

# Use of Smartphones for Academic Purposes by Teachers of Panjab University

Jatinder Kumar, Suman Sumi, Anjali Verma, Sharmila Verma

**Abstract:** The ultimate goal of an educational institution is to understand and address the information needs of students and prepare them to become skilled graduates. The professional workforce of these institutions includes teachers, educators, and academic supervisors which is integral part of teaching and learning process. To keep themselves updated, majority of teachers have started using Smartphone's and other mobile devices. The present article inquires that how Smartphone's are being used for academic purposes by teaching community of Panjab University, Chandigarh, acknowledged as best University in South Asian region by Times Higher Education's World University Rankings (2016). The study further explores that how mobile devices facilitate teachers to fulfill their information requirements. The study is conducted with the help of a structured questionnaire, administered amongst faculty members of various departments. The findings of the study revealed that maximum number of teachers use Smartphone for academic purposes. It is also found that most of the teachers use mobile devices to read and download research articles. Another interesting finding of the study is that majority of teachers spend 3 to 4 hours every day for using Smartphone. Further, every teacher admitted that Smartphone is most important gadget for enhancing their learning and teaching skills.

**Index Terms:** Use of Smartphone for academic purposes, Teachers of Panjab University, Mobile learning.

## I. INTRODUCTION

During the last one decade the Government of India, through the Ministry of Human Resource Development (MHRD) has introduced various ICT based educational projects for the benefit of students as well as for the teachers. These projects have immensely changed the teaching, learning and research process of institutions of higher education such as colleges, universities and research organizations. Some of notable project of MHRD such as NPTEL, SWAYAM, NPEEE, INDEST, Shodhganga, Shodhgangotri, N-LIST, UGC-INFONET, VIDWAN etc. have become very popular amongst academicians and students. Since all these project are built on web-based platforms, the use of Internet for academic purposes has also been increased by many folds. Besides providing access to the enormous literature, the Internet allows users to socially connect with other fellows and sharing of educational resources. As per figures of Internet World Stats, there are 4,208,571,287 (as on 30.06.2018) Internet users in the world[1].

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**Jatinder Kumar**, librarian, Lovely Professional University, Phagwara, India. Mob. No. 9872842292 Email: [jatinder.24171@lpu.co.in](mailto:jatinder.24171@lpu.co.in)

**Suman Sumi**, Assistant Librarian, A.C. Joshi Library, Panjab University, Chandigarh, India. Mob. No. 9872114404

**Anjali Verma**, Assistant Librarian, Lovely Professional University, Phagwara, India. Mob. No. 9580618206 Email: [anjali.23106@lpu.co.in](mailto:anjali.23106@lpu.co.in)

**Sharmila Verma**, Ex-Project Associate, Indian Institute of Technology, Palakkad, Kerala, India. Mob. No. 7014963644

This has been observed that large numbers of users are accessing Internet with the help of mobile devices such as Smartphones, Tablets, Phablets, Palmtops, notebooks, laptops etc. The academicians too make use of Internet technology for various academic purposes, such as searching particular piece of information, downloading articles, participating in surveys and sharing of literature with peers. The current article is an effort to know the use of mobile devices (Smartphones) for academic purposes by the faculty members of Panjab University, Chandigarh, which is acknowledged as one of the premier institutions of higher education in India.

## II. ABOUT PANJAB UNIVERSITY

One of the oldest Universities in India, the Panjab University (PU) first established at Lahore in 1882, has a long tradition of pursuing excellence in teaching and research in science and technology, humanities, social sciences, performing arts and sports.

The University supports excellence and innovation in academic programmes, promotes excellence in research, scholarship and teaching, ranked number one amongst Universities in India and Ranked 363 in the Thomson Reuters powered 'Best Global Universities Rankings 2016[1] by US News and Global Report ranked 38 in Asia Times Higher Education Asian University Rankings, 2015[2].

## III. LITERATURE REVIEW

A good amount of literature has been published in the past on use of mobile phones for academic activities, but study of one of the best universities of India is the only uniqueness of the present study. Mamudu and 3] in their study found that 91.9% respondents used mobile phones to consult scholarly articles for their assignments and majority of students use their smart phones to search academic information. [4] through their study found that mobile phone usage positively effects student's academic performance in the school.

[5] in their work on mobile phone use on the social and academic performance of students found that academic performance of 53% students got affected by mobile phones. Besides, they also found that other school activities such as games, physical exercise and other hobbies of students also got altered. [6] found that there is negative relationship between the use cell phones (calling and

texting) and academic performance among first year university students in the United States. Data collected by Organista-Sandoval and [7] discovered that 97% of students as well as teachers use cell phone and one out of every four respondents had a concrete educational purpose.

