01 (1.1%)
Frequency	
Several times a day	53 (58.9%)
Several times a week	25 (27.8%)
Once in a day	18 (20%)
Once a week	09 (10%)
Occasionally	08 (8.9%)
Digital Information Resource	
Website	79 (87.8%)
e-books	61 (67.8%)
e-newspapers	59 (65.6%)
e-journal	51 (56.7%)

6

e-databases	47 (52.2%)

6.6 Search technique used for accessing digital information resources

Searching is empowered through various search techniques to get the correct information from the excessive information present digitally. Figure 3 shows that the respondents mostly search directly by typing (87.8 per cent) and search using typed keywords (62.2 per cent). The respondents prefer to search by spoken keywords in the search engine 41.1 per cent at third, then using Boolean operators or truncation 31.1 per cent. Least is done directly through URL 1.1 per cent.
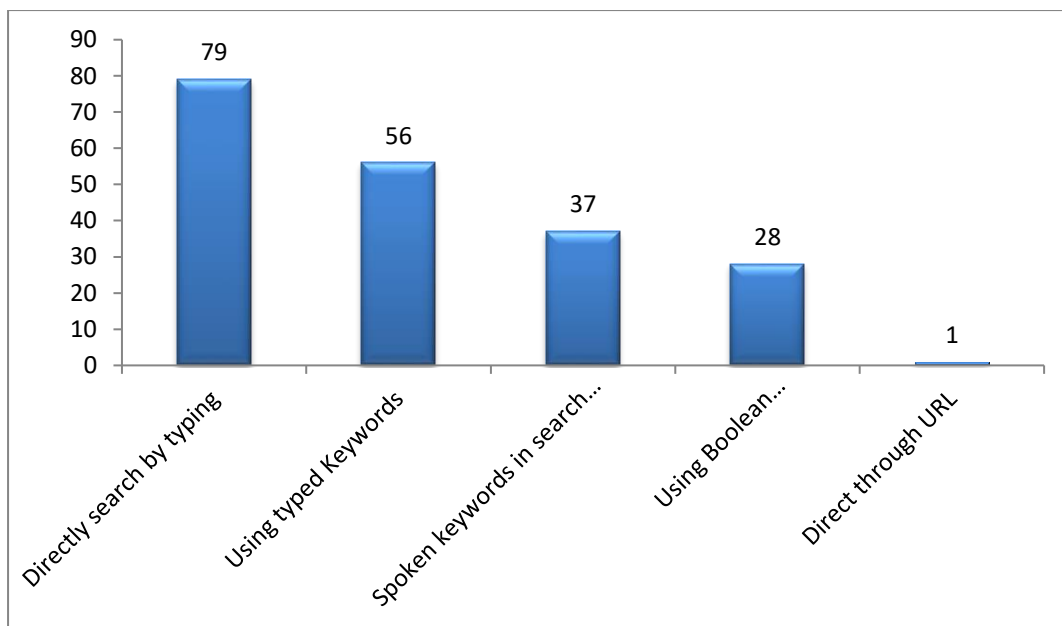

Figure 3: Search technique used for accessing digital information resources
(Multiple answers were allowed)

6.7 Accessing databases

"LIS students frequently use smartphones for learning and perceive smartphones to be highly valuable for their academic work" (Dukic et al., 2015). Most respondents use databases because LIS students are rich in information and access databases to get authentic information. Figure 4 reveals that the most significant number of respondents uses Google Scholar, 82.2 per cent, followed by Emerald 75.6 per cent, LISA 62.2 per cent, JSTOR 56.7 per cent, ProQuest 51.1%, Scopus 45.6%, LISTA 43.3%, Ebsco 34.4%, and DOAJ 18.9 % is the least used database.
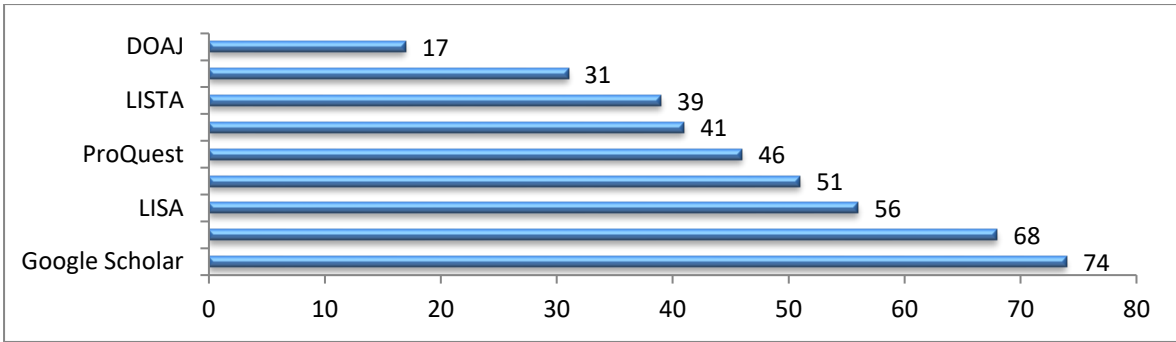
Figure 4: Accessing databases *(Multiple answers were allowed)*

6.8 Reliability of the information

Many respondents following various ways to check the reliability of information when they use their smartphones to access information. Figure 5 shows that there is not much difference between respondents checking through the website's homepage or URL. The former represents 45.6 per cent, while the latter represents 48.9 per cent. There is still 5.6 per cent of respondents who do not check the reliability of the information.
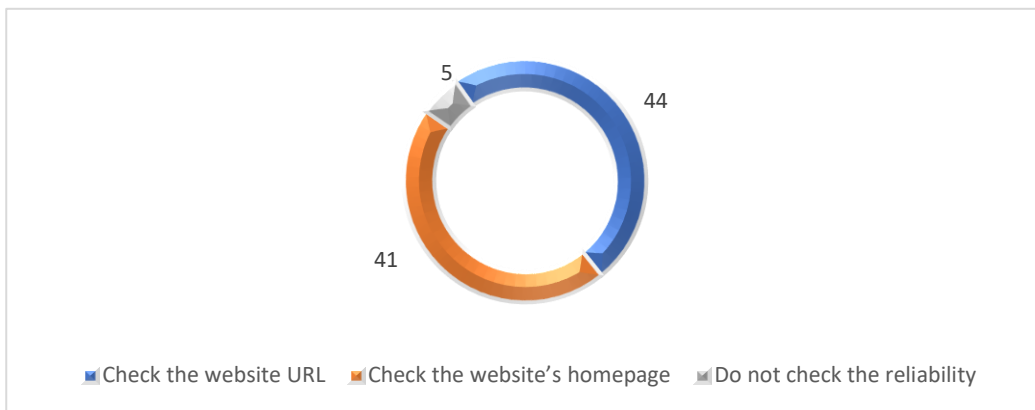

Figure 5: Reliability of the information *(Multiple answers were allowed)*

6.9 Benefits of using Smartphones

Smartphones have reduced the technological differences which used to prevail between two persons. They are handheld devices and are used by almost all students. Figure 6 highlights that the major benefit is the 24x7 availability at 75.6 per cent, followed by immediate access to information with 72.2 per cent. The third factor, with a score of 66.7 percent, is the ease with which information can be shared. At 65.6 per cent, easy handling comes in fourth. The least is the 1.1 per cent data consumption and portability.
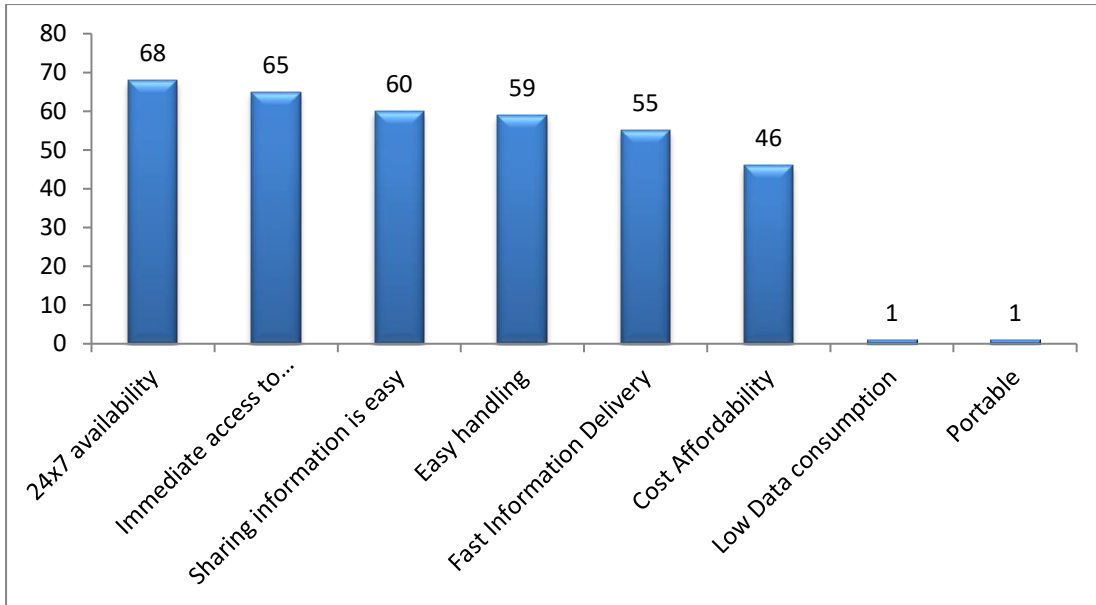
Figure 6: Benefits of using Smartphones *(Multiple answers were allowed).*