**IV. OBJECTIVES OF THE STUDY**

The principle objective of the current study is to investigate the usage of Smartphones for academic purposes by the faculty members of Panjab University, Chandigarh. The other objectives of the study are given below;

1. To know whether or not faculty members are acquainted with various Internet technologies;
2. To identify main purposes of using Smartphones;
3. To find out type of networks used to access Internet by faculty members;
4. To know the duration of time spent by faculty members on Smartphones;
5. To ascertain the usage of Smartphones for various academic purposes;
6. To know whether or not Smartphones enhancing teaching and learning skills of faculty members;
7. To discover some of the educational websites frequently used by faculty members.

**V. METHODOLOGY**

The study made use of descriptive survey design by framing structured questionnaire and distributed among faculty members of Panjab University aiming to get desired information on use of Smartphones for academic purposes. An online version of questionnaire was also designed using Google Forms and the link was sent to faculty members for filling it up. The questionnaire was structured in two parts: Part-I covered demographic details of respondents and make of Smartphone and Part-II contained the questions related to use of Smartphone for academic purposes.

**VI. POPULATION AND SAMPLE**

The population of this study was faculty members of 78 teaching and research departments of Panjab University, Chandigarh. The print as well as the link of online questionnaire was distributed/shared amongst 330 faculty members of different departments of Panjab University.

**VII. DATA ANALYSIS AND DISCUSSIONS**

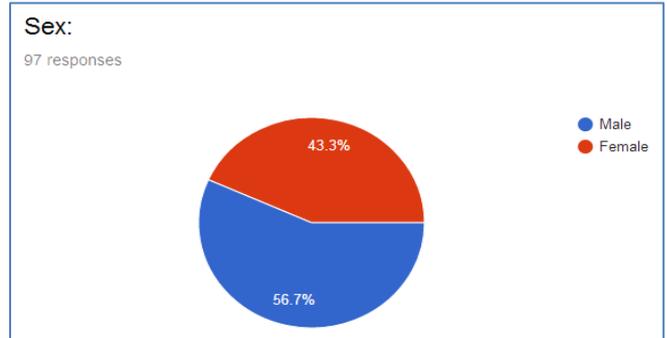
The relevant data has been presented with percentage method supplemented with tables and graphs for clear understanding of significant outcomes.

**A. Distribution of respondents by sex**

Table 1 and Graph 1 represent the distribution of respondents on the basis of sex. Total 97 faculty members filled up the questionnaire, out of which 55 were male and 42 were female respondents.

**Table 1: Distribution of respondents by sex**

Sex	Frequency	Percentage
Male	55	56.7%
Female	42	43.3%
<b>Total</b>	<b>97</b>	<b>100%</b>



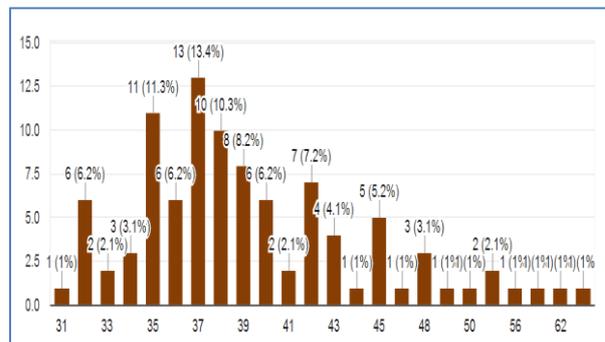
**Graph 1: Distribution of respondents by sex**

**B. Age group of Respondents**

Table 2 and Graph 2 below show the age group of respondents. It is discovered that maximum numbers of respondents i.e. 42 were in the age group of 36-40. It shows that young faculty members actively participated in the survey.

**Table 2: Age group of Respondents**

Age Groups	25-30	31-35	36-40	41-45	46-50	51 and above	Total
No. of Respondents	0	25	42	19	6	5	97
Percentage	0%	25.77%	43.29%	19.58%	6.18%	5.15%	100%



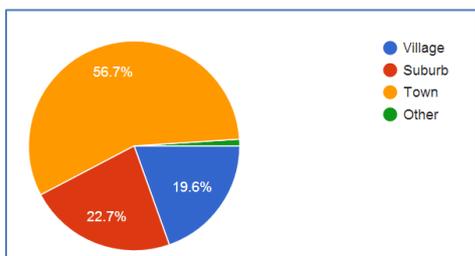
**Graph 2: Age group of Respondents**

**a. Demographic background of respondents**

The demographic background of the respondents is show in Table 3 & Graph 3 below. It shows that maximum number of respondents i.e. 57.73% were born and brought up in Towns followed by 22.58% respondents grown up in suburban areas.

**Table 3: Demographic background of respondents**

Demographic area	Others	Suburb	Town	Village	Total
Frequency	1	22	56	18	97
Percentage	1.03%	22.68%	57.73%	18.55%	100%



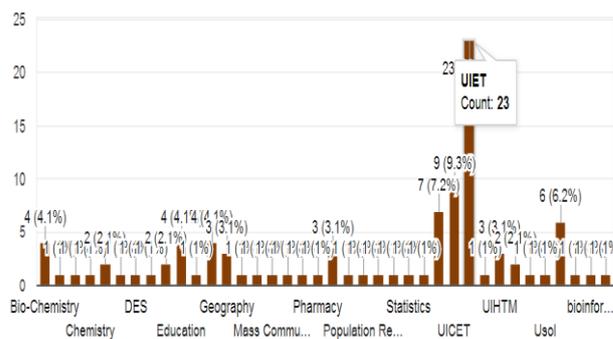
Graph 3: Demographic background of respondents

**b. Academic departments of Respondents**

As per table 4 and Graph 4 maximum number of responses i.e. 23.71% were received from University Institute of Engineering and Technology (UIET).

Table 4: Academic departments of respondents

Department	Frequency	Percentage
Bio-Chemistry	4	4.12%
bioinformatics	1	1.03%
Bio-physics	1	1.03%
Botany	1	1.03%
Chemistry	2	2.06%
Computer Sc. & Application	3	3.09%
Evening studies (DES)	1	1.03%
Economics	2	2.06%
Education	4	4.12%
Forensic Science	1	1.03%
Geography	3	3.09%
Gandhi and Peace studies (GPS)	4	4.12%
Library & Information Science	4	4.12%
Mass Communication	1	1.03%
Mathematics	1	1.03%
Pharmacy	2	2.06%
Physics	3	3.09%
Political Science	1	1.03%
Population Research center	1	1.03%
Public Administration	1	1.03%
Punjabi	1	1.03%
Statistics	1	1.03%
Applied Management Studies (UIAMS)	8	8.24%
Chemical Engineering & Tech. (UICET)	9	9.27%
Engineering and Technology (UIET)	23	23.71%
Hotel Management and Tourism (UIHTM)	4	4.12%
Legal Studies (UILS)	3	3.09%
Open Learning (USOL)	1	1.03%
Zoology	6	6.18%
<b>Total</b>	<b>97</b>	<b>100%</b>

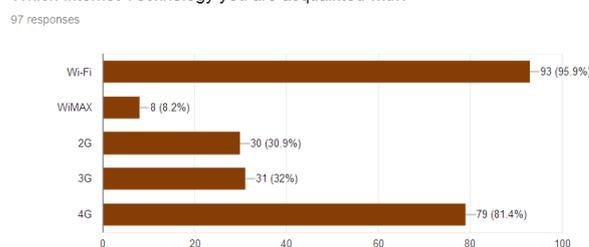


Graph 4: Academic departments of Respondents

**c. Internet technology known to teachers**

Graph 5 given below correspond to teachers' acquaintance with Internet Technology and available telecom networks. Most of faculty members found to be familiar with Wi-fi (95.9%) and 4G (81.4%) technologies. This indicates that family members use most advanced Internet Technology for accessing and using web-based information.

Which Internet Technology you are acquainted with?



Graph 5: Internet technology known to teachers

**d. Time spent on Smartphone by teachers**

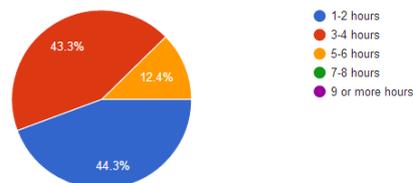
It is observed from Table 5 and Graph 6 that 44.3% faculty members spend 1-2 hours in a day on their Smartphones, whereas 43.3% respondents spend 3-4 hours. It is observed that faculty members tend to use Smartphones for longer hours, as they find it convenient to get desired information on the go.

Table 5: Time spent on Smartphone by teachers in a day

Time spent	1-2 hours	3-4 hours	5-6 hours	7-8 hours	9 or more hours
<b>Frequency</b>	43	42	12	0	0
<b>Percentage</b>	44.3%	43.3%	12.4%	0%	0%

How much time do you spend on Smartphone (Daily)?:

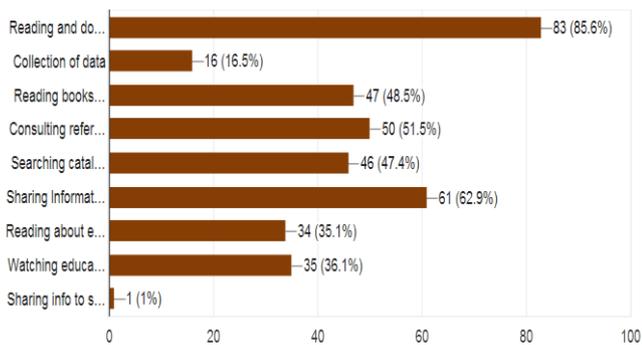
97 responses



Graph 6: Time spent on Smartphone by teachers in a day

**e. Smartphone used for academic purposes by faculty members**

All faculty members acknowledged that besides making calls and using social networks, they also make use of Smartphones for academic purposes. It is evident from Graph 7 that most of the faculty members (85.6%) use Smartphone for reading and downloading the research articles. Besides, they also share academic information with others (62.9%) and also consult online reference sources (51.5%) for satisfying their information needs. All respondents thought that use of Smartphones has great impact on their teaching and learning activities and have noticed improvement in performing academic assignments.