6.10 Barriers while using smartphones

Every technological device has some advantages as well as disadvantages. The same is the case with smartphones which have some barriers users face while using smartphones. Figure 7 reveals the major issue which respondents face is the short battery life at 68.9 per cent followed by insufficient memory (60 per cent), heating issue (47.8 per cent), screen size and key size (44.4 per cent), and speed (25.6 per cent) are top five barriers while using smartphones. All the other issues are less than 25.5 per cent.
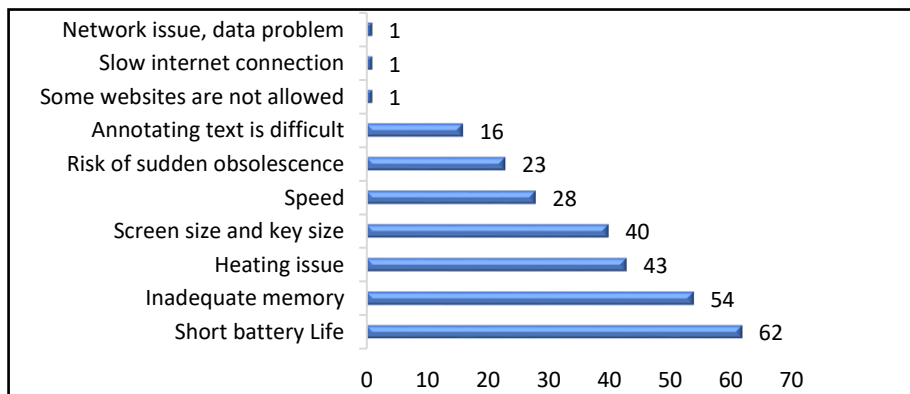

Figure 7: Barriers while using smartphones *(Multiple answers were allowed)*

7. SUGGESTIONS

Students must have advanced technology smartphones with high storage capacity, high battery backup, fine screen and no heating issue after a long usage time. A good Internet connection is a key to accessing digital information resources, so students must have a good internet connection.

8. CONCLUSION

This study demonstrates that all LIS students of the University of Delhi use smartphones, and more students have been using smartphones for five years. Students use smartphones for general purposes like attending course classes, browsing the Internet for various causes, accessing emails, social interaction, browsing websites, and most of them consider themselves advanced in using a smartphone. They want information around the clock, so digital information resources fulfil these needs. It was further observed that students mostly search digital information resources by typing followed by using keywords.

The most highlighted benefits of the smartphone are its 24 X 7 availability, immediate access to information, easy handling. On the other hand, short battery life, inadequate memory, screen key size and risk of sudden obsolescence are the significant barriers mentioned by the LIS students. However, despite them, it can be concluded from this study that smartphones, due to their ubiquity and immediate accessibility, had an enormous impact on LIS students access to information.

Students must have advanced technology smartphones with high storage capacity, high battery backup, fine screen and no heating issue after a long usage time. A good Internet connection is a key to accessing digital information resources, so the student must also have a good internet connection. There is an urgent need to impart Information Literacy Programme to help students properly use smartphones to access digital information resources.

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