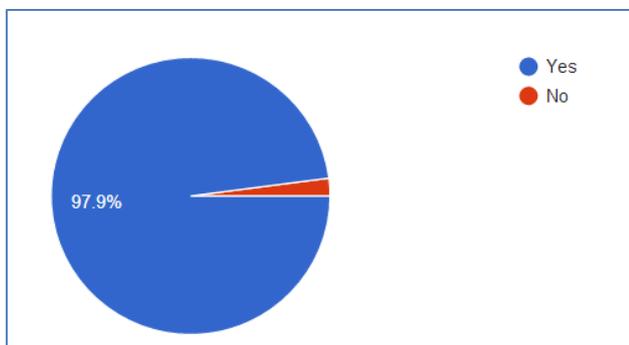
**Graph 6: Academic purposes for which Smartphone is used by faculty members**

**f. Enhancement of learning and teaching skills with the use of Smartphone**

Majority of respondents (97.90%) have specified that there is improvement in their learning and teaching skills with the use of Smartphone. It is clear from Table 6 and Graph 7 that how effectively teachers are making use of Smartphones and making it as an element of academic support activity. During the interaction, we found that teachers usually guide students for particular subject websites, online courses and databases for learning assistance.

**Table 6: Does Smartphone enhance learning and teaching skills**

Response	Yes	No	Total
Frequency	95	2	97
Percentage	97.90%	2.06%	100%



**Graph 7: Does Smartphone enhance learning and teaching skills**

**g. Comments by teachers for importance of Smartphone for academic activities**

The study collected some fascinating comments from the teachers regarding importance of Smartphone for their

professional growth and has suggested some measures to improve the web-based learning infrastructure of the university.

**Table 7: Comments by teachers for importance of Smartphone for academic activities**

1. University should provide e-platform for web-courses.
2. Smartphone definitely increases the access to information available on web.
3. Smartphone are very useful for making quizzes for geography students.
4. University must have a dedicated Mobile Application for students and staff.
5. Smartphones must be used for academic activities.
6. We must use Smartphone for academic purposes.
7. Smartphone has become part and parcel of my academic life and I cannot live without it.
8. Internet is helpful for gaining important information.
9. Smartphone is time waste and leaks personal information stored in our phone like snaps and passwords used at various sites

**C. Key Findings**

One of the major findings of the current study is that Smartphone has become one of the productive ways to get desired information and teachers are extensively using these devices for effectively catering their academic requirements. Largely young faculty members have adapted current technological development and have altered their way to access, use, share and preserve academic information. The increasing computing power of Smartphones has greatly facilitated students as well and has eventually become the integral part of learning process. Some other studies have shown that usage of Smartphones has greatly influenced research based activities and most of the data is being exchanged through social media and discussion forums. Smartphone is also being used as a communication channel by academicians and students, as they share, discuss and exchange information related to academics. Other findings of study are mentioned below;

- 56.7% males and 43.3% female respondents participated in the survey.
- 43.29% respondents were found to be in the age group of 36-40.
- 23.71% respondents were from University Institute of Engineering and Technology.
- 44.3% respondents spend 1-2 hours each day using Smartphone to cater their information needs.
- 85.6% and 62.9 respondents use Smartphone reading and downloading research articles and consulting online reference sources respectively.
- 97.90% respondents admit that usage of Smartphone has positively influenced teaching and learning skills.

### VIII. CONCLUSION

The Smartphone has become a helpful learning device and is widely used academic purposes all around the world. It saves time and cost of the user by providing best computing power for faster communication. Mobile devices and various educational applications help students and teachers to achieve their academic goals. Moreover, these devices are being used to address ever increasing information needs of the academic community. It will be a great advantage for students as well as for faculty members if all the academic institutions introduce the Mobile based services of Learning Management System (LMS), so as to provide better informational infrastructure and better monitor the academic activities. The usage of Smartphone for teaching and learning purposes must be encouraged and promoted in the educational institutions. It is recommended that educational institutions should provide high speed Wi-Fi network in the campuses for quick connectivity and faster communication. Moreover, they should also introduce mobile based applications for academic activities.

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